HP Integrity Servers with Microsoft Windows Server 2003 Release Notes

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EFI Application Toolkit License

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About This Document

This document provides information to install and use Release 5.5.

Audience

These release notes are for the person who installs the product and for anyone using the product following installation.

Organization

This document is organized as follows:

Chapter 1 (page 11)	Provides overviews of the Server 2003 Enterprise and Datacenter editions and supported configurations. It also lists changes in the this release, additional software requirements, supported components, and issues you may encounter, with workarounds when available.
Chapter 2 (page 41)	Provides Information about installing the Windows® Server 2003 software.
Chapter 3 (page 45)	Lists the documentation available for HP Integrity servers running Windows Server 2003 and helps you find the system firmware, drivers, and utilities applicable to Windows Server 2003.

Typographic Conventions

This document uses the following typographical conventions:

`Command`	A command name or qualified command phrase.
`Computer output`	Text displayed by the computer.
Ctrl+x	A key sequence. A sequence such as **Ctrl+x** indicates that you must hold down the key labeled **Ctrl** while you press another key or mouse button.
Key	The name of a keyboard key. **Return** and **Enter** both refer to the same key.
`User input`	Commands and other text that you type.

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1 Release 5.5 Overview

This chapter provides the following information:

- An overview of the Server 2003 Enterprise and Datacenter editions and supported configurations
- Changes introduced in Release 5.5
- Software requirements
- Supported components
- Troubleshooting common issues

System Configurations

Microsoft® Windows® Server 2003, Enterprise Edition may be licensed for up to 8 processors, and Datacenter Edition may be licensed for up to 64 processors. A processor can contain one or multiple cores, and each core can be multi-threaded.

Enterprise Edition and Datacenter Edition configurations may include:

- HP Super-Scalable Processor Chipsets (sx1000 and sx2000)
- HP mx2 dual-processor modules, with Intel® Itanium® processors
- Intel Itanium processors
- Intel Dual Core Itanium processors

HP Integrity servers running Microsoft Windows Server 2003 deliver high performance, great flexibility, and simplified management with exceptional value, and include the following models and feature sets.

Model	Features
Superdome (sx1000 and sx2000 chipsets)	• 2-64 Itanium processors with the HP mx2 dual processor module in one cabinet, 2-64 Itanium processors in two cabinets, or 2-64 Intel Dual Core Itanium processors in two cabinets • 1 TB memory capacity with SX1000 • 2 TB memory capacity with SX2000 • Up to 8 hardware partitions (nPartitions) per cabinet • 96 Hot-plug PCI-X slots (Up to 192 slots with I/O Expansion Cabinets)
rx8620 and **rx8640**	• 2-32 Itanium processors with the HP mx2 dual-processor module, 2-16 Itanium processors, or 2-16 Intel Dual Core Itanium processors • 256 GB memory capacity • Up to 4 hardware partitions (nPartitions) with a Server Expansion Unit • 16 hot-plug PCI-X slots (up to 32 with optional Server Expansion Unit) • One 1-Gb LAN port
rx7620 and **rx7640**	• 2-16 Itanium processors with the HP mx2 dual processor module, 2-8 Itanium processors, or 2-8 Intel Dual Core Itanium processors • 128 GB memory capacity • Up to 2 hardware partitions (nPartitions) • 15 Hot-plug PCI-X slots • One 1-Gb LAN port

Model	Features
rx6600	• 1-4 processors • 192 GB memory capacity • 8 PCI-X slots or 4 PCI-Express x8 slots and 4 PCI-X slots • Two 1-Gb LAN ports • vMedia • vKVM support • Hyper-threading support • zx2 chipset
rx4640	• 1-4 processors • 128 GB memory capacity • 6 PCI-X slots • Two 1-Gb LAN ports
rx3600	• 1-2 processors • 96 GB memory capacity • 8 PCI-X slots or 4 PCI-Express x8 slots and 4 PCI-X slots • Two 1-Gb LAN ports • Hyper-threading support • zx2 chipset • vMedia • vKVM support
rx2660	• 1-2 processors • 32 GB memory capacity • 1 PCI-X slot • zx2 chipset • 2 PCI-Express slots • Hyper-threading support • Two 1-Gb LAN ports • vMedia • vKVM support
rx2620	• 1-2 processors • 32 GB memory capacity • 4 PCI-X slots • Two 1-Gb LAN ports
rx1620	• 1-2 processors • 16 GB memory capacity • 2 PCI-X slots • Two 1-Gb LAN ports
BL860c and BL870c Server Blade	• 1-2 processors • 48 GB memory capacity • 3 Mezzanine slots (2 Type II PCIe x8, 1 Type I PCIe x4) • 4 GB LAN ports; 1 iLO 2 management LAN port

NOTE: Each HP mx2 dual processor module is equal to two processors. The HP mx2 dual processor module is supported by the sx1000 chipset used in the rx8620, rx7620, rx4640, and Superdome with sx1000. The Intel Dual Core Itanium processor is supported by the sx2000 chipset used in the rx8640, rx7640, and Superdome sx2000.

What's New in Windows Solution 5.5

This release adds several new features, enhancements, and defect fixes to the Windows Integrity solution. Here are some of the highlights:

- Support for HP Integrity BL870c blade servers with the following features:
  - Dual-Core Intel® Itanium® 9100 series processors, 4 sockets
    - 1.4 GHz/12 MB, 533 FSB, 100W
    - 1.6 GHz/18 MB, 533 FSB, 100W
    - 1.6 GHz/24 MB, 533 FSB, 100W
  - Industry standard DDR2-SDRAM with 24 total DIMM slots
  - Serial Attached SCSI (SAS) drives, 3 x 2.5-inch single form factor (2 for mirrored disks with 1 spare)
  - Three public mezzanine slots for I/O cards
- Additional support for the following on HP Integrity BL860c and BL870c blade servers:
  - C3000 enclosure with OA 2.1
  - Microsoft clusters
  - vFloppy and vFlash functionality
  - New I/O device: 447883-B21 PCI Express quad-port Gigabit mezzanine card
- Software enhancements:
  - HP Smart Update Manager (HP-SUM) replaces Remote Deployment Utility (RDU)
- Support for the MSA60/MSA70 SAS/SATA storage connected to the Smart Array P600 (requires firmware level 1.98 or higher)
- Support for SAS clustering
- Various documentation updates.
- Various defect fixes.

Software Requirements

In addition to the software included from HP, the following software is required.

Web Browser

The browser-based interface to the HP Smart Setup and Smart Update CDs requires Internet Explorer version 5.1 or higher. The latest version of Internet Explorer is available from the Microsoft download site at http://www.microsoft.com/windows/ie/default.mspx.

TCP/IP and SNMP

HP Insight Management Agents require installation and configuration of TCP/IP and SNMP. You must install SNMP manually. If necessary, see the Microsoft Knowledge Base article #324263, *How to Configure the Simple Network Management Protocol (SNMP) Service in Windows Server 2003* at http://support.microsoft.com/?kbid=324263.

Utility Meter

Pay Per Use (PPU) 7.1 software requires Utility Meter software version 7.3 or higher.

Supported Components

The following tables list the components that are supported on each server:

Superdome (with sx1000 or sx2000 chipset)

Table 1-1 Components supported with Superdome sx1000 or sx2000

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000 Base-T Gigabit Ethernet adapter for Windows (A7061A) • HP PCI 1000 Base-SX Gigabit Ethernet adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 Gigabit Ethernet (AD144A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A)
SCSI Adapter	• HP PCI Single Channel Ultra160 SCSI Adapter for Windows (A7059A) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) (Superdome sx2000 only) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) (Superdome sx2000 only) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) (Superdome sx2000 only) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AD168A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series) • HP PCIe Smart Array P800, SAS (AD335A) • HP PCIe Smart Array E500, SAS (AH226A)
VGA Graphics	• HP USB/VGA card (A6869A) (in the I/O chassis, attached to the root cell only) (supported in Superdome with sx1000 chipset only) • HP USB/VGA card (A6869B) (in the I/O chassis, attached to the root cell only) (supported in all Superdome)
Keyboard	• Only HP keyboards are supported.

