Implementing Microsoft Windows Server 2003 with Service Pack 2 on ProLiant servers

integration note

Abstract

This integration note describes the level of support available for Microsoft® Windows® Server 2003 Service Pack 2 (SP2), which includes:

- Supported configurations of ProLiant servers
- Recommended system configuration and server platforms
- Supported software, storage options, and network adapters
- Procedures for new installations
- Known issues with workarounds

This paper describes the level of support available for Microsoft Windows Standard Server, Enterprise Server and Datacenter Server editions of the Windows Server 2003 family with Service Pack 2.

Microsoft releases Windows Server 2003 in both 32-bit and 64-bit editions. The focus of this paper is for the Intel® and AMD 32-bit and 64-bit server processor families. This paper does not describe support for Itanium® 2-based systems or for Windows XP Professional X64 edition.

This document and others pertaining to Windows Server 2003 can be found at **www.hp.com/go/windows**.

Introduction to Windows Server 2003 and SP2

SP2 is an accumulation of fixes since the original release of Windows Server 2003. The following operating systems (OS) may be upgraded to SP2:

- Windows Server 2003
- Windows Server 2003 SP1
- Windows Server 2003 X64 Edition
- Windows Server 2003 R2 Standard and Premium Editions
- Windows Server 2003 R2 X64 Edition
- Windows Server 2003 SP1 for Itanium-based systems
- Windows Server 2003 Storage Server R2 Edition
- Windows Server 2003 Compute Cluster Edition
- Windows Server 2003 for Small Business Servers R2 Edition
- Windows XP Professional X64 Edition

In addition, Windows Server 2003 SP2 includes updates for the following features or services:

- Windows Deployment Services
- Microsoft Management Console 3.0
- Wi-Fi Protected Access 2 (WPA2)
- Scalable Networking Pack
- Enabling "Firewall Per Port" Authentication
- Enhanced Discoverability Options for MSCONFIG
- Improved IPSEC Filter Management
- Performance Improvements under Windows Virtualization

For the full list of features and services offered in Windows Server 2003 SP2, visit: **www.microsoft.com/technet/windowsserver/sp2.mspx**.

Windows Server 2003 SP2 may be purchased from HP as an in-box CD-ROM set when ordered with a supported HP ProLiant server. For details, visit: http://h18004.www1.hp.com/products/servers/software/microsoft/OS/Windows2003_buy.html.

Microsoft Windows Server 2003 R2 Datacenter support

In October of 2006, Microsoft announced unlimited virtualization support with Windows Server 2003 R2 Datacenter. In support of this announcement, HP now offers Windows Server 2003 R2 Datacenter as a supported OS on the ProLiant server platforms listed in Table 1.

Table 1. ProLiant server platforms supporting Windows Server 2003 R2 Datacenter

HP BladeSystem servers	ProLiant DL300 server series	ProLiant DL500 server series	ProLiant ML500 server series
BL45P G1	DL380 G4	DL580 G3	ML570 G3
BL45P G2	DL380 G5	DL580 G4	ML570 G4
BL685C	DL385 G1	DL585 G1	
	DL385 G2	DL585 G2	

The ProLiant Support Pack released as a part of SmartStart 7.70 supports Windows Server 2003 R2 Datacenter on the above platforms. SmartStart assisted path installation for the above platforms will be offered in a future release of SmartStart.

For more information regarding unlimited virtualization support in Windows Server 2003 R2 Datacenter, visit the Microsoft website at the following address: www.microsoft.com/windowsserver2003/evaluation/news/bulletins/datacenterhighavail.mspx.

Supported configurations

Windows Server 2003 SP2 should load and run on any ProLiant server that meets the recommended hardware configuration established by Microsoft and is listed as supported with Windows Server 2003 on the HP OS Support Matrix found at: http://h71028.www7.hp.com/enterprise/cache/458915-0-0-0-121.html.

Carefully review this document for the recommended system configuration and possible issues you might encounter. Performing due diligence optimizes your resources and testing scenarios. Do not use this paper as your sole source of information. In addition to the websites mentioned throughout this paper, you might also want to visit the Windows Server 2003 SP2 support page at http://h18004.www1.hp.com/products/servers/software/microsoft/OS/Windows2003_overview.html and the Microsoft website at www.microsoft.com.

Recommended system configuration

Tables 2 and 3 list the recommended minimum system configuration established by Microsoft for Windows Server 2003 R2. These requirements do not change for applying Windows server 2003 SP2. The recommendations listed here pertain to the Windows Server 2003 R2 OS 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 OS and your software. Most software vendors have this information posted to their website.

Table 2. Recommended minimum system configuration for Windows Server 2003 R2 32-bit:[1]

Parameter	Web Edition	Standard Edition	Enterprise Edition	Datacenter Edition
Processor	550 MHz	550 MHz	550 MHz	550 MHz
RAM	256 MB	256 MB	256 MB	512 MB
Monitor	VGA or higher resolution	VGA or higher resolution	VGA or higher resolution	VGA or higher resolution
Available disk space[2]	1.5 GB	2 GB	2 GB	2 GB

NOTE 1: For the latest system requirements for each edition of the Windows Server 2003 family, visit **http://technet2.microsoft.com/WindowsServer/en/library/d38133ce-dc8e-4817-92a5-a5d37727abb11033.mspx?mfr=true.**

NOTE 2: 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.

Table 3. Recommended minimum system configuration for Windows Server 2003 R2 64-bit:[3]

Parameter	Standard Edition	Enterprise Edition	Datacenter Edition
Processor[4]	1.4 GHz	1.4 GHz	1.4 GHz
RAM	512 MB	1 GB	1 GB
Monitor	VGA or higher resolution	VGA or higher resolution	VGA or higher resolution
Available disk space[5]	4 GB	4 GB	4 GB

NOTE 3: For the latest system requirements for each edition of the Windows Server 2003 family, visit **http://technet2.microsoft.com/WindowsServer/en/library/d38133ce-dc8e-4817-92a5-a5d37727abb11033.mspx?mfr=true.**

NOTE 4: The processor must be 64-bit capable with a minimum speed of 1.4 GHz.

NOTE 5: 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.

Server platforms

Table 4 lists the ProLiant servers, ROM version, and ROM date that support Windows Server 2003 SP2. Refer to the following resources on the Web to assist in determining the ROM version and family of your ProLiant server.

