Implementing Microsoft® Windows® Server 2008 Service Pack 2 on HP servers

integration note

Abstract

This integration note describes the level of support available for Microsoft® Windows® Server 2008 Service Pack 2 (SP2) RTM on HP ProLiant and HP Integrity servers. The purpose of this paper is to assist customers during installation of the Windows Server 2008 operating system (OS) and Windows Server 2008 Service Pack 2 Installation. For more information, visit the HP website: www.hp.com/go/ws2008.

This paper addresses these key topics addressed in this paper:

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

Microsoft provides Windows Server 2008 SP2 RTM in the following editions:

- x86 edition
- X64 edition for systems with of the following processors:
  - Intel Xeon® Processors with Intel Extended Memory 64 Technology (EM64T)
  - Advanced Micro Devices, Inc. (AMD64) Opteron™ Series Processors
- Web edition
- Itanium-Based system editions for systems with Intel® Itanium® 2 processors

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NOTE

To obtain a trial version of the Windows Server 2008 OS, visit the Microsoft website:
http://www.microsoft.com/windowsserver2008/en/us/trial-software.aspx .

Introduction to Windows Server 2008

Windows Server 2008 is designed to power the next generation of network applications and web services. Windows Server 2008 helps administrators manage and deliver a secure environment that saves administrative time and reduces IT infrastructure costs.

IMPORTANT

Windows Server 2008 uses DVD media and requires a server configured with either a USB DVD-ROM or an IDE DVD-ROM for local installations. For customers without IDE DVD-capable servers, copy the Windows Server 2008 media to a network share.

iLO firmware contains support for virtual DVD media; however, the installation is much slower than local installations.

Server Core Installations

Windows Server 2008 offers Server Core as a minimum-installation option providing a reduced, more secure OS footprint. Administrators utilize the command line to install select roles and features on a Server Core-based server.

For additional information about command line, see the Microsoft website: http://technet2.microsoft.com/windowsserver/en/library/552ed70a-208d-48c4-8da8-2e27b530eac71033.mspx?mfr=true.

Server Core supports the following server role installations:

- Dynamic Host Configuration Protocol (DHCP) server
- Domain Name System (DNS) server
- File server
- Active Directory Domain Services
- Active Directory Lightweight Directory Services (AD LDS)
- Print Server
- Streaming Media Services
- Internet Information Services 7 (IIS7)
- Hyper-V

Server Core installations support the following optional features:

- Backup
- Bitlocker Drive Encryption
- Failover Clustering
- Multipath I/O
- Network Load Balancing
- Removable Storage
- Subsystem for UNIX-based applications
- Telnet client
- Windows Internet Name Service (WINS)

For additional information about Server Core, see the Microsoft website: www.microsoft.com/windowsserver2008/servercore.mspx.

NOTE
The Server Core installation is not available for Itanium-based systems.

What's New in Service Pack 2

Service pack 2 includes the following, which may already be available for download from Windows Update:

- Hotfixes
- Security updates

Refer to the Hotfixes and Security Updates in Windows Server 2008 SP2 RTM and Windows Vista SP2 RTM documents at http://technet.microsoft.com/en-us/library/dd335033.aspx.

Service Pack 2 includes the following server OS enhancements:

- Application compatibility updates
- Hyper-V as a fully integrated feature of Windows Server 2008
- Improved power management policy that is up to 10% more efficient than the original in certain configurations including the ability to manage these settings through group policy
- Improved backward compatibility for Terminal server license keys
- Setup and deployment improvements
  - Single installer for both Windows Vista and Windows Server 2008
  - Ability to detect incompatible drivers and block service pack installation or warn users of potential loss of functionality
  - Better error handling and descriptive error messages where possible
  - Improved manageability through logging in the system event log
  - Secure install experience
  - Ability to service the installer post release

- Service Pack Clean-up tool (Compcln.exe), which helps restore hard disk space by permanently deleting the previous versions of the files (RTM & SP1) that are being serviced by SP2. The tool may also be run offline while creating slipstream images to reduce the image size.

Supported configurations

Windows Server 2008 Service Pack 2 should function properly on any server that supports Windows Server 2008, where it should load and run on any HP server listed in "Recommended ProLiant server platforms" section of this document when the server meets the recommended hardware configuration established by Microsoft.

Carefully review this document for the recommended system configuration and possible issues that might be encountered. Do not use this paper as the sole source of information. In addition to the websites mentioned throughout this paper, visit the Microsoft Windows Server 2008 support page: www.microsoft.com/windowsserver2008/default.mspx.

Recommended system configuration

The recommended system configurations listed in this section are established by Microsoft for Windows Server 2008 Service Pack 2 base OS installations.

