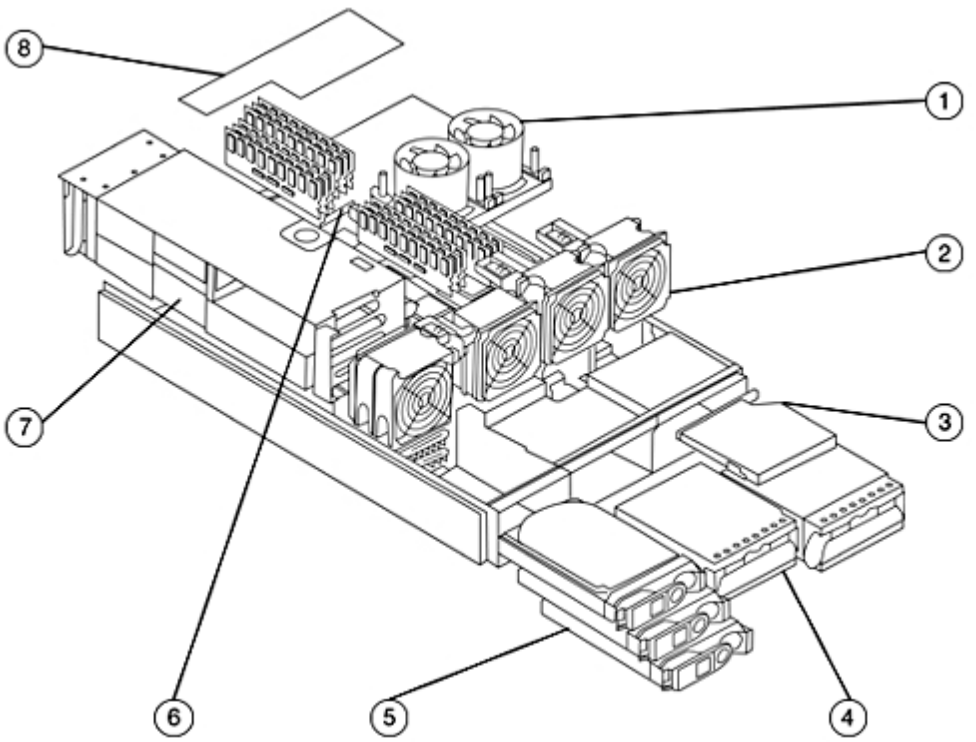
Overview



1. Intel® Itanium 2® CPUs
2. Hot Swap Fans
3. DVD-ROM
4. Hot Swap Power Supplies
5. Hot Plug Disk Drives
6. 12 DDR Memory DIMMS
7. 4 PCI-X I/O Slots
8. Optimal Management Processor Card

At A Glance

Standard System Features

- Four Operating System support: HP UX 11i version 2 (September 2006 Update required for dual-core processors), Windows Server 2003 Enterprise Edition, Linux RHEL4U3 (AS and ES) and SUSE SLES 9 SP3, and OpenVMS (V8.3 minimum version required for dual-core processors, available September 2006)
- Dual channel Ultra320 SCSI controller, 2 internal disks on one channel, 1 internal disk on a second channel
- Two ports 10/100/1000Base TX LAN (auto speed sensing, RJ 45 connector)
- Optional Management Processor Card for remote management and HA monitoring
  NOTE: Management Processor Card is required for Windows configurations
- Optional Telnet and web console via 10/100Base TX management LAN (RJ 45 connector)
- Two general purpose RS 232 serial port
- Three RS 232 serial ports linked to the management processor (multiplexed from a single DB 25 port); one general purpose, one remote and one local console
- Factory integration of processors, memory, disk drives, removable media, and I/O cards
- Rackmountable into 19 inch cabinets
- Optional stand alone pedestal mount
- One year warranty with next business day on site