NOTE: The Superdome sx2000 server supports two Fibre Channel Adapters not currently supported by the other Superdome computers, the AB429A and AB379A described in the Fibre Channel Adapter section of the table.

rx8640

Table 1-2 Components supported with rx8640

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A) • HP PCI-X Windows/Linux 10 GigE (AD144A)
SCSI Adapter	• HP PCI Ultra160 SCSI Adapter for Windows (A7059A) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A) (supported as accessory card and as embedded core I/O)
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) • HP StorageWorks 4 Gb Single Port Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port Fibre Channel HBA (AD168A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series) • HP PCIe Smart Array P800, SAS (AD335A) • HP PCIe Smart Array E500, SAS (AH226A)
VGA Graphics	• HP USB/VGA card (A6869B) (in the I/O chassis, attached to the root cell only) (supported in both rx8620 and rx8640)

NOTE: The rx8640 server supports multiple SA64*xx* cards connected to internal drives for either boot or for data. For example, one slot may hold a SA64*xx* card connected to two internal drives for boot, and another slot may hold a SA64*xx* card connected to two internal drives for data. Or, each card may be connected to two internal drives for data.

rx8620

Table 1-3 Components supported with rx8620

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A)
SCSI Adapter	• HP PCI Ultra160 SCSI Adapter for Windows (A7059A) (supported as accessory card and as embedded core I/O) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) (supported as accessory card and as embedded core I/O) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 4 Gb Single Port Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port Fibre Channel HBA (AD168A)
RAID Controller	• HP Dual Channel Smart Array 5302, Ultra160 SCSI (A9825A) • HP 4-Channel Smart Array 5304, Ultra160 SCSI (A9826A) • HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series)
VGA Graphics	• HP USB/VGA card (A6869A) (in the I/O chassis, attached to the root cell only) (supported in rx8620 only) • HP USB/VGA card (A6869B) (in the I/O chassis, attached to the root cell only) (supported in both rx8620 and rx8640)

NOTE: The rx8620 server supports multiple SA53*xx* cards connected to internal drives for either boot or for data. For example, one slot may hold a SA53*xx* card connected to two internal drives for boot and another may hold a SA53*xx* card connected to two internal drives for data. Or, each card may be connected to two internal drives for data.

rx7640

Table 1-4 Components supported with rx7640

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A) • HP PCI-X Windows/Linux 10 GigE (AD144A)
SCSI Adapter	• HP PCI Single Channel Ultra160 SCSI Adapter for Windows (A7059A) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A) (supported as accessory card and as embedded core I/O)
SCSI /LAN Combination Adapter	• HP PCI-X (Castor AB290A) U320 SCSI/GigE Combination card
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) • HP StorageWorks 4 Gb Dual Port Fibre Channel HBA (AD168A) • HP StorageWorks 4 Gb Single Port Fibre Channel HBA (AD167A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series) • HP PCIe Smart Array P800, SAS (AD335A) • HP PCIe Smart Array E500, SAS (AH226A)
VGA Graphics	• HP USB/VGA card (A6869B) (in the I/O chassis, attached to the root cell only) (supported in both rx7620 and rx7640)

NOTE: The rx7640 server supports multiple SA64*xx* cards connected to internal drives for either boot or for data. For example, one slot may hold a SA64*xx* card connected to two internal drives for boot, and another slot may hold a SA64*xx* card connected to two internal drives for data. Or, each card may be connected to two internal drives for data.

rx7620

Table 1-5 Components supported with rx7620

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A)
SCSI Adapter	• HP PCI Single Channel Ultra160 SCSI Adapter for Windows (A7059A) (supported as accessory card and as embedded core I/O) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) (supported as accessory card and as embedded core I/O) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
SCSI/LAN Combination Adapter	• HP PCI-X (Procurium A6794A) U160 SCSI / GigE Combination card
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 4 Gb Single Port Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port Fibre Channel HBA (AD168A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series)
VGA Graphics	• HP USB/VGA card (A6869A) (in the I/O chassis, attached to the root cell only) (supported in rx7620 only) • HP USB/VGA card (A6869B) (in the I/O chassis, attached to the root cell only) (supported in both rx7620 and rx7640)

NOTE: The rx7620 server supports multiple SA64*xx* cards connected to internal drives for either boot or for data. For example, one slot may hold a SA64*xx* card connected to two internal drives for boot and another slot may hold a SA64*xx* card connected to two internal drives for data. Or, each card may be connected to two internal drives for data.

rx6600

Table 1-6 Components supported with rx6600

Operating System	• Windows Server 2003, Enterprise Edition with SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP2 for Itanium-based Systems
LAN Adapter	• HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) (Supported as an accessory card and as core I/O) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A)
SCSI Adapter	• HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
Fibre Channel Adapter	• HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AD168A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)
RAID Controller	• HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series, supported as accessory card and core I/O.) • HP PCIe Smart Array P800 (AD335A) • HP PCI-Express Smart Array P400 (401532-B21) • HP PCI-Express Smart Array E500 (AH226A)
Management Processor	• Integrity Integrated Lights-Out (iLO 2) • Integrity iLO Advanced Pack

rx4640

Table 1-7 Components supported with rx4640

Operating System	• Windows Server 2003, Enterprise Edition with SP1 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A)
SCSI Adapter	• HP PCI Single Channel Ultra160 SCSI Adapter for Windows (A7059A) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) (supported as accessory card and as core I/O) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A) (supported as accessory card and as core I/O)
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 2 Gb Fibre Channel Host Bus Adapter (A7298A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) (supported as accessory card and as core I/O) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series)
VGA Graphics	• HP USB/VGA card (A6869A) (supported as embedded device only)

rx3600

Table 1-8 Components supported with rx3600

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A)
SCSI Adapter	• HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
Fibre Channel Adapter	• HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AD168A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)

Table 1-8 Components supported with rx3600 *(continued)*

RAID Controller	• HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series) (supported as accessory card and as core I/O.) • HP PCIe Smart Array P800 (AD335A) • HP PCI-Express Smart Array P400 (401532-B21) • HP PCI-Express Smart Array E500 (AH226A)
Management Processor	• Integrity iLO 2 • Integrity iLO Advanced Pack

rx2660

Table 1-9 Components supported with rx2660

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A) • HP PCIe Gigabit Ethernet adapter SX 2P (AD338A) • HP PCIe Gigabit Ethernet adapter TX 2P (AD337A)
SCSI Adapter	• HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A)
Fibre Channel Adapter	• HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AB379B) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AB429A) • HP StorageWorks 4 Gb Single Port 64-bit 266 MHz Fibre Channel HBA (AD167A) • HP StorageWorks 4 Gb Dual Port 64-bit 266 MHz Fibre Channel HBA (AD168A) • HP StorageWorks FC2142 PCIe Single Port 4 Gb Fibre Channel adapter (A8002A) • HP StorageWorks FC2242 PCIe Dual Port 4 Gb Fibre Channel adapter (A8003A) • HP StorageWorks FC1142 PCIe Single Port 4 Gb Fibre Channel adapter (AE311A) • HP StorageWorks AD300A PCIe Dual Port 4 Gb Fibre Channel adapter (AD300A)
RAID Controller	• HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series) • HP PCIe Smart Array P800 (AD335A) • HP PCI-Express Smart Array P400 (405160-B21) • HP PCI-Express Smart Array E500 (AH226A)
Management Processor	• Integrity iLO 2 • Integrity iLO Advanced Pack

rx2620

Table 1-10 Components supported with rx2620

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A)