- Software and drivers: **http://h18007.www1.hp.com/support/files/server/us/index.html**
- Windows on ProLiant support matrix: **http://h10018.www1.hp.com/wwsolutions/windows/index.html**

Table 4. System platforms that support Windows Server 2003 SP2

Server platform	ROM family	Minimum ROM date
ProLiant BL10e[6]	I03	02/17/03
ProLiant BL10e G2[6]	I07	08/12/03
ProLiant BL20p[6]	I01	01/31/03
ProLiant BL20p G2[6, 7]	I04	09/16/04
ProLiant BL20p G3[6]	I08	03/02/05
ProLiant BL20p G4	I13	06/14/06
ProLiant BL25p[6]	A02	04/14/05
ProLiant BL25p G2	A11	01/10/07
ProLiant BL30p[6, 7]	I10	09/16/04
ProLiant BL35p[6]	A03	03/09/05
ProLiant BL40p[6, 7]	I02	09/15/04
ProLiant BL45p[6]	A02	03/09/05
ProLiant BL45p G2	A12	01/11/07
ProLiant BL460c	I15	08/09/06
ProLiant BL465c	A13	10/11/06
ProLiant BL480c	I14	08/09/06
ProLiant BL685c	A08	12/06/06
ProLiant CL380	P17	12/18/02
ProLiant DL140	DL140	11/25/04
ProLiant DL140 G2	DL140G2	08/15/05
ProLiant DL140 G3	DL140G3	07/14/06
ProLiant DL145	DL145	03/22/05
ProLiant DL145 G2	DL145G2	05/05/05
ProLiant DL320	D05	11/15/02
ProLiant DL320 G2[6, 7]	D13	09/15/04

Server platform	ROM family	Minimum ROM date
ProLiant DL320 G3[6]	D18	03/04/05
ProLiant DL320 G4	D20	01/26/06
ProLiant DL320 G5	W04	09/09/06
ProLiant DL320s	W04	09/09/06
ProLiant DL360	P21	11/15/02
ProLiant DL360 G2[6]	P26	02/07/03
ProLiant DL360 G3[6, 7]	P31	09/15/04
ProLiant DL360 G4[6]	P52	12/02/04
ProLiant DL360 G4p[6]	P54	01/12/05
ProLiant DL360 G5	P58	7/28/06
ProLiant DL365	A10	01/10/07
ProLiant DL380 (667-1000 MHz)	P17	12/18/02
ProLiant DL380 G2 (1133 MHz and greater)	P24	11/15/02
ProLiant DL380 G3[6, 7]	P29	09/15/04
ProLiant DL380 G4[6]	P51	12/02/04
ProLiant DL380 G4 Packaged Cluster[6]	P51	12/02/04
ProLiant DL380 G5	P56	07/28/06
ProLiant DL385[6]	A05	04/29/05
ProLiant DL385 G2	A09	10/11/06
ProLiant DL385 G2 Packaged Cluster	A09	10/11/06
ProLiant DL560[6, 7]	P30	09/15/04
ProLiant DL580	P20	12/17/02
ProLiant DL580 G2[6, 7]	P27	09/15/04
ProLiant DL580 G3[6]	P29	09/15/04
ProLiant DL580 G4	P58	06/01/06
ProLiant DL585[6]	A01	03/09/05
ProLiant DL585 G2	A07	11/01/06
ProLiant DL740[6, 7]	P47	09/15/04
ProLiant DL760[6]	P46	12/15/02

Server platform	ROM family	Minimum ROM date
ProLiant DL760 G2[6, 7]	P44	09/15/04
ProLiant ML110	ML110	07/16/04
ProLiant ML110 G2	ML110G2	08/11/05
ProLiant ML110 G3	ML110G3	08/24/05
ProLiant ML110 G4	O10	10/16/06
ProLiant ML150	AMI	05/26/04
ProLiant ML150 G2	ML150G2	01/28/05
ProLiant ML310[6, 7]	D12	09/15/04
ProLiant ML310 G2	W01	02/15/05
ProLiant ML310 G3	W02	11/15/05
ProLiant ML310 G4	W03	10/09/06
ProLiant ML330	D03	11/15/02
ProLiant ML330 G2[6]	D10	02/17/03
ProLiant ML330 G3[6]	D15	09/15/04
ProLiant ML330e	D06	11/15/02
ProLiant ML350 (1 GHz)	D04	11/15/02
ProLiant ML350 (600, 733, 800, 866, 933 MHz)	D02	11/15/02
ProLiant ML350 G2 (1133 MHz and greater)[6]	D11	02/17/03
ProLiant ML350 G3[6, 7]	D14	09/15/04
ProLiant ML350 G4[6]	D17	12/02/04
ProLiant ML350 G4p[6]	D19	02/21/05
ProLiant ML350 G5	D21	08/09/06
ProLiant ML370 (667-1000 MHz)	P17	12/18/02
ProLiant ML370 G2 (1133 MHz and greater)	P25	11/15/02
ProLiant ML370 G3[6, 7]	P28	09/15/04
ProLiant ML370 G4[6]	P50	12/02/04
ProLiant ML370 G5	P57	07/28/06
ProLiant ML530	P19	12/18/02

Server platform	ROM family	Minimum ROM date
ProLiant ML530 G2[6, 7]	P22	09/15/04
ProLiant ML570	P20	12/17/02
ProLiant ML570 G2[6, 7]	P32	09/15/04
ProLiant ML570 G3[6]	P37	02/28/05
ProLiant ML570 G4	P60	06/01/06
ProLiant ML750	P45	12/15/02
ProLiant 3000 (Pentium III Processor)	P09	11/08/00
ProLiant 5500 (Pentium III Xeon Processor)	P12	11/08/00
ProLiant 6000 (Pentium III Xeon Processor)	P40	12/27/99
ProLiant 6400R (Pentium III Xeon Processor)	P11	11/08/00
ProLiant 6500 (Pentium III Xeon Processor)	P11	11/08/00
ProLiant 7000 (Pentium III Xeon Processor)	P40	12/27/99
ProLiant 8000	P41	12/15/02
ProLiant 8500	P42	12/15/02

NOTE 6: The ROM for this ProLiant server supports the Microsoft® Emergency Management Service console feature in Windows Server 2003.

NOTE 7: This System ROM upgrade is considered a critical fix and is required to correct Issue 1 in Appendix B. HP strongly recommends immediate application of required critical fixes. Neglecting to perform the required action could leave the server in an unstable condition, which could potentially result in sub-optimal server performance, server lockups or failures, ungraceful server shutdowns, hardware damage or data corruption, or data loss. By disregarding this notification, the customer accepts the risk of incurring future related events.

Supported software

Table 5 lists supported ProLiant utilities, drivers, and other value-add software and their corresponding version needed for Windows Server 2003 SP2.

Table 5. ProLiant value-add software supported with Windows Server 2003 SP2

Utility	Minimum version	Location
ProLiant Support Pack for Microsoft Windows Server 2003[8]	7.70A	http://h18023.www1.hp.com/support/files/server/us/download/26020.html
System Configuration Utility	2.58	http://h18023.www1.hp.com/support/files/server/us/download/13227.html

NOTE 8: Some elements of the ProLiant Support Pack for Microsoft Windows Server 2003 are superseded by the components residing on the Windows Server 2003 SP2 slip stream media or are otherwise supported for use with Windows Server 2003 SP2. For more information, refer to the appendices.