Table 1. Recommended system configuration as established by Microsoft for
Windows Server 2008 and Windows Server 2008 Service Pack 2

Component	Requirement
Processor	• Minimum: 1 GHz, Itanium 1.4 GHz • Recommended: 2 GHz, Itanium 1.6 GHz
Memory per core	• Minimum: 512 MB • Recommended: 2 GB • Optimal: 2 GB (Full) 1GB (Server Core)
Maximum RAM 32 bit systems	• 4 GB (standard edition) • 64 GB (Enterprise/Datacenter Editions)
Maximum RAM 64 bit systems	• 32 GB (standard edition) • 2 TB (Enterprise/Datacenter/Itanium)

Table 1. Recommended system configuration as established by Microsoft for Windows Server 2008 and Windows Server 2008 Service Pack 2

Component	Requirement
Monitor	SVGA resolution (800x600) or higher
Optical storage	DVD drive
Available disk space	• Minimum: 10 GB • Recommended: 40 GB

NOTE
- Available disk space refers to the free disk space on the partition that contains the system files. Additional space is required to copy the Windows Server 2008 CD contents to the hard disk during installation.
- Refer to the Microsoft website for any system requirement updates: www.microsoft.com/windowsserver2008/sysreqs.mspx.
- Computers with more than 16 GB of RAM will require more disk space for paging and dump files.

Recommended ProLiant server platforms

Table 2 lists the ProLiant servers, ROM versions, and minimum ROM dates that support Windows Server 2008 and Windows Server 2008 Service Pack 2. Refer to the following web resources to assist in determining the ROM version and family of the supported ProLiant server. HP recommends updating to the latest available ROM before installing Windows Server 2008 SP2.

Software and driver updates are available at
http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp?lang=en&cc=us&taskId=135.

The Windows on ProLiant support matrix is available at
http://h10018.www1.hp.com/wwsolutions/windows/index.html.

IMPORTANT
iLO 2 firmware must be updated to Version 1.42 (or later).

Table 2. ProLiant server platforms that support Windows Server 2008 and Windows Server 2008 Service Pack 2

Server platform	ROM family	ROM date (minimum)
ProLiant BL servers:		
BL2x220c G5	I19	09/24/08
BL260c G5	I20	09/24/08
BL280c G6	I22	04/01/09
BL460c G5	I23	12/08/08

Table 2. ProLiant server platforms that support Windows Server 2008 and Windows Server 2008 Service Pack 2

Server platform	ROM family	ROM date (minimum)
BL460c G6	I24	02/24/09
BL465c	A13	09/20/07
BL465c G5	A13	08/05/08
BL480c	I14	08/21/07
BL490c G6	I21	02/24/09
BL495c G5	A14	11/03/08
BL680c G5	I17	10/18/07
BL685c	A08	09/20/07
BL685c G5	A08	08/01/08
BL685c G6	A17	04/05/09
ProLiant DL servers:		
DL120 G5	022	07/29/08
DL140 G3	008	06/18/06
DL145 G3	009	12/01/06
DL160 G5	012	10/06/08
DL160 G5p	028	10/06/08
DL160 G6	033	03/10/09
DL165 G5	013	08/04/08
DL165 G5p	029	04/06/09
DL180	014	10/30/08
DL180 G5	019	09/03/08
DL180 G6	O20	03/10/09
DL185 G5	016	09/10/08
DL320 G5	W04	08/21/07
DL320 G5p	W05	04/03/08
DL320 G6	W07	04/10/09

Table 2. ProLiant server platforms that support Windows Server 2008 and Windows Server 2008 Service Pack 2

Server platform	ROM family	ROM date (minimum)
DL320s	W04	04/06/07
DL360 G4p	P54	07/16/07
DL360 G5	P58	08/21/07
DL360 G6	P64	03/03/09
DL365	A10	09/20/07
DL365 G5	A10	08/05/08
DL370 G6	P63	03/04/09
DL380 G5	P56	08/21/07
DL380 G6	P62	02/23/09
DL380 G4 Packaged Cluster – MSA1000*†	P17	07/19/07
DL385	A05	03/01/06
DL385 G2	A09	09/20/07
DL385 G5	A09	08/01/08
DL385 G5p	A22	10/25/08
DL580 G4	P59	08/10/07
DL580 G5	P61	12/07/07
DL585	A01	03/22/06
DL585 G2	A07	11/21/07
DL585 G5	A07	08/01/08
DL785 G5	A15	08/01/08
ProLiant ML servers:		
ML110 G5	015	08/05/08
ML115 G5	018	06/17/08
ML150 G5	017	10/29/08
ML150 G6	O21	03/19/09
ML310 G4	W03	08/21/07

Table 2. ProLiant server platforms that support Windows Server 2008 and Windows Server 2008 Service Pack 2

Server platform	ROM family	ROM date (minimum)
ML310 G5	W05	08/01/08
ML310 G5p	W05	08/01/08
ML350 G5	D21	08/21/07
ML350 G6	D22	02/23/09
ML370 G4	P50	07/19/07
ML370 G5	P57	08/21/07
ML370 G6	P63	03/04/09
ML570 G4	P60	08/02/07

*Supported when configured with an MSA1000 only. MSA500 G2 packaged clusters are not supported.

†Supported in the Fibre Channel configuration only.