Table 1-10 Components supported with rx2620 *(continued)*

SCSI Adapter	• HP PCI Single Channel Ultra160 SCSI Adapter for Windows (A7059A) • HP PCI Dual Channel Ultra160 SCSI Adapter for Windows (A7060A) • HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A) (supported as accessory card and as embedded core I/O)
Fibre Channel Adapter	• HP StorageWorks 2 Gb Fibre Channel HBA (AB232A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A) • HP StorageWorks 2 Gb Fibre Channel Host Bus Adapter (A7298A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series)
Management Processor Card with VGA	• Integrity iLO plus VGA A9803A • Integrity iLO Advanced Pack features AB500A

rx1620

Table 1-11 Components supported with rx1620

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
LAN Adapter	• HP PCI 1000Base-T Gigabit Ethernet Adapter for Windows (A7061A) • HP PCI 1000Base-SX Gigabit Ethernet Adapter for Windows (A7073A) • HP PCI-X Dual Port Gigabit Ethernet SX adapter (A9899A) • HP PCI-X Dual Port Gigabit Ethernet TX adapter (A9900A) • HP PCI-X Windows/Linux 10 GigE (AD144A)
SCSI Adapter	• HP PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter (A7173A) (supported as accessory card and as embedded core I/O)
Fibre Channel Adapter	• HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Dual Channel HBA (AB466A) • HP StorageWorks 2 Gb, 64-Bit/133 MHz PCI-X-to-Fibre Single Channel HBA (AB467A)
RAID Controller	• HP PCI-X Dual Channel Smart Array 6402, Ultra320 SCSI (A9890A) • HP PCI-X 4-Channel Smart Array 6404, Ultra320 SCSI (A9891A) • HP PCI-X Single Channel Smart Array P600, SAS 3.0 (337972-B21) (consists of two MSA50 storage enclosures attached in series)
Management Processor Card with VGA	• Integrity iLO plus VGA A9803A • Integrity iLO Advanced Pack features AB500A

NOTE: On rx1620, Windows Server 2003 supports 256 MB, 512 MB, 1 GB, and 2 GB DIMMS only. 4 GB DIMMs are not supported. When migrating from another OS to Windows Server 2003 on servers where 4 GB DIMMs are installed, replace the 4 GB DIMMs with supported DIMMs.

BL860c and BL870c Server Blade

Table 1-12 Components supported with BL860c and BL870c

Operating System	• Windows Server 2003, Enterprise Edition with SP1/SP2 for Itanium-based Systems • Windows Server 2003, Datacenter Edition with SP1/SP2 for Itanium-based Systems
I/O Mezzanine Support	• Dual Port 4Gb/s FC Mezzanine Card (Q-Logic) (403619-B21) • Direct Adaptor Mezzanine Card for connecting to the Direct Attached Storage Blade (431643-B21) • PCI Express Quad Port Gigabit Server Mezzanine (447883-B21)

Troubleshooting Common Issues

Read this section completely before installing or running Windows Server 2003 on HP Integrity servers. This section includes workarounds that may save you valuable time and effort.

Array Configuration Utility (ACU)

verifer.exe causes ACU inaccuracies

Issue ACU reports incorrect results when the Windows Driver Verifier (`verifier.exe`) is enabled and running in the background.

Servers All Integrity

Workaround There is no workaround at this time. To run the ACU, you must first end the `verifier.exe` process using the Windows Task Manager, then launch ACU. Do not run both simultaneously.

Array Diagnostic Utility (ADU)

Uninstall feature not functional

Issue The ADU uninstall feature is not working.

Servers All Integrity

Workaround There is no workaround at this time.

Clustering

Cluster nodes unable to see messages

Issue Normally in a cluster, when an application in one node logs an event to the Windows Event Log, the message is visible to all nodes in the cluster. However, due to a Microsoft limitation, when events are logged with more than 900 bytes in the `lpRawData` binary field (as reported by the Microsoft `ReportEvent` API), only the node that issued the event can see it using the Windows Event Viewer. Other nodes in the cluster are unable to see these messages.

Servers Superdome, rx8620, rx7620

Workaround There is no workaround at this time.

Device Drivers

Missing driver affects Virtual Machines

Issue The HP Integrity Baseboard Management Controller Device Driver must be installed on all VMs for the HP Integrity VM Provider to function correctly on these systems. The baseboard Management Controller driver (also known as the HP Health Driver) automatically installs from the Support Pack and Reinstall Media, or can be manually installed from the HP Smart Setup CD.

Servers All Integrity

Workaround To manually check for the IPMI driver open the Windows Device Manager by right-clicking **My Computer**, and selecting **Manage > Device Manager.** The IPMI is located under System Devices as the HP Baseboard Management Controller Interface Device (Health Driver is an older name for this driver). If the driver is missing, install it from the HP Smart Setup CD.

Drivers missing from RTM media

Issue If you installed the operating system from Microsoft RTM media, you must also install device drivers for the HP Integrity server for all devices displaying a yellow "bang" icon in the system device manager. These drivers are available on the HP Smart Setup CD.

Servers All Integrity

Workaround To install a device driver from the HP Smart Setup CD:

1. Insert the HP Smart Setup CD in the server CD/DVD drive.
2. Read the End User License Agreement. If you agree to the terms of the license agreement, click **Agree** to continue.
3. Run the Windows Device Manager, and click **View > Devices by Type** to list the system devices.
4. Expand the **Other devices** entry. This displays a list of all devices whose drivers were not found during installation of the operating system. Some of these devices may have a specific name, while others appear as `Unknown Device`. Each item is indicated by a small yellow exclamation mark icon next to its name.
5. Right-click the first item, and select **Update Driver** from the context menu.
6. In the Hardware Update Wizard screen, select **Install the software automatically** and click **Next**.
7. If a warning dialog appears stating the driver is not digitally signed, ignore the message. This is not an issue. Click **Next** to continue.
8. When successful installation is indicated, click **Finish**.

Driver roll back causes crash

Issue If SecurePath software is installed and you attempt to roll back from the Storport device driver to the SCSIport driver, the system crashes with a blue screen.

Servers All Integrity

Workaround This is an operating system bug. See the Microsoft Knowledge Base article #903081, titled *Storport Update* at http://support.microsoft.com/?kbid=903081.

prlntss.sys installation issue

Issue The U320 Event notification driver (`prlntss.sys`) does not install correctly after a Support Pack installation following an operating system installation using SP1 slipstream or RTM media. The problem only occurs with Integrity servers booting from a U320 controller (embedded or HBA) with the external

port connected to an MSA30 after a fresh operating system installation. The problem does not occur if you install the operating system using Reinstall media, or if the U320 is not used as a boot controller.

Servers All Integrity

Workaround Install the driver using the individual Smart Component only found on the Software tab on your HP Smart Setup CD. Click the **HP StorageWorks Event Notification Driver for Ultra320 SCSI devices for Windows Server 2003 on Itanium-based Systems** link.

Extensible Firmware Interface (EFI) and EFI-based Setup Utility (EBSU)

I/O card firmware values display as unknown

Issue EBSU's Maintain Firmware feature displays some I/O card firmware values as `unknown` in the `Local version` column. This occurs when the card firmware does not return a data structure that EBSU recognizes because the card firmware is configured for 32-bit systems, it lacks an EFI driver, or has corrupted firmware.

Servers All Integrity

Workaround Try flashing the card firmware to correct the problem. If the card still has `unknown` values after flashing it and resetting the system, contact your local support specialist or visit http://www.hp.com/support/itaniumservers for help.

QLogic HBA firmware and EFI driver revisions display incorrectly

Issue The EBSU Maintain Firmware feature and the SANsurfer FC HBA Manager utility VPD tab might display QLogic HBA firmware and EFI driver values incorrectly after the binaries have been updated. No functionality issues exist because the binary itself is correctly flashed to the adapters Option ROM. For this to occur, a QLogic multi-boot package must be first updated using SANsurfer on a Windows IA64 system and then later updated in the EFI Shell by EBSU. These separate events can occur hours or even months apart.

Servers All Integrity

Workaround Flash the QLogic multi-boot package again using SANsurfer on a Windows system. The firmware and EFI driver values display correctly during the HBA Power On Self Test (POST) while booting up. These values also display correctly in the Option ROM section on the Information tab in the SANSurfer FC HBA Manager utility.

EBSU displays incorrect CPU version

Issue EBSU might display an inconsistent CPU version in the system inventory due to a system firmware issue.

Servers rx4640

Workaround Run `info cpu` on the EFI shell, and check the Rev column for the specific CPU module to determine the CPU version.

EBSU displays incorrect firmware version

Issue EBSU displays the Emulex 4 Gigabit cards (FC2143 and FC2243) firmware version 2.10A10 as 2.10A1.