Supported storage options

Tables 6 and 7 list supported ProLiant storage options and recommended driver revisions needed to interface with Windows Server 2003 SP2. The locations are abbreviated in the table as follows:

- Windows Server 2003 SP2 slip stream media = **Slip stream media**
- ProLiant Support Pack for Microsoft Windows Server 2003 Version 7.70A = **PSP 7.70A**

Table 6. ProLiant hard drives and tape solutions for interfacing with Windows Server 2003 SP2

Option	Driver	Location	Digital signature
Hard disk drives			
HP 36 GB, 2.5", 10,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 36 GB, 2.5", 15,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 36 GB, 3.5", 15,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 60 GB, 7,400 rpm Parallel ATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 60 GB, SFF, 5,400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 72 GB, 2.5", 10,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes

Option	Driver	Location	Digital signature
HP 72 GB, 2.5", 15,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 72 GB, 3.5", 15,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 80 GB, 3.5", 7.400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 146 GB, 2.5", 10,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 146 GB, 3.5", 15,000 rpm SAS Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 160 GB, 3.5", 7,400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 250 GB, 3.5", 7,400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 500 GB, 3.5", 7,400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 750 GB, 3.5", 7,400 rpm SATA Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 4 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 9 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 18 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 36 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 72 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
HP 144 GB SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
36.4 GB 10,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes

Option	Driver	Location	Digital signature
72.8 GB 10,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
146.8 GB 10,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
300 GB 10,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
18.2 GB 15,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
36.4 GB 15,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
72.8 GB 15,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
146 GB 15,000 rpm SCSI Hard Disk Drives	DISK.SYS	Slip stream media	Yes
Tape drives			
HP DAT Tape Drive (all models)	HPDAT.SYS	For 32-bit: SP21969 For 64-bit: SP21970	Yes
HP DDS2/3/4 Tape Drives	4MMDAT.SYS	Slip stream media	Yes
HP SureStore VS80/VS160	DLTTAPE.SYS	Slip stream media	Yes
LTO Ultrium-1 Tape Drives (all models)	LTOTAPE.SYS	Slip stream media	Yes
LTO Ultrium ½/3 Tape Drives (all models)	HPLTO.SYS	For 32-bit: SP21966 For 64-bit: SP21967	Yes
Compaq DLT Tape Drives	DLTTAPE.SYS	Slip stream media	Yes
Autoloaders			
HP DAT 72 * 6 Autoloader	HPDATCHG.SYS	Web download	Yes
HP DAT 72 * 10 Autoloader	HPDATCHG.SYS	Web download	Yes

Option	Driver	Location	Digital signature
HP DDS4 6 Cassette Autoloader	DDSMC.SYS	Slip stream media	Yes
StorageWorks 8/16 Cartridge DLT Autoloader	ADICSC.SYS	Slip stream media	Yes
StorageWorks SSL1016 Autoloader	HP116N32.SYS	For 32-bit: SP21971	Yes
Cartridge libraries			
Compaq DLT 15 Cartridge Library Model 15/30	HPMC.SYS	Slip stream media	Yes
Compaq DLT 15 Cartridge Library Model 20/40	HPMC.SYS	Slip stream media	Yes
Compaq DLT 15 Cartridge Library Model 35/70	HPMC.SYS	Slip stream media	Yes
Mini-libraries			
StorageWorks MSL5000 Series Mini-Libraries	LIBXPRMC.SYS	Slip stream media	Yes
StorageWorks SSL2020 AIT Mini-Library	LIBXPRMC.SYS	Slip stream media	Yes
StorageWorks TL881 DLT Mini-Library	LIBXPRMC.SYS	Slip stream media	Yes
StorageWorks TL891 DLT Mini-Library	LIBXPRMC.SYS	Slip stream media	Yes

Table 7. ProLiant storage controllers for interfacing with Windows Server 2003 SP2

Option	Driver	Minimum firmware component version	Location	Digital signature
Array controllers				
Drive Array Notification[9]	CPQDAEN.SYS	Not applicable	PSP 7.70A	Yes
Integrated Smart Array Controller[9, 10]	CPQARRY2.SYS	1.44	Slip stream media	No
Smart Array 4200, Controller[9, 10]	CPQARRY2.SYS	1.46	Slip stream media	No

Option	Driver	Minimum firmware component version	Location	Digital signature
Smart Array 4250ES Controller[9, 10]	CPQARRY2.SYS	1.46	Slip stream media	No
Smart Array 431 Controller[9, 10]	CPQARRY2.SYS	1.22	Slip stream media	No
Smart Array 5302 Controller[9, 10]	CPQCISSM.SYS	3.54	PSP 7.70A	Yes
Smart Array 5304 Controller[9, 10]	CPQCISSM.SYS	3.54	PSP 7.70A	Yes
Smart Array 5312 Controller[9, 10]	CPQCISSM.SYS	2.66	Slip stream media	Yes
Smart Array 532 Controller[9, 10]	CPQCISSM.SYS	2.66	Slip stream media	Yes
Smart Array 6402 Controller	CPQCISSM.SYS	2.74	Slip stream media	Yes
Smart Array 6404 Controller	CPQCISSM.SYS	2.74	Slip stream media	Yes
Smart Array 641 Controller [10]	CPQCISSM.SYS	2.74	Slip stream media	Yes
Smart Array 642 Controller[10]	CPQCISSM.SYS	2.74	Slip stream media	Yes
Smart Array 5i Controller[9, 10]	CPQCISSM.SYS	2.66	Slip stream media	Yes
Smart Array 5i Controller Plus	CPQCISSM.SYS	2.66	Slip stream media	Yes
Smart Array 5xxx Notification Driver[9]	CPQCISSE.SYS	Not applicable	PSP 7.70A	Yes
Smart Array 6i Controller	CPQCISSM.SYS	2.74	Slip stream media	Yes
Smart Array E200 Controller	HPCISSS2.SYS	1.50	PSP 7.70A	Yes
Smart Array E500 Controller	HPCISSS2.SYS	2.52	PSP 7.70A	Yes
Smart Array P400 Controller	HPCISSS2.SYS	2.08	PSP 7.70A	Yes
Smart Array P600 Controller	HPCISSS2.SYS	1.20	PSP 7.70A	Yes
Smart Array P800 Controller	HPCISSS2.SYS	2.08	PSP 7.70A	Yes