Recommended Integrity server platforms

Table 3. Recommended Integrity server platforms

HP Integrity Server	System firmware version
BL860c	MP: T.03.12, BMC: 5.36, SFW: 4.21
BL870c	MP: T.03.12, BMC: 5.36, SFW: 4.21
rx2660	MP: 02.23, BMC: 5.24, SFW: 4.11
rx3600 rx6600	MP: 02.23, BMC: 5.24, SFW: 4.11
Rx7620 Rx8620	MP: 8.08, SFW: 8.22 MP: 8.08, SFW: 8.22
rx7640 rx8640	MP: 4.2.3, SFW: 9.64
Superdome (sx1000)	MP: 16.6, SFW: 8.22
Superdome (sx2000)	SFW: 9.62.000, MP: 026.5.1

NOTE: Microsoft does not have a Hyper V product for the Intel Itanium processor family.

Supported components for ProLiant servers

Software drivers

HP recommends administrators use the drivers on the Windows Server 2008 SP2 media installation when applicable. HP ProLiant Support Pack for Microsoft Windows Server 2008 Version 8.25 is supported with Windows Server 2008 SP2.

Management software

With the initial launch of Windows Server 2008 SP2, the HP Insight Control Management Software portfolio for the HP ProLiant and HP BladeSystem infrastructure deploys, monitors, and manages Windows Server 2008 SP2 servers. For example, HP Systems Insight Manager (HP SIM) can manage ProLiant servers running Windows Server 2008 SP2 if the management agents are installed on the server. In addition, the HP Rapid Deployment Pack (RDP) can deploy Windows Server 2008 and Windows Server 2008 SP2 servers.

The Insight Control Management Software portfolio will continue to add support for installation and operation on the Windows Server 2008 operating system. Users should review the quickspecs for each management software product to verify Windows Server 2008 and Windows Server 2008 SP2 support. For more information on the Insight Control Management Software portfolio, visit www.hp.com/go/insightcontrol.

Storage options

Table 4 lists supported ProLiant storage options and recommended driver revisions needed to interface with Windows Server 2008. HP has updated PSP 8.25 for Windows Server 2008 SP2 with the latest drivers. This package is available on the HP website: www.hp.com/go/ws2008.

NOTE
All storage option drivers have a digital signature.

Table 4. Supported ProLiant storage controller options

Option	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
Management drivers:							
Notification driver, Smart Array 5x and 6x	CPQCISSE.SYS	✓		✓	✓	✓	✓
SAS/SATA Notification Service	CISSESRV.EXE	✓		✓	✓	✓	✓
StorageWorks Fibre Channel Array Notification Driver for Windows 2000/Server 2003	CPQFCAC.SYS	✓		✓	✓	✓	✓
6-Port SATA RAID Controller	AAC.SYS	✓		✓		✓	
Internal 4/8 Port SAS HBA	LSI_SAS.SYS		✓	✓	✓	✓	✓

Table 4. Supported ProLiant storage controller options

Option	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
Smart Array:							
E200 E200i P210 P212 E500 P210 P212 P400 P400i P410i P411 5i 5i Plus 6i 6402 6404 641 642 P600 P700m P800	HPCISSS.SYS or HPCISSS2.SYS (full-feature)	✓	✓	✓	✓	✓	✓
Ultra 320 SCSI:							
Integrated Dual Channel Ultra320 SCSI Controller 64-bit/13-MHz Single Channel Ultra320 SCSI Host Bus Adapter 64-bit/13-MHz Dual Channel Ultra320 SCSI Host Bus Adapter	SYMMPI.SYS		✓	✓	✓	✓	✓
Fibre Channel Host Bus Adapters:							
Qlogic:							

Table 4. Supported ProLiant storage controller options

Option	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
FC1142SR / FC1242SR FC1143 / FC1243 FCA2214 / FCA2214DC QMH2462 c-Class mezz 300874-B21 p-Class mezz 361426-B21 p-Class mezz 354054-B21 p-Class mezz 381881-B21 p-Class mezz	QL2300.SYS		✓	✓		✓	✓
Emulex:							
FC2143 / FC2243 FC2142SR / FC2242SR A7387A / A7388AFCA2404 / FCA2404DC FCA2409 Lpe1105 c-Class mezz 394588-B21 p-Class mezz 394757-B21 p-Class mezz	ELXSTOR.SYS		✓	✓		✓	✓
NOTE: 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: http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp?lang=en&cc=us&taskId=135.							

Tape options

Table 5 lists supported ProLiant tape options and recommended driver revisions needed to interface with Windows Server 2008.

NOTE
All tape option drivers have a digital signature.