Standard Features

Minimum System

- " One 64 bit Intel Itanium 2 processor: Either dual-core 1.6-GHz/18-MB L3 cache (400-MHz front side bus), dual-core, 1.4-GHz/12-MB L3 cache (400 MHz front side bus), single-core 1.3 GHz/3.0 MB L3 cache (400 MHz front side bus), single-core 1.6 GHz/3 MB L3 cache (400 MHz front side bus), or single-core 1.6 GHz/6 MB L3 cache (400 MHz front side bus)
- 1 GB PC2100 ECC Registered DDR266A SDRAM (4×256MB DIMMs)
- One internal DVD drive for OpenVMS and Windows
- One power supply

Maximum Server Capacities

- Two 64 bit Intel Itanium 2 processors: Either dual-core 1.6-GHz/18-MB L3 cache (400-MHz front side bus), dual-core, 1.4-GHz/12-MB L3 cache (400 MHz front side bus), single-core 1.3 GHz/3.0 MB L3 cache (400 MHz front side bus), single-core 1.6 GHz/3 MB L3 cache (400 MHz front side bus), or single-core 1.6 GHz/6 MB L3 cache (400 MHz front side bus)
- 32 GB PC2100 ECC Registered DDR266A SDRAM (8×4GB DIMMs)
- Two hot swap power supplies, providing N+1 protection for power supplies and power input
- Four PCI X/PCI IO adapter cards
- One internal DVD ROM or DVD+RW drive
- Three internal hot plug LVD SCSI disks

Standard System Features

- Four Operating System support: HP UX 11i version 2 September 2006 Update required for dual-core processors), Microsoft Windows Server 2003 Enterprise and Datacenter Edition, Linux RHEL4U3 (AS and ES) and SUSE SLES 9 SP3, and OpenVMS (V8.3 minimum version required for dual-core processors, available September 2006)
- Dual channel Ultra320 SCSI controller, 2 internal disks on one channel, 1 internal disk on a second channel
- Two ports 10/100/1000Base TX LAN (auto speed sensing, RJ-45 connector)
- Optional Management Processor Card for remote management and HA monitoring
  NOTE: Management Processor Card is required for Windows configurations
- Optional Telnet and web console via 10/100Base TX management LAN (RJ-45 connector)
- Two general purpose RS-232 serial port
- Three RS-232 serial ports linked to the management processor (multiplexed from a single DB 25 port); one general purpose, one remote and one local console
- Factory integration of processors, memory, disk drives, removable media, and I/O cards
- Rackmountable into 19-inch cabinets
- Optional stand alone pedestal mount
- One year warranty with next business day on-site

Standard Features

High Availability

- N+1 Hot swap cooling
- One Hot swap power supply standard-optional second hot swap power supply for N+1 protection
- On line memory page deallocation
- ECC protected DDR memory
- Memory chip spare to overcome single DRAM chip failures
- Dynamic Processor resilience and deallocation
- UPS power management
- Hot Plug internal disks
- Two independent Ultra SCSI channels to internal disks for mirroring across disks and channels
- Journal file system for HP-UX
- Auto reboot
- HP MC/Serviceguard for HP-UX
- Microsoft Cluster Service for Windows Server 2003 Enterprise and Datacenter Edition
- HP StorageWorks Secure Path
- HP Serviceguard Extension for RAC for HP-UX
- Serviceguard Manager for HP-UX
- Insight Manager 7-proactive fault management
- EMS HA Monitors for HP-UX
- ECM Toolkit for HP-UX
- Mirrordisk for HP-UX
- HP OpenVMS Clusters
- HP Volume Shadowing for OpenVMS
- HP RMS Journaling for OpenVMS

Security

- Separate LAN for system management
- Password protection on console port
- Disablement of remote console ports
- SSL encryption on web console

Manageability

- HP Ignite UX for installation and deployment of the operating system
- HP Software Distributor UX for software and patch management
- HP Servicecontrol Suite for HP UX
- HP System Insight Manager (SIM)
- HP Integrity Essentials Foundation Pack for Windows, includes Smart Setup CD for easy server setup and configuration
- Integrated Lights Out (iLO 1) Management Processor Card for comprehensive remote management.
  NOTE: Card is required for Windows orders and recommended for HP-UX, Linux, and OpenVMS orders.
- Optional Integrated Lights Out (iLO) Advanced Pack activation key and license
- Process Resource Manager for HP UX workload management

Processor Configuration

The HP Integrity rx2620 is a symmetrical multiprocessing (SMP) server supporting up to two high performance 64 bit single-core Itanium 2 processors. Processor speeds cannot be mixed within the same system.