Option	Driver	Minimum firmware component version	Location	Digital signature
Fibre Channel controllers				
Fibre Channel Host Controller /P (32-bit/33-MHz Fibre Channel Host Adapter)[9]	CPQFCALM.SYS	Not applicable	Slip stream media	Yes
Fibre Channel Host Controller /P (64-bit/66-MHz Fibre Channel Host Adapter)[9]	CPQFCALM.SYS	Not applicable	Slip stream media	Yes
Fibre Channel Filter Driver[9]	CPQFCFTR.SYS	Not applicable	PSP 7.70A	Yes
Fibre Channel Array[9, 10]	CPQFCAC.SYS	Not applicable	PSP 7.70A	Yes
PCI-X to Fibre Channel HBAs				
HP StorageWorks A7388A & A7387A 2Gb PCI-X to FC HBAs for Windows 2000 and Windows Server 2003	See website for appropriate driver: http://h20000.www2.hp.com/bizsupport/TechSupport/DriverDownload.jsp?pnameOID=415629&locale=en_US&taskId=135&prodSeriesId=415627&prodTypeId=12169	1.91a5	Web download	Yes
HP StorageWorks FCA2214 2Gb PCI-X FC HBA for Windows	See website: http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=296368&prodTypeId=12169&prodSeriesId=439556&swLang=13&taskId=135&swEnvOID=1060	See website: http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=296368&prodTypeId=12169&prodSeriesId=439556&swLang=13&taskId=135&swEnvOID=1060	Web download	Yes

Option	Driver	Minimum firmware component version	Location	Digital signature
HP StorageWorks FC2143 and FC2243 DC HBA	See website: http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=3185351&prodTypeId=12169&prodSeriesId=3185350&swLang=13&taskId=135&swEnvOID=1060	See website: http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=3185351&prodTypeId=12169&prodSeriesId=3185350&swLang=13&taskId=135&swEnvOID=1060	Web download	Yes
HP StorageWorks FC1142SR and FC1242SR HBA	See website: http://h18006.www1.hp.com/products/storageworks/pciehbaql/index.html	See website: http://h18006.www1.hp.com/products/storageworks/pciehbaql/index.html	Web download	Yes
HP StorageWorks FC2142SR and FC2242SR HBA	See website: http://h18006.www1.hp.com/products/storageworks/4qbpciehba/index.html	See website: http://h18006.www1.hp.com/products/storageworks/4qbpciehba/index.html	Web download	Yes
SCSI controllers				
64-Bit Dual Channel Wide Ultra2 SCSI Adapter[9]	SYM_HI.SYS	Not applicable	Slip stream media	Yes
64-bit/66MHz Dual Channel Wide Ultra 3 SCSI Adapter[9]	ADPU160M.SYS	3.02.3	Slip stream media	Yes
64-bit/66MHz Single Channel Wide Ultra 3 SCSI Adapter[9]	ADPU160M.SYS	3.02.3	Slip stream media	Yes
ProLiant Storage System[9]	PRLNTSS.SYS	Not applicable	PSP 7.70A	Yes
Integrated Dual Channel Ultra320 SCSI Controller	LSI_SAS.SYS	5.05.21.0	PSP 7.70A	Yes
Integrated Dual Channel Wide Ultra2 SCSI Adapter[9]	SYM_HI.SYS	Not applicable	Slip stream media	Yes

Option	Driver	Minimum firmware component version	Location	Digital signature
Integrated Wide Ultra2 SCSI Adapter[9]	SYM_HI.SYS	Not applicable	Slip stream media	Yes
Integrated Ultra2 SCSI Adapter[9]	SYMC8XX.SYS	Not applicable	Slip stream media	Yes
SCSI HBAs				
64-bit/133MHz Dual Channel Ultra320 SCSI Host Bus Adapter	LSI_SAS.SYS	5.05.21.0	PSP 7.70A	Yes
64-bit/133MHz Single Channel Ultra320 SCSI Host Bus Adapter	LSI_SAS.SYS	5.05.21.0	PSP 7.70A	Yes
SAS HBAs				
8 Internal SAS HBA with RAID	LSI_SAS.SYS	1.16.33.00	PSP 7.70A	Yes
SC44Ge HBA	LSI_SAS.SYS	1.16.33.00	Web download for Windows 2003: http://h18007.www1.hp.com/support/files/storage/us/download/26564.html Web download for Windows 2003 x64: http://h18007.www1.hp.com/support/files/storage/us/download/26565.html	Yes

NOTE 9: Driver upgrades for many of the listed devices are included in Version 7.70A of the ProLiant Support Pack for Microsoft Windows Server 2003. After installing Windows Server 2003, update those drivers to enhance their reliability and functionality.

NOTE 10: Many of these devices have firmware upgrades available through variations of the Options ROMPaq. The latest version of each Options ROMPaq is available on the software and drivers website at http://h18007.www1.hp.com/support/files/server/us/index.html.

Supported network interface controllers

Table 8 lists supported ProLiant network interface controllers (NICs) and driver revisions supported by Windows Server 2003 SP2. The locations are abbreviated in the table as follows:

- Windows Server 2003 SP2 slip stream media = **Slip stream media**
- ProLiant Support Pack for Microsoft Windows Server 2003 Version 7.70A = **PSP 7.70A**

Table 8. ProLiant network interface controllers supported by Windows Server 2003 SP2

NIC	Driver	Minimum firmware component version	Location	Digital Signature
10 Gigabit Ethernet adapters				
NC510C	NXP2NIC.SYS	2.3.60	PSP 7.70A	Yes
NC510F	NXP2NIC.SYS	2.3.60	PSP 7.70A	Yes
Embedded LAN on motherboards (LOMs)				
NC3162	N100325.SYS	Not applicable	Slip stream media	Yes
NC3163	N100325.SYS	Not applicable	Slip stream media	Yes
NC7760	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7780	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7781	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7782	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
Fast Ethernet adapters				
NC3120	N100325.SYS	Not applicable	Slip stream media	Yes
NC3121	N100325.SYS	Not applicable	Slip stream media	Yes
NC3122	N100325.SYS	Not applicable	Slip stream media	Yes
NC3123	N100325.SYS	Not applicable	Slip stream media	Yes
NC3131	N100325.SYS	Not applicable	Slip stream media	Yes
NC3132 Upgrade Module	N100325.SYS	Not applicable	Slip stream media	Yes
NC3133 Upgrade Module	N100325.SYS	Not applicable	Slip stream media	Yes
NC3134	N100325.SYS	Not applicable	Slip stream media	Yes
NC3135 Upgrade Module	N100325.SYS	Not applicable	Slip stream media	Yes
NC3160	N100325.SYS	Not applicable	Slip stream media	Yes
NC3161	N100325.SYS	Not applicable	Slip stream media	Yes
Gigabit Ethernet adapters				
NC110T	N1E5132.SYS	Not applicable	PSP 7.70A	Yes
NC310F	N1000325.SYS	Not applicable	PSP 7.70A	Yes