Table 5. Supported ProLiant tape options

Option	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
Autoloader:							
StorageWorks 35-GB AIT	POWERFIL.SYS		✔	✔		✔	✔
StorageWorks 8/16 Cartridge DLT	ADICSC.SYS		✔	✔		✔	✔
StorageWorks SSL1016	HP116N32.SYS		✔	✔		✔	✔
Cartridge Library, Compaq DLT 15:							
Model 15/30 Model 20/40 Model 35/70	HPMC.SYS		✔	✔		✔	✔
Mini-Library, StorageWorks:							
MSL5000 Series SSL2020 AIT TL881 DLT TL891 DLT	LIBXPRMC.SYS		✔	✔		✔	✔
Tape drives:							
DAT (all models)	HPDAT.SYS		✔	✔		✔	✔
LTO Ultrium 1, Ultrium-2 & Ultrium 3 (all models)	HPLTO.SYS		✔	✔		✔	✔
StorageWorks: VS80/VS160 SDLT320/SDLT640	DLTTAPE.SYS		✔	✔		✔	✔

Table 5. Supported ProLiant tape options

Option	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
StorageWorks: DAT Autoloader 72*6 DAT Autoloader 72*10	HPDAT.SYS HPDATCHG.SYS		✓	✓		✓	✓
NOTE: 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: http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp?lang=en&cc=us&taskId=135.							

Network interface controllers

Table 6 lists supported ProLiant network interface controllers (NICs) supported by Windows Server 2008.

All NIC drivers are available on the PSP and have a digital signature. HP-branded drivers are not available on the Windows Server 2008 media. However, corresponding NIC drivers from Intel and Broadcom are on the media and can be used instead. Drivers for HP multi-function adapters are only available on the web, including support for HP ProLiant G5 LOMs and the NC370T/F and NC380T.

Table 6. Supported ProLiant Gigabit Ethernet NICs

Gigabit NIC	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
QLOGIC 1Gbe iSCSI Adapter for HP BladeSystem C-Class	QMH4062.SYS						
NC1020	Q57XP32.SYS	✓	✓	✓	✓	✓	
NC150T NC320m NC320T NC325m NC326m	Q57AMD64.SYS	✓	✓	✓	✓		✓
NC110T	N1000325.SYS	✓	✓	✓	✓	✓	
NC310 NC310F NC340T NC6170 NC7170/LP	N1G5132E.SYS	✓	✓	✓	✓		✓

Table 6. Supported ProLiant Gigabit Ethernet NICs

Gigabit NIC	Driver	Location		Installation support		Supported architecture	
		PSP 8.25	Windows media	Full	Server Core	x86	x64
NC112T*	N1Q6032.SYS			✓	✓	✓	
	N1Q60X64.sys			✓	✓		✓
NC360T NC360m NC364T NC364m	N1E5132.SYS	✓	✓	✓	✓	✓	
	N1E5132E.SYS	✓	✓	✓	✓		✓
NC370T/F/i NC371i NC373T/F/M/i NC374M NC380T NC382T/M	BXVBDX.SYS	✓	✓	✓	✓	✓	
	BXVBDA.SYS	✓	✓	✓	✓		✓
NC7761 NC7771 NC7782 PCI-X	Q57XP32.SYS	✓	✓	✓	✓	✓	
	Q57AMD64.SYS	✓	✓	✓	✓		✓
NC7781	Q57XP32.SYS (PCI-X LOM for 32-bit systems)	✓	✓	✓	✓	✓	
	Q57AMD64.SYS	✓	✓	✓	✓		✓

NOTE: Network Interface Controller Drivers for x64 are listed separately.
*The drivers for the HP NC112T PCI Express Gigabit Server Adapter are available from Network Controller Driver Ethernet (NCDE) CD Version 9.65.

IPMI and WS-Management

Microsoft WS-Management is an extensible web-based standard management protocol for monitoring system hardware. The following are key terms an administrator should recognize when working with WS-Management:

- **Intelligent Platform Management Interface (IPMI)** – A set of common interfaces to computer hardware that is used to monitor and manage system health.
- **Baseboard Management Controller (BMC)** – A micro-controller that monitors the system and allows for intelligent platform management.
- **IPMI Driver** – The driver that enables communication between the BMC device and the OS.
- **IPMI Provider** – As defined by Microsoft, "a user-mode COM DLL that implements a high-level abstraction of the IPMI data using the standard IPMI Common Information Model (CIM) profile."

IPMI and WS-Management for HP ProLiant 100 Series servers

The HP ProLiant 100 Series servers listed in Table 7 contain a Baseboard Management Controller (BMC).

Table 7. Supported ProLiant 100 Series Servers with BMC

Server platform	ROM family	Minimum ROM date
ProLiant DL140 G2	DL140G2	03/31/06
ProLiant DL140 G3	DL140G3	06/18/06
ProLiant DL145 G2	DL145G2	03/23/06
ProLiant ML110 G3	ML110G3	02/13/06
ProLiant ML110 G4	ML110G4	06/05/06

HP IPMI Provider for HP BladeSystem servers and ProLiant 300 and 500 Series servers

For HP BladeSystem servers and ProLiant 300 and 500 Series servers without IPMI hardware, the IPMI Provider is required for IPMI functionality. The HP IPMI Provider emulates the Microsoft IPMI Provider by collecting IPMI data from the HP System Management Controller Driver and making it available through the "root\hardware" WMI namespace.