Processor Details

Single-Core Itanium 2 processors:

- Single-core 1.3 GHz with 3.0 MB Level 3 Cache
- Single-core 1.6 GHz with 3.0 MB Level 3 Cache
- Single-core 1.6 GHz with 6.0 MB Level 3 Cache

All single-core processors support:

- Level 2 Cache: 256-KB
- Level 1 Cache: 32-KB
- 400 MHz System Bus
- Single bit cache error correction
- 50 bit physical addressing
- 64 bit virtual addressing
- 4 GB maximum page size

Dual-Core Itanium 2 processors:

- Dual-core 1.4-GHz with 12.0-MB (6.0-MB per core) Level 3 Cache processor
- Dual-Core 1.6-GHz with 18.0-MB (9.0-MB per core) Level 3 Cache processor

All dual-core processors support:

- Level 2 Cache: 1-MB Instruction/256-KB Data per core
- Level 1 Cache: 32-KB per core
- 400 MHz System Bus
- Single bit cache error correction
- 50 bit physical addressing
- 64 bit virtual addressing
- 4 GB maximum page size

The HP Integrity rx2620 servers may require a firmware update to support Intel® Itanium® 2 Processor Add-On products shipping after June 15th, 2005.

Affected Intel Itanium 2 processors products for the Integrity rx2620 are:

- AB334A Intel Itanium 2 1.6-GHz 6MB
- AB335A Intel Itanium 2 1.6-GHz 3MB
- AB336A Intel Itanium 2 1.3-GHz 3MB

ACTION:
Check server firmware prior to installing any of these processor products. The rx2620 requires system firmware 3.17 or later. The firmware version can be checked as follows:

Shell> info fw
Firmware information:

- Firmware revision: 3.17 [4513]
- BMC revision: 3.47
- Management Processor Revision: E.03.15
- Updatable EFI drivers:

- Floating point Software Assistance Handler: 00000118
- LSI Logic Ultra320 SCSI Driver: 01040200
- Broadcom Gigabit Ethernet Driver: 00070003
- Intel PRO/1000 Ethernet Driver: 00002160

If firmware requires updating, the firmware upgrade instructions are included in the Release Notice that is included in the download bundle.

To download the firmware, go to http://www.hp.com/bizsupport.

NOTE:
After the firmware has been downloaded to the server, proceed with attaching the Processor Add-On Products to the server using the Server Installation Guide. The installation guide is provided:

- On the CD-ROM that shipped with Server
- On the http://docs.hp.com Web site

Memory Configuration

The HP Integrity rx2620 supports DDR (double data rate) SyncDRAM (synchronous dynamic random access memory) DIMMs with ECC and chip spare protection. The HP Integrity rx2620 has twelve DIMM slots. A maximum of 32-GB is supported.

Memory Loading Rules and Performance Guidelines

- Memory must be installed in groups of four DIMMs, also known as quads
- Each quad must consist of equal density DIMMs
- Memory can be ordered in quads of 1-GB (4×256-MB), 2-GB (4×512-MB), 4-GB (4×1-GB), 8-GB (4×2-GB), or 16-GB (4×4-GB) DIMMs
- Minimum memory is 1-GB (4×256-MB)
- Maximum memory is 32-GB (8×4-GB).
- Memory must be loaded in the specific order outlined on the system board.
- Each quad of memory is loaded across both memory buses (two DIMMs on each bus) to ensure maximum bandwidth and performance
- Total memory bandwidth is 8.5-GB/s, split across two 4.25-GB/s memory buses
- Open page memory latency is 80 nanoseconds

NOTE: Please note that these memory option product numbers are also supported in the rx2600.