NIC	Driver	Minimum firmware component version	Location	Digital Signature
NC320i	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC320i for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC320T	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC320T for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC324i	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC324i for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC325i	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC325i for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC325m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC325m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC326i	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC326i for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC340T	N1000325.SYS	Not applicable	PSP 7.70A	Yes
NC340T for 64-bit Editions	N1G5132E.SYS	Not applicable	PSP 7.70A	Yes
NC364T	N1E5132.SYS	Not applicable	PSP 7.70A	Yes
NC370F	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC371i	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC370T	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC373F	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC373i	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC373m	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC373T	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC380T	BXND51X.SYS	2.1.0.5	PSP 7.70A	Yes
NC1020	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC3133 Module	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC6132 Module	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC6134	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC6136	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC6170	N1000325.SYS	Not applicable	PSP 7.70A	Yes
NC6170 for 64-bit Editions	E1G5132E.SYS	Not applicable	Slip stream media	Yes

NIC	Driver	Minimum firmware component version	Location	Digital Signature
NC6770	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7131	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC7132 Module	N1000NT5.SYS	Not applicable	Slip stream media	Yes
NC7170	N1000325.SYS	Not applicable	PSP 7.70A	Yes
NC7170 for 64-bit Editions	E1G5132E.SYS	Not applicable	Slip stream media	Yes
NC7761	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7761 for 64-bit Editions	B57AMD64.SYS	2.1.0.5	Slip stream media	Yes
NC7770	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC7170/NC7170LP	E1G5132E.SYS	Not applicable	PSP 7.70A	Yes
NC7771	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
Gigabit switch adapters				
NC150T	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC150T for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
HP BladeSystem network adapters				
NC320m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC320m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC325m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC325m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC326m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC326m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC370i	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC370i for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes

NIC	Driver	Minimum firmware component version	Location	Digital Signature
NC373m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC373m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes
NC374m	Q57XP32.SYS	2.1.0.5	PSP 7.70A	Yes
NC374m for 64-bit Editions	Q57XP64.SYS	2.1.0.5	PSP 7.70A	Yes

IMPORTANT:
The drivers for the network interface controllers reside on the Windows Server 2003 SP2 slip stream media and have undergone testing by Microsoft and HP.

ProLiant cluster support

A critical goal of the HP Adaptive Enterprise is to offer customers the ability to reduce exposure to unplanned downtime through automated software and hardware tools that predict, diagnose, and respond immediately to potential fault conditions. HP delivers intelligent fault resilience with its High Availability Clustering product solutions and kits built on Windows Server 2003, Enterprise Edition, industry standard ProLiant servers, Smart Array Cluster Storage, or StorageWorks platforms integrated with HP management tools.

The following products support Windows Server 2003, Enterprise Edition:

- ProLiant DL380 G2 Packaged Cluster
- ProLiant DL380 G4 Packaged Cluster
- ProLiant DL380 G3 Packaged Cluster
- ProLiant DL380 G2 Packaged Cluster
- ProLiant CL380 Packaged cluster
- ProLiant Cluster Kits HA/F500 for Enterprise Virtual Array, HA/F500 for MA8000, and HA/F100 & F200 for MSA1000

PCI Hot Plug support

PCI Hot Plug is the ability to physically insert, remove, or replace PCI adapters while a ProLiant server is powered on. PCI Hot Plug operations may be performed under Windows Server 2003 SP2 on supported ProLiant servers with the PCI Hot Plug Filter Driver installed. ProLiant storage options and network interface controllers are supported for PCI Hot Plug operations.

Table 9 identifies ProLiant servers that are capable of PCI Hot Plug.

Table 9. ProLiant servers with PCI Hot Plug support

HP ProLiant DL servers	HP ProLiant ML servers	Compaq ProLiant servers
ProLiant DL380 G2	ProLiant ML370 G2	ProLiant 6400R
ProLiant DL380 G3	ProLiant ML530 G2	ProLiant 6500 Xeon
ProLiant DL580	ProLiant ML570	ProLiant 7000 Xeon
ProLiant DL580 G2	ProLiant ML570 G2	ProLiant 8000
ProLiant DL740	ProLiant ML750	ProLiant 8500
ProLiant DL760		
ProLiant DL760 G2		

NOTE:
Future service pack papers will not include PCI Hot Plug support information, as it applies to older ProLiant server models.

Hot Plug Memory support

Higher availability on HP and Microsoft solutions has been achieved through the deployment of Hot Plug RAID Memory, the most robust memory-protection solution in the HP Advanced Memory Protection scheme. With the introduction of industry-leading ProLiant 8-way platforms, the ProLiant DL760 G2 and ProLiant DL740, HP became the first and only vendor to offer Hot Plug RAID Memory in an industry-standard platform. These two platforms based on the HP F8 chipset enable customers to deploy mainframe levels of availability in their industry-standard IT environments, without the high cost of mainframe technology. With these HP/Microsoft solutions, customers can dynamically hot-add memory capacity without powering down the server. These solutions deliver true resource scalability and maximum uptime for enterprise customers. The Hot Add Memory feature in the specified 4-way and 8-way ProLiant servers is only supported in Windows Server 2003.

The following Hot Plug RAID Memory Driver and Utility are included in Version 7.60A and earlier of the ProLiant Support Pack for Microsoft Windows Server 2003:

- HP ProLiant Hot-Plug Memory Configuration Utility for Windows Server 2003
- HP ProLiant Hot Plug Memory Driver for Windows Server 2003

NOTE:
Future service pack papers will not include Hot Plug Memory support information, as it applies to older ProLiant server models.

Lights-Out management support

Lights-Out management products, such as Integrated Lights-Out 2 (iLO 2), Integrated Lights-Out (iLO), and Remote Insight Lights-Out Edition II (RILOE II), remain an important part of the ProLiant solution by adding support for the Windows Server 2003 OS. Drivers for these products are included in the ProLiant Support Pack for Microsoft Windows Server 2003. For information regarding supported remote management features and functionality on Windows Server 2003, refer to the QuickSpecs at **www.hp.com/servers/lights-out**.

SmartStart installation paths

Whether you choose a SmartStart assisted installation or a manual OS installation, server deployment of Microsoft Windows Server 2003 SP2 is consistent and easy every time with ROM-based utilities.

To fully optimize the performance of your hardware platform, a SmartStart assisted installation walks you through the entire OS installation process: SmartStart prepares the server for installation, allows you to install the OS using the vendor-supplied CDs, and provides automated installation of server support software using ProLiant Support Packs (PSPs).

NOTE:
When using the SmartStart assisted installation feature in SmartStart 7.70 to deploy Windows Server 2003 SP2 and PSP 7.70, use the Microsoft Windows Server 2003 R2 OS selection.

For a manual installation of the OS, you can take advantage of the ROM-based utilities and vendor-supplied OS media before manually installing server support software from the SmartStart CD.

For more information on SmartStart, go to the SmartStart website at **www.hp.com/servers/smartstart**. The installation guide, available on this website, walks you through both SmartStart installation paths.

Pre-installation tasks

To prepare for installation, gather the supported software detailed below.