Servers sx2000, sx1000, rx8640, rx8620, rx7640, rx7620, rx6600, rx3600, rx2660

Workaround Run the Storage Adapter configuration for the Emulex card on EBSU. If the configuration tool lists more than one card, select the intended card on the tool and the firmware version is displayed correctly.

EBSU changes EFI Boot menu

Issue	If EBSU runs from vMedia, it changes the EFI Boot menu **Internal Bootable DVD** to point to the vMedia device.
Servers	sx2000, rx8640, rx7640, rx6600, rx3600, rx2660, HP Integrity BL860c Server Blade, HP Integrity BL870c Server Blade
Workaround	Using the EFI Boot Manager, chose **Boot Configuration** and modify the **Internal Bootable DVD** menu entry with the correct device path.

Foundation Agents

Memory leak generated by Foundation Agents

Issue	If a hardware communication problem exists with the Baseboard Management Controller (BMC), the Foundation Agents service (`cqmghost.exe`) might continually increase its memory usage. The underlying Application Programming Interface (API) requests memory and fails to deallocate it during the BMC hardware error condition.
Servers	All Integrity
Workaround	When unacceptable memory usage is reached, reset the BMC using the MP user interface or restart the Foundation Agent service. If this does not resolve the issue, it might be necessary to contact hardware support. This issue will be resolved in a future release of the HP Smart Setup CD.

Hard Disk Configuration

Disk configuration lost after reboot

Issue	When configuring a boot LUN in EBSU Express Install using a direct connect configuration to an MSA1000, the storage hard disk device configuration may be lost after rebooting the system.
Servers	All Integrity
Workaround	The Emulex FC EFI driver (minimum rev. 3.11a4) has a Device Discovery delay function. Go to **Setup Utility > Configure Boot Parameters** and change the **Delay Device Discovery** parameter to 30.

HP c-Class Blade System Infrastructure

Onboard Administrator displays wrong CPU

Issue	The Onboard Administrator displays wrong CPU information for the c-Class enclosure where the HP Integrity BL860c or BL870c Server Blade resides. It incorrectly reports that the CPU is Dual Core instead of Single Core.
Servers	HP Integrity BL860c and BL870c Server Blades
Workaround	There is no workaround for this problem.

BL870c SAS controller supports only one mirror

Issue	The embedded SAS controller on the BL870c Server Blade can only support one mirror. The mirror can be a two-drive mirror or a two-drive mirror with a hot spare. Although there are four total drive bays available in the BL870c, you can use only three of them (maximum) because of this limitation.
Servers	HP Integrity BL870c Server Blade
Workaround	There is no workaround for this problem.

Fibre Channel

Installation causes MSA 1500 driver to be flagged

Issue A yellow exclamation mark (!) might be displayed for the HP StorageWorks 1000/ MSA 1500 event notification driver after installing the Windows Server 2003 SP2 operating system using the 5.2 release reinstall media.

Servers All Integrity

Workaround Using the Release 5.2 HP Smart Setup Media (SSM) CD, do one of the following:

- Install the Support Pack (recommended).
- Install HP StorageWorks MSA1000/MSA1500 Event Notification Driver component.

Support Pack update generates errors

Issue When updating a system using the Support Pack from the HP Smart Setup 5.1 CD, errors may be reported in the Windows application event log. The indicated source is `Emulex HBAnyware`.

Servers All Integrity

Workaround Ignore these error messages. The Support Pack first installs the new SCSIPort or STORPort driver, and then updates HBAnyware. The new drivers are not compatible with the previous revision of HBAnyware, causing the event log errors. After the new version of HBAnyware is installed, this issue is resolved.

Inapplicable errors seen in kit update

Issue When updating the HP StorageWorks Fibre Channel Adapter Kit for the Emulex Storport driver, the following error message might be displayed in a pop-up window:

```
Windows cannot find 'C:\Program'. Make sure you typed the name
correctly, then try again. To search for a file, click the Start
button, then click Search
```

Servers All Integrity

Workaround You can ignore this error message. The Support Pack first installs the new SCSIPort or STORPort driver, and then updates HBAnyware. The new drivers are not compatible with the previous revision of HBAnyware, causing the event log errors. After the new version of HBAnyware is installed, this issue is resolved.

Redundant entries seen in the Add/Remove Program

Issue The Add/Remove Program contains two entries after upgrading the HP StorageWorks FC-HBA Configuration Utilities by QLogic for Windows Server 2003 Itanium-based systems from revision 2.0.30.78 to revision 5.0.0.4.

Servers All Integrity

Workaround Uninstall HP StorageWorks FC-HBA Configuration Utilities by QLogic for Windows Server 2003 Itanium-based systems revision 2.0.30.78 before installing revision 5.0.0.4.

Emulex HBAs use different driver

Issue After performing an operating system installation using Microsoft reinstall media or updating an existing installation using the Support Pack from the HP Smart Setup CD, the Emulex HBAs now use the STORPORT driver instead of the SCSIPort driver previously used.

Servers All Integrity

Workaround This is not an error. HP is making the STORPORT driver the new default for Emulex 4Gb PCI-X 2.0 and PCI-Express HBAs because this driver offers improved performance and manageability features. However, if you are currently running the SCSIPort driver and want to continue using, you must:

1. Uninstall the STORPORT driver after using the Microsoft reinstall media or clear the **Emulex Storport driver** checkbox during the Support Pack update from the HP Smart Setup CD.
2. Install the SCSIPort driver using the Smart Component in the `Others` directory on the HP Smart Setup CD. This driver is also available for download at http://www.hp.com/.

MSA fails with Storport driver installed

Issue MSA flash utility version 6.86.1.52 used on Active-Active MSA Controllers, and version 5.10.1.52 used on Active-Passive Controllers will fail to run when the latest Storport driver (KB916048) is installed.

Servers All Integrity

Workaround Use the MSA Flash utility with the fix that will be available on the HP web site at the following Web site:

`http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=415600&prodTypeId=12169&prodSeriesId=415598&swLang=13&swEnvOID=1060`

LUNs undetected by ACU

Issue The ACU does not detect any LUNs attached to an AB379A or AB429A HBA that has been swapped or added using the Online Add/Replace function while the ACU was running.

Servers sx2000, rx8640, rx7640, rx6600, rx3600

Workaround Stopping and restarting the ACU corrects this issue. The ACU then sees the LUNs attached to the AB379A or AB429A HBAs.

HBA removal fails

Issue When attempting to remove the AB379A or AB429A HBA using the Online Replace functionality, a message appears:

```
The device 'Qlogic Fibre Channel Adapter' cannot be
stopped because a program is still accessing it.
```

Servers sx2000, rx8640, rx7640, rx6600, rx3600

Workaround

1. Stop the QLogic Management Suite Java Agent in the Services window under Computer Management.
2. Stop the AB379A or AB429A using the Safely Remove Hardware function.

HP-SUM hangs on MSA 1500 boot

Issue HP Smart Update Manager (HP-SUM) hangs when an MSA 1500 connected to QLogic boots.

Servers All Integrity

Workaround This is an MSA firmware problem. There is no workaround at this time. New firmware is expected in January 2008.

HPVM

Patches required on virtual machine guests

Issue Microsoft patches correct a compiler issue that can affect HPVM Windows virtual machine guests. These issues can manifest in various ways, including blue screens.

Servers All Integrity

Workaround Ensure that you install all Microsoft patches and Quick Fix Engineering updates (QFEs) that are available on the current HP Smart Update media.

Installation

Attempting installation from a second DVD drive results in system message

Issue If you attempt to install a Smart component from the second DVD drive of a system that contains multiple DVD drives, you are prompted to insert a DVD into the first drive and the component is not installed. For example, consider a system that has two DVD drives, the first of which is the `D:\` drive and the second is the `E:\` drive. If you attempt to install a Smart component such as Virus Throttle from the `E:\` drive, the system assumes it is running from `D:\` and issues a message about the missing DVD. This problem also occurs if your system runs an iLO DVD drive as a second drive and if you use CD media.

Servers All Integrity

Workaround To avoid this issue, run the Smart components from first DVD drive.