Supported Memory Options

Description	Product Number
1-GB chip spare PC2100 DDR-SDRAM memory quad (4 x 256MB DIMMs)	AB395A
2-GB chip spare PC2100 DDR-SDRAM memory quad (4 x 512MB DIMMs)	AB396A
4-GB chip spare PC2100 DDR-SDRAM memory quad (4 x 1GB DIMMs)	AB397A
8-GB chip spare PC2100 DDR-SDRAM memory quad (4 x 2GB DIMMs)	AB228A
16 GB chip spare PC2100 DDR SDRAM memory quad (4 x 4-GB DIMMs)	AB475A

Racking Configurations

The HP Integrity rx2620 can either be factory installed in HP cabinets or customer installed in HP or third party cabinets. The racking hardware includes slider rails, enabling the server to easily slide out of a cabinet for servicing. The rails have adjustable mounting hardware, enabling the server to mount in many non HP cabinets.

Configuration

HP Cabinets

The HP Integrity rx2620 was designed for and has been tested in HP Standard Rack System/E Series cabinets and HP Universal Rack 10000 G2 Series cabinets. HP cabinets are the best option for customers who want to ensure that their rack environment offers the utmost in safety, ease of service, factory integration, and HP field support.

Refer to the 10000 G2 Series Rack Best Practices Guide for information on rack deployment, stabilization and transportation. Go to http://www.hp.com/go/rackandpower for more information.

Non-HP Cabinets

For customers who choose to use non HP cabinets, the HP Integrity rx2620 provides simple options for installation and HP field support. The HP Integrity rx2620 field rack kit (A6939A) contains adjustable slide rails, allowing the server to be mounted in cabinets that use the four post EIA mounting system.

Once the server is mounted in a non HP cabinet, it must meet some simple criteria to ensure that HP field personnel can fully support the rack environment.

- Anti Tip – The rack/cabinet must be solidly anchored to the floor both front and rear. This is usually accomplished by anti-tip feet or by direct bolting to the floor.
- Air Flow – The HP Integrity rx2620 uses front to back airflow to cool the unit. Thus a cabinet cannot have a solid front or rear door. Solid doors may have to be removed or changed to an open perforation pattern.
- Cable Strain Relief – A proper method of strain relief must be used. This may force the elimination of the rear door in some cases.
- Front and Rear Access – For proper cooling and ease of service access, HP recommends 32 inches of unobstructed floor space in the front and rear of rack installations. This recommendation applies to both HP and third party racks and cabinets.

The rx2620 can also be deployed as a stand-alone pedestal (order # AD244A) appropriate for the office environment. When choosing to convert a rack system to the office, the HA113A1 installation service is mandatory (the AD244A is not customer installable). NOTE: In an office deployment, the rx2620 does not support redundant power and cooling.

I/O Architecture

The HP Integrity rx2620 I/O architecture utilizes industry standard PCI-X and PCI buses in a unique design for maximum performance, scalability and reliability.

The HP Integrity rx2620 architecture uses eight high speed I/O channels. Each channel provides 0.5 GB/s of sustained I/O throughput.

The four open PCI-X slots all have their own dedicated 64-bit 133-MHz PCI-X bus and their own independent I/O channel or channels. The independent channels provide improved I/O performance and error containment. Independence protects each I/O card from bus hangs or extended latencies due to the failure or high bandwidth demands of other I/O cards. Independence also ensures that each I/O card can achieve maximum throughput.

The first PCI-X slot has two dedicated I/O channels, resulting in sustained PCI-X bandwidth of 1.0 GB/s. This slot should be reserved for the highest bandwidth cards, such as clustering interconnects or multi port storage adapters. The remaining three PCI-X slots each have a single dedicated I/O channel, resulting in 0.5 GB/s of sustained bandwidth on each slot.

All I/O slots are keyed for 3.3V I/O cards. 5V cards are not supported in the HP Integrity rx2620. The remaining three I/O channels are allocated to the integrated core I/O.