ProLiant 300 and 500 Series G4 servers and older require the IPMI Provider that is included in the Windows Server 2008 PSP 8.25.

Failover Clustering

Failover clustering is available in the Enterprise and Datacenter editions of Windows Server 2008. Installed through the **Add Features** menu in Server Manager, failover clustering allows multiple servers to work together to increase the availability of applications and services. Windows Server 2008 failover clustering does not support parallel SCSI-based storage solutions. Only SCSI Primary Commands-3 (SPC-3) command-capable storage integrates functions with Windows Server 2008 failover clustering.

ProLiant servers running Windows Server 2008 and Smart Array Cluster Storage or StorageWorks platforms integrated with HP management tools provide intelligent fault resilience with High Availability Clustering.

Administrators should review the Microsoft documentation for failover clustering:
http://technet2.microsoft.com/windowsserver2008/en/library/3ce5c4f2-558d-4daf-ae86-54c9734a53bf1033.mspx?mfr=true.

NOTE
Storage that was compatible with server clusters in Windows Server 2003 might not be compatible with failover clusters in Windows Server 2008.

Storage requirements

Ensure that the following conditions are met for failover clusters:

- Because improvements in failover clusters require that the storage respond correctly to specific SCSI commands, the storage must follow the SPC-3 standard. In particular, the storage must support Persistent Reservations as specified in the SPC-3 standard.
- The miniport driver used for the storage must work with the Microsoft Storport storage driver.
- Servers from different clusters must not be able to access the same storage devices (isolate storage devices, one cluster per device). In most cases, a Logical Unit Number (LUN) that is used for one set of cluster servers should be isolated from all other servers through LUN masking or zoning.

NOTE

Before starting, the storage administrator must configure several shared LUNs. It is important that all cluster nodes have access to the LUNs, and that the host connections are configured to follow the SPC-3 standard.

Configuring EVA host connections

Make sure the Windows Local Host mode is enabled for each node on the Enterprise Virtual Array (EVA) through command view. Depending on what command view you have installed, if in the drop-down there is no "Microsoft Windows LH" then choose **custom** and type in the **custom type** field the following HEX number **00000004198009A8** (Figure 1). If the wrong connection type is configured, you cannot share the disks between the cluster nodes and the cluster check will fail with a non-SPC-3 compliant message.

Figure 1. Configuring EVA host properties
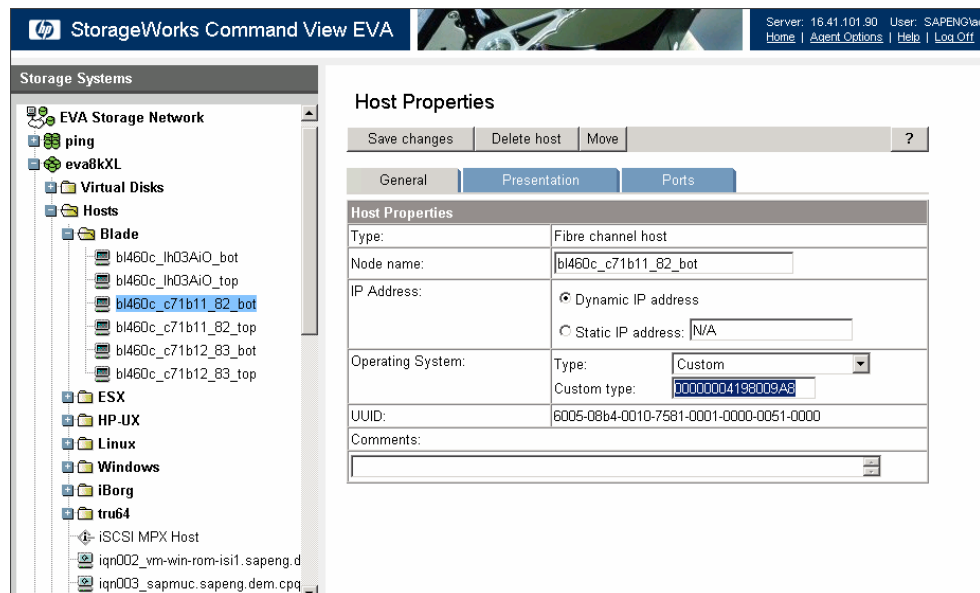
Windows Server 2008 installation for 32-bit and 64-bit editions on ProLiant servers

Server deployment of Windows Server 2008 is supported through manual and assisted path installation options. Use the steps below to complete a manual install of Windows Server 2008.

Pre-installation tasks

To prepare for installation, ensure that the following tasks are completed:

- ❑ Select a server from the "ProLiant server platforms that support Windows Server 2008" section.
- ❑ If necessary, select additional components from the "Supported components for ProLiant servers" section tables.
- ❑ Go to www.hp.com/go/bizsupport to obtain the supported ROM for Windows Server 2008 installations for the server.
- ❑ Use the ROM-Based Setup Utility (RBSU) to set date/time and configure the boot controller order (if necessary).
- ❑ Use the Array Configuration Utility to configure the RAID settings for the server.
- ❑ Update iLO firmware to Version 1.42 (or later).
- ❑ Install the HP Insight Management Agents only after SNMP is loaded and started.