Japanese QFE package fails to install all QFEs

Issue The Japanese operating system Quick Fix Engineering (QFE) package `cp007519.exe` for Windows Server 2003 with Service Pack 2 does not install correctly. The package should install four QFEs, but only three are installed.

You can confirm this by going to **Add/Remove Programs** in the **Control Panel**. When you check the **Show Updates** box, only three QFEs are displayed; the Microsoft QFE package 929054 does not appear.

Servers HP Superdome (sx2000), HP Superdome (sx1000), rx8640, rx8620, rx7640, rx7620, rx4640, rx3600, rx2660, rx2620, rx1620, HP Integrity BL860c, HP Integrity BL870c

Workarounds Rerun smart component `cp007519.exe`. You will now see QFE 929054 in the **Control Panel**.

Installation from graphics console may require additional steps

Issue When using vKVM to install Windows Server 2003 on rx3600 or rx6600 with a graphics console attached, you must either disconnect the graphics console or edit the boot entry to add the `/NOVESA` option.

Servers rx6600, rx3600

Workaround For more information on editing boot entries, see the *Smart Setup Guide*.

Hyper-threading may cause installation failure

Issue When installing the operating system using Microsoft reinstall media on a system with hyper-threading enabled, the installation might fail.

Servers Superdome (sx2000), rx8640, rx7640, rx6600, rx4640, rx3600, rx2660, rx2620

Workaround Before installing the operating system from Microsoft reinstall media, disable hyper-threading. After installing the operating system, you must install KB

#919385 from the HP Smart Update media. Hyper-threading can then be re-enabled.

Component times outs cause installation failure

Issue If a Smart Component takes longer than 15 minutes to install, the installation of the Support Pack most likely fails. This normally occurs in cases where the system has many cards, such as numerous NIC cards, installed.

Servers All Integrity

Workaround Install the Smart Component separately, and then install the Support Pack.

Screen is blank at system startup

Issue During system startup the screen may remain blank for 3 to 8 minutes (actual time depends on the quantity of the installed system memory).

Servers All Integrity

Workaround This is normal. The system activity can be monitored within a few seconds of system power-on using a remote terminal.

Use of 16 GB option discouraged

Issue If you use the 16 GB option during installation of the operating system from reinstall media, you cannot create a kernel memory dump (in the event of a system failure) unless the page file size is manually configured afterward. In addition, even with manual configuration the page file size will still be less than the recommended 20 GB.

Servers All Integrity

Workaround The system partition must be created on a 33 GB or larger disk drive. When using reinstall media, select either the 33 GB or maximum drive size option when configuring the system volume.

Maximum Payload Size parameter must be off

Issue HP Integrity servers based on the HP ZX2 chipset using PCIexpress backplanes allow the user to control a feature called Maximum Payload Size (MPS). This feature must be off for Windows Server 2003, and is delivered `off` on factory-installed system. If the server is ever used with another operating system, ensure that the MPS setting is off before installing Windows Server 2003.

Servers rx6600, rx3600, rx2660, HP Integrity BL860c Server Blade, HP Integrity BL870c Server Blade

Workaround Use the `ioconfig` in EFI to view and configure this value. To view the value, enter:

```
shell>ioconfig
```

To turn the value off (required on Windows Server 2003), enter:

```
shell>shell> ioconfig mps_optimize off
```

To turn the value on, enter:

```
shell>shell> ioconfig mps_optimize on
```

Use Esc+8 instead of F8 key on headless server

Issue The Telnet and Hyperterminal applications on Windows NT4 and Windows 2000 do not correctly map the ASCII string for the function keys. For example, during Power On Self Test (POST) the Smart Array firmware displays a banner and configuration menu with instructions to press the **Esc** key to continue or

the **F8** key to enter the configuration utility. When running the system in a headless configuration, pressing **F8** does not display the configuration menu.

Servers All Integrity

Workaround To transmit the correct ASCII string using these applications from a remote terminal, press the **Esc** key immediately followed (within 1 second) by the numeric value of the desired function key. For example, to send the ASCII string for **F8**, press the **Esc** key immediately followed by the **8** key (if the terminal emulator is set to UTF-8, you can press the **F8** key instead). An easier solution to both problems is to simply use PuTTY instead of Telnet or Hyperterminal. PuTTY is a terminal emulator available on your HP Smart Setup CD.

Custom Install option disables Remote Desktop

Issue When installing software from the Microsoft RTM media using the `Custom Install` option, Remote Desktop is disabled by default (this does not happen with the `Express Install` option).

Servers All Integrity

Workaround To enable Remote Desktop after installing with the `Custom Install` option:

1. From the headless system used to perform the installation, access the Special Administration Console (SAC) on the server using terminal emulation software such as telnet, PuTTY, or HyperTerminal.
2. At the `SAC>` prompt, enter **`cmd`** and press the **Enter** key.
3. Switch to a new command channel by pressing the **Esc+Tab** keys.
4. At the `C:\Windows\system32>` prompt, enter the following:

   `reg add "HKLM\system\CurrentControlset\Control\Terminal Server" /v fdenyTSConnections /t REG_DWORD /d 0 /f` and press the **Enter** key.

5. At the `C:\Windows\system32>` prompt, enter the following:

   `netsh firewall set service remotedesktop enable all` and press the **Enter** key.

prlntss.sys requires Support Pack Installation

Servers All Integrity

Issue The Support Pack included on the HP Reinstall DVD does not include the U320 event notification driver (`prlntss.sys`). However, the Support Pack included on your HP Smart Setup CD does include this driver.

Workaround If you want this driver to be included in your installation, you must use the Support Pack installation method provided on your HP Smart Setup CD.

IP Console Switch use causes screen to blank

Issue You may experience a variable delay where the monitor (or remote session) connected to the IP Console Switch goes blank when using the reinstallation media.

One step in the reinstallation process is plug-and-play device discovery. During this time, drivers are not connected to devices. Without drivers, USB ports disable their power output. The IP Console Switch relies on this power to transfer video to the local and remote sessions. After the device discovery is complete, a driver is connected, power is enabled, and video displays. The blanking time depends on system configuration, but could take as long as 30 minutes. The system will appear to hang, but is only going through device discovery.

Servers All Integrity

Workaround Use the command line interface for the most complete view of system status. The command line is active and displays status at all times prior to video initialization at power on, and at all times during the system operation. The command line is accessible through the Management Processor interface.

NOTE: If you have a monitor connected directly to the system, the video does not go blank.

Network Interface Cards (NICs)

Warning message not a cause for concern

Issue At system power-up, you may see a warning message (with a source of b57nd or e1000) indicating a disconnect. With the A7073A card, Event ID 4 is specified, and with the A9899A card, Event ID 27.

Servers All Integrity

Workaround This is not an error, but rather a side-effect of the auto-negotiation process used by the A7073A and A9899A cards. The cards do connect at the end of that process. You can verify this by going into the Event Viewer, locating the Warning message, and seeing the Informational message that follows it, indicating a successful connection (Information Event ID 11 for the A7073A card; Information Event ID 32 for the A9899A card).

Power Management

PAL_HALT_LIGHT disables idle power state

Issue The PAL_HALT_LIGHT registry edit disables the idle power state (C1) on all Itanium processors in the system. You must reboot the system for the change to take effect. For typical workloads, this modification improves system performance and responsiveness at the expense of a slightly increased power consumption.

Servers All Integrity

Workaround This is not an error. To re-enable the idle power state (C1) on all Itanium processors in the system, remove the **PAL_HALT_LIGHT registry edit** by going to **Add/Remove Programs** in the **Control Panel**. You must them reboot the system for the change to take effect.

PAL_HALT_LIGHT status not displayed in HP-SUM, VCRM, and SMS

Issue After installation or uninstallation, the current status of the PAL_HALT_LIGHT smart component (`cp006607.exe`) for Windows Server 2003 on Itanium-based system is not indicated in the HP Smart Update Manager (HP-SUM), Version Control Repository Manager (VCRM), and Systems Management Server (SMS).

Servers All Integrity

Workaround This is not an error. Because the PAL_HALT_LIGHT smart component is actually a registry edit rather than a true installation, its status cannot be displayed in HP-SUM, VCRM, or SMS.