1. Obtain ProLiant Support Pack (PSP) for Microsoft Windows Server 2003 Version 7.70A (or later) at **http://h18023.www1.hp.com/support/files/server/us/download/26020.html** or from the SmartStart 7.70 CD. This PSP contains device drivers, management agents, and utilities supported under Windows Server 2003 SP2.

   NOTE:
   Once the ProLiant Support Pack for Microsoft Windows Server 2003 Version 7.70A (or later) is installed, you can use HP Systems Insight Manager available at **www.hp.com/go/hpsim** to manage your Windows Server 2003 SP2 servers.

2. For the ProLiant servers listed in Table 10, obtain System Configuration Utility Version 2.58 (or later) at **http://h18023.www1.hp.com/support/files/server/us/download/13227.html** and create the associated bootable diskette set. Run the utility and verify that all system configuration options conform to those listed for the chosen platform.

IMPORTANT:
Create the bootable diskette set if you plan to use the SmartStart assisted installation path.

Table 10. ProLiant servers with System Configuration Utility support

Compaq ProLiant servers	HP ProLiant DL servers	HP ProLiant ML servers
ProLiant CL380	ProLiant DL360	ProLiant ML330
ProLiant 3000	ProLiant DL380	ProLiant ML350
ProLiant 5500		ProLiant ML370
ProLiant 6000		ProLiant ML530
ProLiant 6400R		ProLiant ML570
ProLiant 6500		
ProLiant 7000		
ProLiant 8000		
ProLiant 8500		

Other ProLiant servers use the ROM-Based Setup Utility (RBSU). This utility can be used in place of the System Configuration Utility and must be used to specify the OS on the server if you are using the SmartStart assisted installation path.

Procedures for performing a new installation

This section outlines the proper procedures to follow when performing a new (clean) installation of the Windows Server 2003 SP2 OS on ProLiant servers.

To complete a Windows Server 2003 SP2 installation fully supported by HP, follow these steps when setting up the system. Read the following sequence completely before you begin.

Part 1: Choose one of the available methods for installing Windows Server 2003 SP2 slip stream media CD-1

HP BladeSystem installation

The ProLiant Essentials Rapid Deployment Pack is a server deployment product that facilitates the installation, configuration, and deployment of high-volumes of servers through a GUI-based console using either scripting or imaging technology.

Especially designed for HP BladeSystem servers, but supporting all ProLiant servers, the Rapid Deployment Pack has advanced features that can detect and display server blades based on their physical rack, enclosure, and bay location.

To install Windows Server 2003 SP2 on HP BladeSystem servers, HP recommends using Rapid Deployment Pack Version 1.40 (or later).

All blade enclosures ship with a Foundation Pack which includes the Rapid Deployment Pack CD. The Rapid Deployment Pack CD contains all of the drivers, agents, and support software that the blade needs. Use the Rapid Deployment Pack CD with any deployment method chosen to install software on HP BladeSystem servers.

For additional product information and usage instructions for Rapid Deployment Pack, visit **www.hp.com/servers/rdp**.

Details about other deployment options can be found at the following locations:

- For HP BladeSystem c-Class: **http://h71028.www7.hp.com/enterprise/cache/316735-0-0-0-121.html**
- For HP BladeSystem p-Class: **http://h18004.www1.hp.com/products/servers/proliant-bl/p-class/documentation.html**
- For ProLiant BL e-Class (retired): **http://h18004.www1.hp.com/products/servers/proliant-bl/e-class/deployment.html**

Manual installation

To perform a manual installation:

1. Choose a supported system platform from Table 4.
2. Inspect the system to confirm that it conforms to the platform-specific configuration listed in Table 4. If necessary, update the system ROMs as specified Table 4.
3. Use the System Configuration Utility to configure the hardware for the server. See Table 10 to determine if this step is necessary for the server.
4. If the server uses any of the following Smart Array Controllers as the boot controller, configure the arrays by accessing the Option ROM Configuration for Arrays utility through the F8 key during boot:
   - Smart Array P600
   - Smart Array 642
   - Smart Array 641

- Smart Array 5300
- Smart Array 531
- Smart Array 5i
- Smart Array 6i
- Smart Array 6402
- Smart Array 6404

Exit the utility to continue the boot process, once the configuration is complete.

NOTE:
Alternatively, you may set your array controller as the secondary controller and install the OS to a SCSI controller. Once the OS is installed, configure the array through the Array Configuration Utility (ACU) using the PSP for Microsoft Windows Server 2003 SP2 Version 7.70A.

5. Insert the Windows Server 2003 SP2 slip stream media into CD-ROM drive to begin installation.
6. After Windows Server 2003 SP2 has been installed, install the Simple Network Management Protocol (SNMP), if you want to use the functionality of the Insight Management Agents.
   a. From the Start menu, select the **Control Panel**.
   b. Select **Add/Remove Programs**.
   c. Click **Add/Remove Windows Components.**
   d. Select **Management and Monitoring Tools** from the list of components.
   e. Click **Details**.
   f. Select **Simple Network Management Protocol** so that a checkmark is displayed in the checkbox.
   g. Click **OK** and then **Next**.
   h. Click **Finish**.
   i. Select **Administrative Tools** from the Control Panel.
   j. Select **Services**.
   k. Right click **SNMP Service** and select **Properties**.
   l. Click the **Security** tab.
   m. Click the **Add** button in the **community names** section.
   n. Add the community name "public" with read only rights. You can use a different community name, but you must reconfigure the Insight Management Agents if you do.
   o. Select the **Accept SNMP packets from these hosts** option. Do not select the **Accept SNMP packets from any host** option unless you understand the security implications.
   p. Click the **Add** button in the **hosts** section.
   q. Add the IP address "127.0.0.1".
   r. Click **OK**.

7. Install Version 7.70A (or later) of the ProLiant Support Pack (PSP) for Microsoft Windows Server 2003 SP2, which is available at **http://h18023.www1.hp.com/support/files/server/us/download/26020.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.
   a. Primary installation method
      - Run the SETUP.EXE program included with the PSP. By default, all software components are selected for installation. In most circumstances, this default selection should not be altered.
      - Click **Install** to proceed with the installation. Although all software components are selected for installation by default, only those required by the server will be installed. After the installation is complete, the utility will display successfully installed components, non-applicable components, and any component installation failures.
   b. Command prompt installation
      - Use the SETUPC.EXE to install the PSP from a command line prompt without user interaction. This utility is designed as a tool that can be scripted. As with the SETUP.EXE program, all components appropriate for the target server will be installed.
      - For additional usage information, refer to the BPXXXXXX.TXT file included with the downloaded files and the ProLiant Support Pack and Deployment Utilities User Guide posted on the download Web page for the PSP.

Unattended installation

For detailed procedures on unattended installs, refer to Microsoft documentation. When using an UNATTEND.TXT file, follow these additional procedures.