> **NOTE**
> After installing Windows Server 2008 and before installing the PSP, if installing HP Systems Insight Manager and agents, make sure that SNMP is loaded and the service is started.

Installation procedure

To install Windows Server 2008 for 32-bit and 64-bit editions, complete the following steps:

1. Make sure that the server has a DVD drive (either native to the system or attached).

> **NOTE**
> A license key may be required to use iLO virtual media with HP ProLiant ML or DL servers.

2. Place the Windows Server 2008 media into the DVD drive and boot the server to the DVD to begin the installation.

3. Follow the on-screen instructions to complete the installation.

IMPORTANT
Unlike other Microsoft Operating Systems, the F6 option for updating drivers is not available during the Windows Server 2008 installation. If a boot controller driver is not found, Microsoft has added the option to inject a driver during install through the **Update Driver** button. The driver may reside on USB media as well as a floppy drive or CD-ROM drive.

Upgrading ProLiant Servers from Windows Server 2008 to Windows Server 2008 Service Pack2

To upgrade ProLiant Servers from Windows Server 2008 to Windows Server 2008 SP2, complete the following steps and then reboot the server before installing Windows Server 2008 SP2:

❑ Refer to Knowledge Base (KB) Article updates:
– For Windows Server 2008 x32 edition, install update KB955430, which is available at http://www.microsoft.com/downloads/details.aspx?familyid=5E4A1EBF-010D-43DC-9854-40CEA502CDA5&displaylang=en.
– For the Windows Server 2008 x64 edition, install update KB955430, which is available at http://www.microsoft.com/downloads/details.aspx?familyid=082A5532-D7B8-43D6-9677-CC02B2FCC87A&displaylang=en.

❑ Use the SmartStart Support Pack 8.25 to update your system to the latest HP software/drivers.
– For Windows Server 2008 x32 edition:
ftp://ftp.compaq.com/pub/products/servers/supportsoftware/ZIP/psp-8.25.w2k8.i386.exe.
– For Windows Server 2008 x64 edition:
ftp://ftp.compaq.com/pub/products/servers/supportsoftware/ZIP/psp-8.25.w2k8.x64.exe.

❑ Download and install the Microsoft Windows Server 2008 SP2 upgrade for 32-bit or 64-bit editions on ProLiant servers.

❑ Install the latest Microsoft updates from the Microsoft Windows Update service.

NOTE
For more information upgrading to Windows Server 2008, visit Microsoft web site at http://technet.microsoft.com/en-us/library/cc754728.aspx

Installing the ProLiant Support Pack

Getting PSP updates

PSP updates are available on the HP website www.hp.com/go/ws2008 or the FTP site at either of the following locations:

• For Windows Server 2008 x64 edition:
ftp://ftp.compaq.com/pub/products/servers/supportsoftware/ZIP/psp-8.25.w2k8.x64.exe.
• For Windows Server 2008 x32 edition:
ftp://ftp.compaq.com/pub/products/servers/supportsoftware/ZIP/psp-8.25.w2k8.i386.exe.

NIC Teaming driver

The PSP contains the NIC Teaming driver:

- RSS Teaming
- TOE Configuration
- Broadcom Multi-function Diagnostics
- Broadcom Multi-function offload properties exposed
- Intel driver support
- Broadcom Legacy support

For additional information, see the *Using HP ProLiant Network Teaming Software with Microsoft®
Windows® Server 2008 Hyper-V* HOWTO at
http://h20000.www2.hp.com/bc/docs/support/SupportManual/c01663264/c01663264.pdf.

Installing the PSP

After downloading the PSP self-extracting executable, complete the following steps:

1. Go to the directory where the PSP executable is saved.

   NOTE
   When installing the PSP on a system running Server Core, you
   must execute the executables rather than double-clicking on
   them. Also, on Server Core systems, you will not be able to
   specify the location for extracting the PSP files. The files will be
   extracted to the same location as the PSP self-extracting
   executable.

2. Double-click the executable and extract the PSP to a desired location.
3. Go to the directory where the extracted PSP is located.
4. Double-click setup.exe to start the PSP deployment.

   NOTE
   All PSP files must be present in the same directory as the
   setup.exe program for the PSP to be properly installed.

5. As the PSP deployment starts, it performs an inventory of the available updates and checks the
   local system to see what hardware and software is installed.
6. After the inventory and discovery processes finish, the "Select Installation Hosts" screen appears,
   select either the local host or one (or more) remote hosts for PSP deployment.
7. After selecting the host(s), the "Select bundle filter" screen displays information about the PSP
   bundle to be installed. Select the bundle and the appropriate filter options. For remote
   deployments, additional screens allow users to update information on a per-host basis.
8. After selecting the bundle for all hosts being updated, open the "Select Items to be Installed"
   screen to complete the following tasks:
   1. Select the components to be installed.
   2. If necessary, configure the components.
   3. Review failed dependencies before installation.
   4. Review the revision history of the components.