Partition Manager

C++ Runtime Library error message can be ignored

Issue During shutdown, systems running Partition Manager may display a dialog on the GUI console indicating a Visual C++ Runtime error.

Servers Superdome, rx8620, rx7620

Workaround This is a program error in the System Management Homepage that has no operational impact. No user action is needed.

PXE boot on Intel Dual Core Itanium systems

Patch required to enable PXE boot

Issue A patch must be installed to RIS image-enable PXE boot on Intel Dual Core Itanium systems.

Servers All Integrity

Workaround To install a device driver from the HP Smart Setup CD:

1. Download QFE 916860 from the Microsoft Web site.
2. Extract the `ntkrnlmp.exe` from the QFE package.
3. Rename the `ntkrnlmp.exe` file to `ntkrnlmp.exe.org` from Remote installation image path.
4. Copy the new `ntkrnlmp.exe` to the same directory.
5. Click **Start > Run**, and enter **`cmd`** to open the command prompt.
6. At the command prompt, enter **`net stop binlsvc`** and **`net start binlsvc`** to restart the RIS.

SCSI

Ultra 320 firmware update fails

Issue If a DVD-RW SCSI device with EBSU media is attached to an HP PCI-X Dual Channel Ultra 320 SCSI card, the firmware update of this card fails.

Servers All Integrity

Workaround Copy the firmware to an EFI partition and flash the card from there.

Event log entry caused by timeout condition

Issue When running Microsoft Windows Server 2003 on an HP Integrity server with an embedded U320 SCSI controller as the external disk drive controller, intermittent Event ID 117 entries may be generated in the Windows Event Log after rebooting.

Servers All Integrity

Workaround Ignore these events. They represent a timeout condition that does not cause any system problems or data loss.

Smart Array

640x/530x generates errors in system event log

Issue Under extremely heavy I/O conditions the Smart Array 640x/530x driver (`cpqcissm`) might generate Event ID 9 errors in the system event log.

Servers All Integrity

Workaround Ignore these events, as they do not cause any problems or loss of data. There is no fix at this time.

6402 as internal disk drive controller generates errors

Issue When running the Smart Array 6402 as the internal disk drive controller, intermittent Event ID 9 and Event ID 117 entries might be generated in the Windows Event Log after a reboot.

Servers All Integrity

Workaround Ignore these events, as they do not cause any problems or loss of data. There is no fix at this time.

StorageWorks 43xx enclosures may cause errors

Issue StorageWorks 43*xx* enclosures in a dual bus configuration with an Ultra3 Dual Bus I/O Module and a single power supply might report errors and fail the logical volumes when attached to Smart Array Controllers. Port A of the StorageWorks 44*xx* enclosure might intermittently report that all drives installed in the lower bays (Port A, bays 1-7) have been hot-plug replaced even though the drives were not replaced.

As a result, the array controller may fail the logical volumes, causing the data to become inaccessible. If the operating system is running from those drives, the server might hang or display a blue screen. When the server is rebooted, the drives appear to be working properly; however, some data might be inaccessible. A Power-On Self-Test (POST) error message is not displayed. The problem occurs regardless of the position of the power supply or fans in the enclosure. This affects any StorageWorks Enclosure Model 4314R, Model 4314T, or Model 4354R in a dual bus configuration with an Ultra3 Dual Bus I/O Module and a single power supply, attached to either Smart Array 5302 or Smart Array 5304 Controller.

Servers All Integrity

Workaround Operate the StorageWorks enclosures with a minimum of two power supplies.

Configuration utility may be inaccessible

Issue The **Smart-Array Option ROM Configuration for Arrays Utility** menu of the Smart Array controller in the root cell I/O chassis (core I/O chassis) might not be accessed when the **F8** key is pressed on the USB keyboard during system boot. This problem only occurs if you are configuring the Smart Array using the USB keyboard connected to the HP Graphics and USB card. The serial console from the MP should work fine.

Servers All Integrity

Workaround Do the following:

1. Boot the system to the EFI shell.
2. At the EFI prompt, enter the following: **`search core cell`**. For example, enter **`search 0`** if the core cell is 0.
3. When you see the Smart-Array Option ROM Configuration for Arrays Utility menu, press the **F8** key on the USB keyboard.
4. Now you should see the Smart-Array Option ROM Configuration for Arrays Utility menu.

Tools menu radio buttons inactive

Issue When viewing the driver properties in the device manager for the Smart Array 6400 Controller, an enhanced Tools menu bar displays. This bar provides radio buttons for launching the ACU and HP Insight Storage Agents. However, these buttons do not work in this release of the driver.

Servers All Integrity

Workaround Currently the preferred methods for launching these tools are:

- For the ACU, click **Start > Programs > HP System Tools > HP Array Configuration Utility XE** from the Windows desktop.
- For the Insight Storage Agents, click **HP Management Insight Agents** from the System Management Homepage. Scroll to the **Mass Storage** section on the left panel, and click the desired controller.

640x/530x may not load during system boot

Issue During system boot, Smart Array 640x or 530x cards may not load for RAID configuration.

Servers All Integrity

Workaround The system scans only for embedded devices. The Smart Array Option ROM has to be loaded manually the first time. This can be done at the EFI shell by executing a `search all` command. The user needs to use `search x y` command (for example, `search 0 8`), where *x* is the cell number and *y* is the PCI slot number

640x/530x do not rebuild the internal HDD

Issue Smart Array 530x/640x controllers do not automatically rebuild the internal disk array when failed drives are replaced. The server backplane does not provide the manageability features needed for Smart Array adapters to recognize when drives are hot inserted into the system.

Servers All Integrity

Workaround By installing the Smart Array Rescan Service, the rebuild is initiated automatically after drive replacement:

1. Download and flash the latest Smart Array firmware from www.hp.com/support/itaniumservers. Minimum firmware revision for the SA640x controller is 2.28. Minimum firmware revision for the SA530*x* controller is 3.56.
2. Download and install the latest Array Configuration Utility (ACU-XE) from www.hp.com/support/itaniumservers. The minimum required revision for the ACU-XE is 7.15.18.0.
3. Download and install the Smart Array Rescan Service from www.hp.com/support/itaniumservers. The minimum required revision for the Rescan Service is 0.1.
4. If an internal HDD array fails, replace the failed physical drive. The Rescan Service will initiate the rebuild automatically (it may take up to 5 minutes before the rebuild starts). To start the rebuild immediately, open the Array Configuration Utility (ACU-XE) and select **Refresh** in the Controller State field. The failed array begins to rebuild.

640x hot add not supported

Issue If a Smart Array 6402 or 6404 card is hot-added to a slot, the card will not function and a yellow exclamation mark displays next to the corresponding device in the Device Manager. Furthermore, any SA640x card added in this manner cannot be safely removed from the system without a reboot.

Servers All Integrity

Workaround Hot adding is not currently supported for Smart Array 640x on HP Integrity servers. You can use normal hot add procedures to insert the card, but it will not function until the next reboot. Hot add is fully supported on SA530*x*.

6400 cannot be hot-replaced during error message display

Issue The Smart Array 6400 controller cannot be hot-replaced when the following error message appears:

```
The device 'Smart Array 6400' cannot be stopped
because a program is still accessing it
```

Servers All Integrity

Workaround Restart the Storage Agents service and try to hot-replace the controller again.

Command causes machine check abort

Issue A machine check abort (MCA) can occur when the `reconnect -r` command is issued for a Smart Array SA640x with firmware version 2.74 when the server contains multiple SA640x cards with different firmware versions.

Servers Superdome sx2000, HP Integrity Server rx8640, HP Integrity Server rx7640

Workaround HP recommends you maintain the same firmware version for all Smart Array cards on a server.

System Management Homepage (SMH)

Components flagged with red exclamation mark

Issue When running the `setup.exe` command without having System Management Homepage (SMH) installed on the system, some configurable components might show up with a red exclamation mark (!) when viewed in the `All Configurable Components` category of the HP Remote Deployment Utility main window. A pop-up window with the following message might also be displayed:

```
One or more components that have been selected for installation require configuration but
 are not configured. For the best results, it is recommended that you configure the components

 before installation.
```

Servers All Integrity

Workaround To make the red exclamation mark go away, copy the System Management Homepage component to a writable location and then configure it.