1. If the UNATTEND.TXT file has the OEMPreinstall flag set, add the following line in the unattend section.

```
[UNATTEND]

DisableVirtualOemDevices=Yes
```

2. Ensure that any special hardware-specific drivers appropriate for your ProLiant server are available in the specified OEMFilesPath. The drivers for the supported devices may not be included on the base media.

NOTE:
These changes are only necessary when using an UNATTEND.TXT file with the OEMPreinstall flag set. Failure to set this flag could cause installs to abort with the following message: "File [filename] could not be loaded. Error code is 18. Setup cannot continue."

Part 2: Install Windows Server 2003 SP2 slip stream media CD-2 (optional)

Once the base OS has been installed on the server and the server has been rebooted, the administrator will be asked to insert CD-2 in to the CD-ROM drive. This action prompts the OS to display a list of R2 specific components that may be installed on the server.

NOTE:
An administrator may choose which components to install on the server; it is not required to install every component.

Installing IPMI and WS-Management on HP ProLiant 100 Series Servers

To install IPMI and WS-Management:

1. Insert CD-2 on a ProLiant 100 Series Server with Windows Server 2003 SP2 installed.
2. Select the **Management and Monitoring Tools** section of the Add/Remove Windows Components Wizard.
3. Press **Details** and select **Hardware Management**.

   Please refer to the Microsoft Windows Server 2003 SP2 documentation for complete installation instructions.

Creating the SMBIOS IPMI Device on HP ProLiant 100 Series Servers

If a BMC was detected during the setup process but your system does not automatically (1) detect the BMC through Plug and Play and (2) install the driver, the BMC Device must be manually created using a command prompt.

To create the IPMI BMC Device, execute the following command from a command prompt:

```
Rundll32 ipmisetp.dll, AddTheDevice
```

After this command is executed, the IPMI Device will be created and can be seen under the Device Manager as Microsoft SMBIOS Generic IPMI Compliant Device. The device will be removed when the Hardware Management component is uninstalled.

Procedures for performing an upgrade to an existing Windows Server 2003 installation

To upgrade existing servers to Windows Server 2003 SP2, please follow the guidelines posted by Microsoft in the *Windows Server 2003 Service Pack 2 Deployment and Installation Guide* found at **http://technet2.microsoft.com/WindowsServer/en/library/c050419b-98a2-4802-b719-629a33a332391033.mspx?mfr=true**.

Appendix A: known issues and workarounds

This section details the known issues with installing Windows Server 2003 SP2 on ProLiant servers and provides information about resolving them.

Table 11. Known issues

Issue 1	**Yellow exclamation mark gets displayed in ATI Device Manager with Remote Insight Lights-Out Edition installed.**	
	Description	When using Remote Insight Lights-Out Edition, the Windows Server 2003 Device Manager displays a yellow exclamation mark beside the ATI device.
	Workaround	Please disregard the yellow exclamation mark as there is no loss of functionality or other reported symptoms to elicit concern.
Issue 2	**Dynamic disk drives attached to Compaq Fibre Channel HBAs disappear after "hot-swap."**	
	Description	After hot removal and subsequent hot addition of the Compaq Fibre Channel Array or the Compaq Fibre Channel Host Controller /P (64-bit/66-MHz Fibre Channel Host Adapter) from one slot to another, the dynamic disk drive letters associated with the drives attached to the Compaq Fibre Channel Array or the Compaq Fibre Channel Host Controller /P are no longer listed in the Device Manager.
	Workaround	Reboot the server for the correct dynamic disk drive letters to return. Scheduled to be fixed in a later Microsoft operating system release.
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. 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 OS may request a reboot.
	Workaround	Reboot the server as prompted. Scheduled to be fixed in a later Microsoft operating system release.

Issue 5	**The native OS backup utility may prohibit appending data to the tape drive.**	
	Description	When performing a backup using the native OS backup utility, you might receive a message describing a hardware error. In this case, the following message will be displayed at the end of the backup job: `Drive Error: The device reported an error on a request to write data to media. Error Reported: Invalid command. There may be a hardware or media problem. Please check the system event log for relevant failures.` The backup log will suggest that drive C is not a valid drive or that you do not have access to the drive. After you receive this error, you can no longer append data to that tape drive.
	Workaround	Download the Microsoft HotFix WindowServer2003-KB817688-I386-ENU.EXE file from **http://h71028.www7.hp.com/enterprise/downloads/WindowsServer2003-KB817688-i386-ENU.exe**. Then, run the executable in the Windows Server 2003 environment.
Issue 6	**Unattended installs abort when using UNATTEND.TXT file with the OEMPreinstall flag set.**	
	Description	Unattended installs abort with the following message: `File [filename] could not be loaded. Error code is 18. Setup cannot continue.` When installing any edition of Microsoft Windows Server 2003 on a ProLiant server that has an embedded virtual install disk, the error message listed above may be generated when using an UNATTEND.TXT file that includes the OEMPreinstall flag. The problem occurs because the Windows Server 2003 Installer interacts with the embedded virtual install disk when the OEMPreinstall flag is set in the UNATTEND.TXT file, but no files are specified to be preinstalled. In order for this error condition to be triggered, all of the following conditions must be met: • Windows Server 2003 (or later) installation. • Installation must be performed using an UNATTEND.TXT script. • The OEMPreinstall flag must be set in the UNATTEND.TXT file. • The UNATTEND.TXT file must NOT specify any files to be preinstalled. • The server must have an active virtual install disk. **NOTE:** Installations performed using SmartStart, Rapid Deployment Pack, or "Disk Image" (i.e., the OS image is copied to the hard drive) are not affected.

	Workaround	To work around this problem, use one of the following methods:
		Preferred method:
		If the OEMPreinstall flag is set to Yes in the UNATTEND.TXT file, set the "DisableVirtualOemDevices" flag to Yes in the [UNATTENDED] section of the UNATTEND.TXT file, as shown in the following example:
		`[UNATTENDED]`
		`DisableVirtualOemDevices=Yes`
		Other methods:
		Avoid setting the OEMPreinstall flag to Yes in the UNATTEND.TXT file if files are not specified to be preinstalled.
		OR
		Disable the virtual install disk in the advanced options of the ROM-Based Setup Utility (RBSU) for the affected server.

Issue 7	**The Microsoft IPMI driver will not install on HP ProLiant servers.**	
	Description	The Microsoft IPMI driver fails to load on HP ProLiant servers. For additional information and a link to the hotfix that resolves this issue, refer to Microsoft Knowledge Base Article 912134 (**http://support.microsoft.com/?kbid=912134**).
	Workaround	Download and install the hotfix from Microsoft, as instructed in Microsoft Knowledge Base Article 912134.

Appendix B: resolved issues

This section lists issues with existing Windows Server 2003 installations that are resolved by understanding support limitations or by performing ROM, firmware, and PSP upgrades.