9. After selecting the components to install, click **Install** to proceed with the installation. Once the installation completes, the Installation Results screen appears. If the PSP installs successfully, the process is complete.

10. If any components did not install successfully, complete the following steps:

   1. Exit HP Smart Update Manager.

   2. Make corrections to your environment.

   3. Restart the application to install the components that had problems.

Upgrading Integrity Servers from Windows Server 2008

To upgrade Integrity Servers from Windows Server 2008 to Windows Server 2008 SP2, complete the following, and then reboot the server before installing Windows Server 2008 SP2:

❑ Install update KB955430, which is available at www.microsoft.com/downloads/details.aspx?FamilyID=8778d46d-158c-42b4-8c17-7b38d76ef6f6&displaylang=en.

❑ Use the latest Integrity Support Pack that is available for your system to update your system to the latest HP software/drivers.

❑ Download the latest driver (cp010841.exe) for the Neterion 10-Gb NIC, if applicable. The driver is available at www.hp.com.

❑ Download and install the Microsoft Windows Server 2008 SP2 upgrade for IA64 servers.

❑ Install the latest Microsoft updates from the Microsoft Windows Update service.

Table 8. Integrity Support Pack version for Windows Server 2008 SP2

Integrity server	Integrity Support Pack version
BL860c	6.2
BL870c	6.2
Rx2660	6.2
Rx3600	6.2
Rx6600	6.2
Rx7620*	6.1
Rx7640	6.2

Table 8. Integrity Support Pack version for Windows Server 2008 SP2

Integrity server	Integrity Support Pack version
Rx8620*	6.1
Rx8640	6.2
HP Superdome (sx1000)*	6.1
HP Superdome (sx2000)	6.2

*Refer to Appendix A for known issues and workarounds for this server.

Appendix A: known issues and workarounds

Known issues and workarounds with HP ProLiant servers

Table A-1 provides a list of the known issues with installing Windows Server 2008 SP2 on HP ProLiant servers.

Table A-1. Known issues on ProLiant servers (Windows Server 2008 SP2 32-bit and x64 editions)

Issue	Details	
Issue 1	The write cache and advanced performance drive policies do not stay on Smart Array logical volumes.	
	Description	If write caching and advanced performance drive policies are set in the device manager for logical volumes on an HP Smart Array controller, these polices are not saved when the device manager is exited.
	Workaround	Since write cache on a Smart Array is for the controller and not for individual logical volumes, these polices in device manager do not have any effect. Use the Array Configuration Utility (ACU) to set the write cache characteristics.
Issue 2	Incorrect slot numbers may be reported by certain storage applications for certain storage adapters or NICs.	
	Description	This issue affects certain storage applications, including storage agents, SAS/SATA event services, and Array Configuration Utility (ACU).
	Workaround	Update the ROM to the minimum ROM version listed in Table 2.
Issue 3	A blue screen error may display during installation of Windows Server 2008.	
	Description	A blue screen displaying a "BUGCODE_USB_DRIVER" error may display upon installation of Windows Server 2008.
	Workaround	If this error occurs, download and install iLO firmware Version 1.42 (or later).
Issue 4	On servers booting from Internal 4/8 Port SAS Controller, upgrading from Windows Server 2003 to Windows Server 2008 stops responding (hangs).	
	Description	An LSI IDE RAID driver is causing the system to hang.
	Workaround	Remove lsicsb6.sys from the systems by either removing the lsicsb6.sys file from the \windows\system32\drivers directory (and any other locations) or removing any INF files that reference the lsicsb6 driver.
Issue 5	Incorrect Smart Array device name may display	
	Description	If applying the Service Pack and the inbox driver hpcisss.sys from either Windows Server 2008 version 6.0.0.32 or version 6.0.0.64 is being used for either the Smart Array 6i or the Smart Array E500 controller, the macro name from the .inf file displays instead of the HP Smart Array controller name; for example, "%smart_6i.DeviceDesc%" displays instead of SA-6i or Smart Array 6i.
	Workaround	This issue will not cause any functionality problems. Install the latest driver for Smart Array controllers from the PSP.
Issue 6	Incorrect version number displays for the inbox driver hpcisss.sys	
	Description	If either the x86 version of Windows Server 2008 with SP2 slipstream or SP2 is installed, and the inbox version of hpcisss.sys is installed, Device Manager displays Version 6.13.2.64 instead of 6.13.2.32.

Table A-1. Known issues on ProLiant servers (Windows Server 2008 SP2 32-bit and x64 editions)

Issue	Details
Workaround	This issue will not cause any functionality problems. The correct driver (Version 6.13.2.32) is installed even though the incorrect version displays.

Known issues and workarounds with Integrity servers

Table A-2 provides a list of the known issues with installing Windows Server 2008 SP2 on Integrity servers.