Page lacks temperature sensor descriptions

Issue On rx2620 servers with firmware bundle version 8.1 or later, and on rx3600 and rx6600 servers with firmware bundle version 13.2 or later, the **System Management Homepage > Recovery > Environment** page displays temperature sensors that are lacking a description under the Location column. These are a new type of sensor that the management agent cannot read completely. However, temperature event logging and alert generation are not affected by this display issue.

Servers rx6600, rx3600, rx2660, rx2620

Workaround There is no workaround at this time.

Some components not shown

Issue The 5.1 version of Management Agents does not show the following components under Version Control:

- HP Storage Works Event Notification Driver for Ultra320 SCSI devices for Windows Server 2003 on Itanium-based systems (CP006112, `printss.sys`)
- HP Ultra 160 SCSI Controller Driver for Windows Server 2003 on Itanium-based systems (CP006358, `sym_u3.sys`)

- HP Array Diagnostic Utility for Windows Server 2003 on Itanium-based systems (CP006361, `Hpadu.exe`)
- HP StorageWorks FC-HBA Configuration Utilities by Emulex for Windows Server 2003 Itanium-based systems (CP006084, `HBAnyware.exe`)
- HP StorageWorks FC-HBA Configuration Utilities by QLogic for Windows Server 2003 Itanium-based systems (CP005831, `SANSurferVer.exe`)

Servers All Integrity

Workaround Access the component versions manually from the Support Pack, HP Smart Setup CD, or by similar methods.

Another solution is to use `https://127.0.0.1:2381` instead of `https://localhost:2381`.

SMH fails to open

Issue If Internet Explorer is configured to browse through a proxy server and the **Bypass proxy server for local addresses** checkbox is not selected, attempting to connect to the local SMH (`https://localhost:2381`) fails with a `Page cannot be displayed` error.

Servers All Integrity

Workaround Configure Internet Explorer to bypass the proxy server for local addresses as follows:

1. In Internet Explorer, click **Tools > Internet Options**.
2. Click the **Connections** tab.
3. Click **LAN Settings**.
4. Under **Proxy Server**, select the **Bypass proxy server for local addresses** checkbox.

Another solution is to use `https://127.0.0.1:2381` instead of `https://localhost:2381`.

Program terminates after error message

Issue If SMH is frequently installed and then uninstalled, or if the SMH service is frequently stopped and then started again, the following error can be written to the Windows application event log:

```
Faulting application smhstart.exe, version 2.0.0.103,
faulting module unknown, version 0.0.0.0, fault address 0x00000000
```

Servers All Integrity

Workaround In most cases, SMH still works normally even after this message appears. However, in rare cases when SMH terminates after this message, you should uninstall SMH, remove the`%Windisk%\hp\hpsmh` folder, and reinstall SMH.

Incorrect number of CPUs displayed in System Report

Issue In the Cell Board Information section of the SMH System Report page, `Number of CPUs in Cell` refers to logical CPUs. In the Partition Information section, `Total Number of Active CPUs` also refers to logical CPUs. Physical CPUs are displayed in the Processor Details section. The Processor Details section of the SMH System Report might not reflect the actual number of CPUs recognized and used by the operating system.

Servers All Integrity

Workaround View the correct CPU information in the Operating System section of the Processor Utilization page.

Version Control

VCRM unsupported components

Issue VCRM does not support the following components:

- HP Integrity Gigabit NC370 Series driver for Windows Server 2003 on Itanium-based systems
- Win/Linux 133MHz 10 Gbe SR Fiber Adapter Driver
- HP Integrity Gigabit Ethernet Dual-Port NIC Driver
- OpenSSH Services for HP Systems Insight Manager
- HP StorageWorks Fibre Channel Adapter Kit for the QLA*xxxx* STORPort Driver for Windows Server 2003 on Itanium-based systems
- HP StorageWorks FC-HBA Configuration Utilities by QLogic for Windows Server 2003 Itanium-based systems.

Servers All Integrity

Workaround There is no workaround at this time.

VCRM fails to start

Issue VCRM fails to start if SMH is uninstalled, the system rebooted, and then SMH is reinstalled. This problem occurs only when the system is rebooted between the SMH install and reinstall.

Servers All Integrity

Workaround Reinstall VCRM after reinstalling SMH.

VCRM updates wrong support pack

Issue VCRM uploads the English Support Pack instead of the Japanese Support Pack when used on a Japanese operating system.

Servers All Integrity

Workaround Before uploading the Support Pack on a Japanese operating system, change the browser's language setting to “en” or “en-us”, upload the Japanese Support Pack, and then switch the browser's language setting back to Japanese.

Inaccurate VGA information displayed

Issue Version Control displays the VGA driver installed version and latest version on HPVM guests, even though VGA is not supported. There is no VGA on HPVM guests, however, the driver shows up in version control. The driver is loaded when Windows incorrectly detects VGA and installs the driver. The foundation agent passes the information to version control, and version control displays the driver installed version, Support Pack version and latest version.

Servers HPVM guest

Workaround Ignore the message, there is no negative impact from the video driver. There is currently no work around.

Video

Video not displayed

Issue After installing Windows Server 2003 or setting up the system for the first time, there is no video display.

Servers All Integrity

Workaround Follow these steps:

1. Connect remotely to the system and open the device manager. See if the display adapter has started without any problems.
2. If no problems are reported for the display monitor, verify all cables are properly connected.
3. If you are using a KVM or LCD monitor, the resolution, refresh rate, or both may be set too high for the monitor. Verify this is the problem by connecting a CRT monitor. If the CRT monitor works you will need to lower either the resolution, refresh rate, or both to use the KVM or LCD monitor. Check the monitor specifications for the maximum settings.

vKVM and vMedia

Tool bar fails to redraw as expected

Issue The vKVM window tool bar sometimes fails to redraw completely after other windows have been open on the screen.

Servers rx6600, rx3600, rx2660

Workaround Move the mouse to the toolbar area, and the tool bar becomes visible.

vMedia drive not immediately accessible

Issue When using vMedia to connect client media (physical of ISO) to RUSA, there may be a delay before that vMedia drive is accessible from File Explorer on the RUSA system. This delay is typically a few minutes.

Servers rx6600, rx3600, rx2660

Workaround There is no workaround at this time.

vKVM session stops updating

Issue The vKVM session stops updating in the middle of a Windows install from the Microsoft RTM media when a monitor is connected to the VGA port of the server.

Servers rx6600, rx3600

Workaround Perform the installation from the RTM media without the monitor connected. This issue can be prevented by ensuring that the server vBIOS version is BK-ATI VER008.004.037.101.

2 Installing Windows Server 2003

This chapter provides an overview of the Windows Server 2003 installation on HP Integrity servers using the HP Smart Setup CD and your licensed copy of Windows Server 2003. It is intended for system administrators with experience performing Windows installations. A more detailed description of the installation process is in the *Smart Setup Guide* located on the HP Smart Setup CD.

The operating system can be installed from either a GUI or headless console. Installing from either console involves preparing the server, booting from the HP Smart Setup CD, running EBSU, launching Windows Setup, loading operating system files to the boot disk, and booting the server from the boot disk.

NOTE: Windows Server 2003 can be installed using vKVM on the rx2660, rx3600, and rx6600 servers. For detailed instructions, see the *Smart Setup Guide* on the HP Smart Setup CD.

Preinstallation Tasks

Before you begin the operating system installation on your HP Integrity Server, complete these tasks:

- Select whether to install from a headless or GUI console
- Back up existing data
- Locate the Microsoft Certificate of Authenticity
- Set up a headless or GUI console
- Set up PXE/Remote Installation Services (RIS) or Windows Deployment Services (This step is necessary only if you are using a RIS server as part of your deployment.)
  - Set up a RIS server
  - Install RIS
  - Configure RIS
  - Authorize a RIS server in Active Directory

NOTE: Windows Deployment Services is the updated version of RIS included with Windows Server 2003 SP2.