Table 12. Resolved issues

Issue 1	**SYSTEM ROM UPGRADE REQUIRED on ProLiant servers with Intel® Xeon™, Xeon DP, or Xeon MP processors to correct timing marginality in the Instruction Decoder.**	
	Description	Intel Corp. has identified a timing marginality in a small percentage of Intel Xeon, Intel Xeon DP and Intel Xeon MP Processors that can cause erratic system behavior after prolonged usage. Based on Erratum P72 in the Intel Xeon Processor Specification Update and Erratum O69 in the Intel Xeon MP Processor Specification Update dated July 2004, the timing marginality in the instruction decoder unit may cause unpredictable application or system behavior. For additional details, refer to the customer advisory located at **http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=PSD_EL040709_CW01**.
	Solution	HP strongly recommends downloading and applying the System ROMPaq Upgrade Diskette (dated September 2004 or later) to upgrade the ProLiant System ROM to the appropriate date.
Issue 2	**The Data Execution Prevention (DEP) feature in Windows Server 2003 causes the HP Insight Management Agents and the HP ProLiant Rack Infrastructure Service to stop running.**	
	Description	If the Data Execution Prevention (DEP) feature is enabled in Microsoft Windows Server 2003, it causes the HP Insight Management Agents for Windows Server 2003 and the HP ProLiant Rack Infrastructure Interface Service for Windows Server 2003 (this only affects ProLiant Server Blades) to stop running. For additional details, refer to the customer advisory located at **http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?objectID=PSD_EM050113_CW01**.
	Solution	This issue was resolved in an earlier PSP. Install PSP 7.70A (or later) to get the fix.

Issue 3	**ProLiant Advanced System Management Controller Driver for Microsoft Windows Server 2003 (CPQASM.SYS) will not load on the ProLiant 3000, 5500, or 6500.**	

	Description	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.
		
		The following message will be displayed in CPQSETUP.LOG after the driver is installed:
		
		`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.`

	Solution	This issue is resolved in Version 5.36.0.0 or later of the ProLiant Advanced System Management Controller Driver for Windows 2000/Server 2003. This version of the driver will automatically check for ACPI support and install the appropriate driver. This issue was resolved in an earlier PSP. Install PSP 7.70A (or later) to get the fix.

Issue 4	**HP ProLiant servers running HP Insight Server Agents for Windows may experience high CPU utilization.**	
	Description	An HP ProLiant server operating in a Microsoft Windows environment and loading the HP Insight Management Agents for Windows Version 7.40 may experience high CPU utilization, resulting in degraded system performance. CPU utilization may reach 50 to100 percent and remain high on multiprocessor systems. Systems with a single CPU may reach 100 percent. A call responsible for the memory code initialization process from the Server Agents in PSP 7.40 to the Windows Health driver becomes trapped in an endless loop, causing the processor utilization to rise. For additional details, refer to the customer advisory located at http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?locale=en_US&objectID=c00568181.
	Solution	To prevent high CPU utilization from occurring, upgrade the HP Insight Management Agents and System Management drivers to the following versions as appropriate for the specific ProLiant server: • **CP005816** – HP ProLiant Advanced System Management Controller Driver for Windows 2000/Server 2003 Version 5.36.0.0 (or later) http://h18007.www1.hp.com/support/files/server/us/locate/8832.html • **CP005817** – HP ProLiant iLO Advanced and Enhanced System Management Controller Driver for Windows 2000/Server 2003 Version 5.39.0.0 (or later) http://h18007.www1.hp.com/support/files/server/us/locate/8818.html • **CP005818** – HP ProLiant iLO Advanced and Enhanced System Management Controller Driver for Windows Server 2003 X64 Editions Version 5.39.0.0 (or later) http://h18007.www1.hp.com/support/files/server/us/locate/8609.html • **CP006033** – HP Insight Management Agents for Windows 2000/Windows Server 2003 Version 7.41 (or later) http://h18007.www1.hp.com/support/files/server/us/locate/7258.html • **CP006034** – HP Insight Management Agents for Windows Server 2003 X64 Editions Version 7.41 (or later) http://h18007.www1.hp.com/support/files/server/us/locate/8627.html
Issue 5	**Hibernation issue exists with 4 GB or more system memory.**	
	Description	The Hibernation tab does not install on servers with 4 GB or more system memory.
	Solution	Hibernation with 4 GB or more system memory is not supported in Windows Server 2003.

Issue 6	**The Smart Array 4200 Controller Driver does not install during Setup.**	
	Description	During installation of Windows Server 2003, a popup box reports the following: `Setup had problems installing the following device: Compaq Smart Array 4200 Controller. Do you want to delay installing this device until after setup is complete?` The Smart Array 4200 Controller will not be installed during Windows Server 2003 Setup if this controller is set as the boot controller.
	Solution	This issue is resolved by installing Windows Server 2003 SP2.
Issue 7	**Incorrect port number and port ID returned in insertion and removal events.**	
	Description	When using Smart Array 5xxx Notification Driver (CPQCISSE.SYS) Version 5.42.0.32 with Smart Array Cluster Storage, the port number and port ID in removal and insertion events are reported incorrectly.
	Solution	To resolve this issue, upgrade to Smart Array Cluster Controller Firmware Version 1.70 (or later) and upgrade to Version 5.42.2.32 (or later) of the CPQCISSE.SYS driver. Smart Array Cluster Controller Firmware Version 1.70 (or later) is downloadable as follows: • **Name:** Online ROM Flash Component for Windows - Compaq Smart Array Cluster Storage Controller • **Download location:** **http://h18007.www1.hp.com/support/files/server/us/locate/6397.html** CPQCISSE.SYS Version 5.42.2.32 (or later) is downloadable as follows: • **Name:** ProLiant Smart Array 5x and 6x Controller Driver for Windows 2000/Server 2003 • **Download location:** **http://h18007.www1.hp.com/support/files/server/us/locate/2757.html**
Issue 8	**Embedded network interface controllers are not enumerated consistently.**	
	Description	After installing and configuring embedded network interface controllers (NICs) post Windows Server 2003 installation, the port configurations may not operate as expected. For additional details, refer to the customer advisory posted at **http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&cc=us&objectID=c00712319**.
	Solution	The above advisory provides instructions on renaming the ports in the Network Connections panel. If you are experiencing this situation, follow the instructions in the advisory or switch cables.

For more information

For additional information, refer to the resources detailed below.

Table 13. Web resources

Resource description	Web address
HP and Microsoft Frontline Partnership website	www.hp.com/go/microsoft
Microsoft website	www.microsoft.com
Microsoft Windows Server 2003 Service Pack 2 Installation and Deployment Guide	www.microsoft.com/technet/windowsserver/sp2.mspx

Call to action

Send comments about this paper to: TechCom@HP.com.

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