Table A-2. Known issues on Integrity servers

Issue 1	The Windows 2008 SP2 installation fails on HP SuperDome, rx8620 and rx7620 with error message "catastrophic failure error (E_UNEXPECTED (0x8000ffff))."
Root Cause	SP2 installation checks for system bios information before the start of installation. Since sx1000 base chipset does not have System bios date implemented, those servers cannot be updated to SP 2 without the following workaround.
Workaround	Add temporary System Bios release date in windows registry before SP2 installation launch. Below are the instructions to add the System bios release date. The System Bios release date will be gone after system reboots.

    1.   Copy the text below to notepad and save as "Add_Bios_release_date.reg"

        Windows Registry Editor Version 5.00:

> [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SystemInformation]
>
> "SystemBiosDate"="08/02/07"
>
> [HKEY_LOCAL_MACHINE\HARDWARE\DESCRIPTION\System]
>
> "SystemBiosDate"="08/02/07"
>
> [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Biosinfo]
>
> "SystemBiosDate"="08/02/07"
>
> [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SystemInformation]
>
> "SystemBiosDate"="08/02/07"
>
> [HKEY_LOCAL_MACHINE\HARDWARE\DESCRIPTION\System]
>
> "SystemBiosDate"="08/02/07"
>
> [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Biosinfo]
>
> "SystemBiosDate"="08/02/07"

    2.   Double click on the **Add_Bios_release_date.reg** to add the System bios date to Windows registry.

    3.   Launch the SP2 installation and follow the on screen direction.

    4.   System will reboot to finish SP2 installation.

    5.   When system comes up, verify the values listed on the **View installed Updates tab** for SP2.

Known issues and workarounds with the ProLiant Support Pack

Table A-3 provides a list of the known issues with installing the PSP.

Table A-3. Known issues with the PSP

Issue	Details	
Issue 1	The G5 NIC drivers are not found on the Windows Server 2008 media.	
	Description	The drivers were not available at the time of submission for inclusion in the Windows Server 2008 media.
	Workaround	Fixed in the G5 NIC drivers available on Windows Server 2008 media. Latest driver is on the PSP Version 8.15 or later.
Issue 2	HP StorageWorks Fibre Channel Array Notification Driver component shows update not required if a supported MSA controller is not found behind a Fibre Channel HBA.	
	Description	The installation result states that "Not updated - already current" and the installation log states that " the required hardware is not present......Installation will not continue."
	Workaround	A fix for this issue is targeted for a future release of the PSP.
Issue 3	The System Management Home (SMH) page does not run properly under Windows Server 2008.	
	Description	The SNMP settings have not been configured.
	Workaround	Go to Services/SNMP and configure both the community string and access rights of read/create.
Issue 4	The NIC driver for the CP6316 NIC fails to install.	
	Description	The NIC driver for the CP6316 NIC fails to install.

Table A-3. Known issues with the PSP

Issue	Details	
	Workaround	To install a Windows Server 2008 network adapter interface on Windows Server 2008, complete the following steps:

1. Locate cp006316.exe in the PSP folder. Execute this component and select **Extract**. Remember the name of the directory where the drivers are being placed.

2. From the Windows 2008 **Start** menu, right-click **Computer** and select **Properties**.

3. On the System Properties page, select **Device Manager** under Tasks in the upper left corner of the window.

4. Locate the multifunction gigabit device. It will be listed under the section called "Other Devices" and will have a yellow exclamation point next to it (indicating no driver has been loaded). The device should be called "Ethernet Controller."

5. Right-click the device and select **Update Driver Software**.

6. A window titled "Update Driver Software - Ethernet Controller" should now be displayed. Select **Browse my computer for driver software**.

7. In the following window, enter the directory the component was extracted to (from Step 1) in the text field under Search for driver software in this location: and then click **Next**.

8. Select **Install** on the resulting "Windows Security" window.

9. The Virtual Bus Device is now installed. As a result, the ndis device will be exposed. Windows will respond by displaying a "Found New Hardware" dialog.

10. Select **Locate and install driver software**.

11. Select **Do not search online** on the next window, and then select **I do not have the disc**. **Show me other options**. in the following window.

12. On the window with the heading "Windows couldn't find driver software for your device" select **Browse my computer for driver software (advanced)**.

13. Again, enter the directory from Step 1 in the text edit box and select **Next**.

14. Select **Install** on the resulting "Windows Security" window.

For more information

For additional information, refer to the resources listed below.

Source	Hyperlink
HP and Microsoft Frontline Partnership website	www.hp.com/go/microsoft
Microsoft website	www.microsoft.com
Windows Server 2008 Home page	www.microsoft.com/windowsserver2008/default.mspx
Using HP ProLiant Network Teaming Software with Microsoft® Windows® Server 2008 Hyper-V HOWTO	http://h20000.www2.hp.com/bc/docs/support/SupportManual/c01663264/c01663264.pdf

Call to action

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

Send questions about upgrading HP Integrity Servers to: ws08sp2ia64beta@hp.com. Support is available on a best effort basis.