- Prepare the server hardware:
  - Set up the boot drive: Disconnect all mass storage devices from all controllers except the boot controller. HP recommends installing the boot controller in the root cell.
  - Locate the DVD/CD drive.
  - Set ACPI flag to windows (cell-based servers only).
  - Specify NIC for a network boot.

Installation Tasks

Boot the server with the HP Smart Setup CD in the CD-ROM drive. The server boots to the EFI-Based Setup Utility (EBSU). EBSU provides an Express Setup utility to help with configuration tasks such as creating hard disk partitions and updating the firmware. During Express Setup you are prompted to insert your licensed Windows Server 2003 CD.

1. Install from a headless or GUI console
   a. Run EBSU
   b. Run Windows Setup

2. If you choose to install from a GUI console you are prompted to specify server settings when the Windows setup is complete.

Reinstallation Tasks

If your HP Integrity server was purchased with a factory-installed operating system, HP provides an *HP Reinstallation* CD, which allows you to restore the server to its factory condition if necessary. Use this CD to perform the reinstallation.

- Reinstall from a headless console
  - Load the system image
  - Specify server settings
- Reinstall from a GUI console
  - Load the system image
  - Specify server settings

Post-Installation Tasks

Perform the following tasks in the order shown. The operating system must be installed before performing these tasks :

1. Apply the operating system and security updates from the HP Smart Update DVD.
2. Install the HP Support Pack from the HP Smart Setup CD to update firmware and device drivers.
3. Install updates from the HP website.
4. Enable Windows Components.
   a. Install TCP/IP.
   b. Install SNMP.
   c. Configure SNMP.
5. Install Management Tools.
   a. Install Partition Management tools.
   b. Install System Management Homepage.
   c. Install Management Agents.

Tips and Tricks

The following tips enable you to overcome some issues you might encounter while deploying your Integrity server.

- **Install Service Pack 2**

  This upgrade is necessary for Intel Dual Core Itanium processor support.

- **Enable hyper-threading on Integrity servers**

  The default setting for hyper-threading is off. To enable hyper-threading, go to the EFI shell and enter **`cpuconfig threads on`**. To disable hyper-threading, go to the EFI shell and enter **`cpuconfig threads off`**.

- **Enable remote desktop connection from a headless server**

  The remote administration mode is enabled by default on Windows Server 2003 if you are using the operating system supplied as part of the HP reinstall media. If you are installing or reinstalling using Microsoft RTM media, the Remote Desktop functionality is disabled. To enable remote desktop connections, go to the SAC prompt and enter:

  ```
  reg add "HKLM\System\CurrentControlSet\Control\Terminal Server" /v
  fDenyTSConnections /t REG_DWORD /d 0 /f
  ```

- **Enable greater than 256 interrupts (cell-based servers only)**

  When using Windows Server 2003 on cell-based servers, the system on allows 256 interrupts. To overcome this limitation, apply QFE 900713, then add `/EXTINTVEC` to the boot options using NVRBOOT.

- **Disconnect all drives except the boot drive prior to OS installation**

  Only the target operating system drive should be connected during installation. This ensures that the operating system is installed on the correct drive. Make sure that the Z: drive letter is free. Windows Server 2003 with SP1 creates the EFI partition here. HP recommends that you install the boot controller in the root cell.

- **Default MP/iLO settings for cell-based and entry-level servers**

  For cell-based servers, the MP is assigned a static IP address at the factory before it ships. It is not assigned a DNS name and it is not DHCP enabled. If you are performing a headless server installation, you can connect to the MP over a LAN (instead of using a serial cable) by using this static IP for initial configuration of the MP. The default IP address of a cell-based server's MP is 192.168.1.1. The default user name and password are `Admin` and `Admin`. Change the IP address and the default password at installation.

  For entry-level servers with iLO MPs, the MP is assigned a default DNS name at the factory and is DHCP enabled. It is not assigned a default IP address. The default host name can be deduced from the MP's MAC address. The host name is in the form `mp`*`MAC`*, where *`MAC`* is the 12-digit MAC code of the MP's NIC. The MAC address of the MP LAN interface is typically located on a sticker on the back of the server.

- **Set Cell Local Memory to 100% (cell-based servers only)**

  HP recommends that you set the Cell Local Memory (CLM) parameter to 100% for optimal server performance.

- **Loading OEM boot drivers**

  Boot drivers can only be installed from the Windows installation CD or a floppy disk. Integrity servers do not have floppy drives, so boot drivers that are not on the Windows CD must be loaded into memory and then installed. EBSU shows devices that it detects and that have a virtual floppy image available. To load the driver:

  1. Boot the server. Load the HP Smart Setup CD into the server CD-ROM/DVD drive.
  2. From the **EFI Boot** Menu, select **Internal Bootable DVD** and press the **Enter** key.
  3. From the main menu, select **Load OEM Boot Driver** and press the **Enter** key to continue.
  4. Select the boot controller driver to place on the virtual floppy for use during Windows installation. Select **OK**, and press the **Enter** key.

- **Using F8 from a headless console**

  Pressing the **F8** key when using a headless console does not work. When prompted to press the **F8** key, you must press the **Esc 8** key sequence instead. Press the **8** key within two seconds after pressing the **Esc** key. Otherwise, the system registers only the **Esc** key and reboots.

3 Product Support

This chapter points you to documentation to help you work with Microsoft Windows Server 2003 on HP Integrity servers and to obtain the system firmware, drivers, and utilities applicable to Windows Server 2003.

Technical Documentation

Technical documentation for HP Integrity servers running Windows Server 2003 includes the following manuals in English and Japanese. These manuals are available on the HP Smart Setup CD and from the HP Integrity support Web site: http://www.hp.com/support/itaniumservers/.

Smart Setup Guide	Provides instructions for installing, reinstalling, or migrating to Windows Server 2003 on HP Integrity servers.
Headless Installation white paper	Provides a discussion of the benefits of installing, configuring, and managing Windows-on-Integrity systems in a "headless" fashion, usually remotely, and without the need for a monitor, keyboard, or mouse being directly attached to the server.
nPartition Guide	Provides instructions for creating, configuring, and managing nPartitions on cell-based HP Integrity servers running Windows Server 2003.
Support Pack and Deployment Utilities User Guide	Provides instructions for using the deployment utility and setup tools to perform routine software maintenance tasks in Windows Server 2003 64-bit server environments.
Cluster Installation and Configuration Guide	Provides instructions for configuring your Integrity server as a node in a cluster. Clusters consist of multiple nodes but appear as a single, virtual server to the outside world. They help to eliminate unplanned system downtime by providing hardware and software redundancy.
Boot from SAN Guide	Provides instructions for booting your server from a storage area network (SAN) instead of internal SCSI and IDE storage devices. Booting from an external SAN decreases downtime through faster server replacement in the event of a server failure.
SmartSetup Scripting Toolkit Deployment Guide	Provides instructions for using the SmartSetup Scripting Toolkit (SSTK) to perform automated replication of a server's hardware configuration and attached storage array controllers. The SSTK also ties into standard, unattended installation processes for the Windows operating system and applications.

Technical Support

To keep your server up to date with the latest firmware, drivers, and utilities, visit the HP technical support web site periodically.

Get Windows-specific firmware, drivers, and utilities

To obtain the system firmware, drivers, and utilities applicable to Windows Server 2003:

1. Go to http://www.hp.com/.
2. Click **Software & Driver Downloads**.
3. On the Software & Driver Downloads page, select **Download drivers and software (and firmware)** and enter your server model name or number in the search field. Click **Begin Search**.
4. On the Product Search Results page, refine your search further by clicking your exact server description from the list presented.
5. In the Download Drivers and Software page, select **Microsoft Windows Server 2003 64-bit Edition** as your operating system.
6. In the next Download Drivers and Software page, download the desired drivers by clicking the drivers.

NOTE: Only HP CEs are authorized to update the system firmware on HP Integrity rx7600-series, rx8600-series, and Superdome servers. Contact HP Support for updates to the firmware.

Register for HP support notifications

HP recommends that you register for alerts and notifications to stay informed of updates to the drivers, patches, and other components specific to your server.

Go to http://www.hp.com/united-states/subscribe/gateway/.