Configuration

	Number of Slots	Bandwidth Per Slot	Bus Width	Bus Speed	Slot Keying
Dedicated 1 GB/s	1	1.0 GB/s	64 bits	133 MHz, 66 MHz or 33 MHz	3.3 Volts
Dedicated 0.5 GB/s	3	0.5 GB/s	64 bits	133 MHz, 66 MHz or 33 MHz	3.3 Volts

HP Integrity rx2620 HP-UX Supported I/O Cards

I/O Card	Product Number	Boot Support	Connector Type(s)	Maximum Cards	Special Notes
Mass Storage Host Bus Adapters					
PCI 2-Gb/s Fibre Channel	A6795A	Yes	LC	4	
PCI 2-channel Ultra320 SCSI	A7173A	Yes	VHDCI	4	
PCI-X 2-channel Smart Array 6402 Ultra320	A9890A[1]	Yes	VHDCI	3	Card is supported in slots 1, 2, and 3 only.
PCI-X 4- channel Smart Array 6404 Ultra320	A9891A[1]	Yes	VHDCI	3	Card is supported in slots 1, 2, and 3 only.
PCI-X 2-channel 2-Gb/s Fibre Channel	A6826A	Yes	LC	4	
PCI-X 266-MHz 1-channel 4-Gb/s Fiber Channel	AB378B	Yes	LC	4	
PCI-X 266-MHz 2 channel 4-Gb/s Fiber Channel	AB379B	Yes	LC	4	
Local Area Network (LAN) Adapters					
PCI 1-port 1000Base-T (gigabit copper)	A6825A	No	RJ-45	4	
PCI-X 1-port 1000Base-T (gigabit copper)	AD331A	No	RJ-45	4	
PCI 1-port 1000Base-SX (gigabit fiber)	A6847A	No	Duplex SC	4	
PCI-X 1-port 1000Base-SX (gigabit fiber)	AD332A	No	Duplex SC	4	
PCI-X 2-port 1000Base-T	A7012A	Yes	RJ-45	4	
PCI-X 2-port 1000Base-SX	A7011A	Yes	Duplex SC	4	
PCI-X 2-port 4x Fabric (HPC) Adapter[2]	AB286C	No	4x Infiniband Copper	1	A minimum 512 MB of system memory per card is required for performance considerations.
PCI-X 4-port 1000Base-T Gbit Adapter	AB545A	Yes	RJ-45	4	
Multi-Function Cards (Mass Storage/LAN)					
PCI-X 2-Gb Fibre Channel / 1000Base-SX	A9782A	Yes	LC	4	
PCI-X 2-Gb Fibre Channel / 1000Base-TX	A9784A	Yes	1 LC, 1 RJ-45	4	
PCI-X 2-port 2-Gb Fibre Channel/2-port 1-Gb Ethernet Adapter	AB465A	Yes	2 RJ-45	4	
PCI-X 2-port 1000-BT/2-port U320 SCSI Multifunction Adapter	AB290A	Yes	SCSI - LVD/SE LAN - RJ-45	3	Card is supported in slots 1, 2, and 3 only
HP PCI-X 1-port 4Gb Fibre Channel & 1-port 1000Base-T Adapter	AD193A	Yes	RJ-45	4	
HP PCI-X 2-port 4Gb Fibre Channel & 2-port 1000Base-T Adapter	AD194A	Half/Yes	RJ-45	4	
Wide Area Network (WAN) Adapters					

2-port Programmable Serial Interface (PSI) X.25 / Frame Relay / SDLC	J3525A	No	RS-530, RS-232, V.35, RS-449 or X.21	4	
Additional Interface Cards					
PCI 8-port Serial MUX Adapter	AD278A	No		3	Card is supported in slots 1, 2, and 3 only.
PCI 64-port Serial MUX Adapter	AD279A	No		4	
16-port RS-232 RJ45 Port Module	AD280A	No		4 per AD279A	AD280A #001 Port Module Power Supply, required on Port Module (3) and Port Module (4) connected to an AD279A 64P MUX adapter.
16-port RS-232 DB25 Port Module	AD281A	No		4 per AD279A	AD281A #001 Port Module Power Supply, required on Port Module (3) and Port Module (4) connected to an AD279A 64P MUX adapter.
PCI HyperFabric 2 Fibre[2]	A6386A	No	LC Duplex	4	A minimum 512 MB of system memory per card is required for performance considerations.
PCI ATI Radeon Graphics Adapter	AB551A	No	VGA	2	
HP PCI Audio Card	AD317A	No		1	Factory Integration Only

HP Integrity rx2620 OpenVMS Supported I/O Cards

I/O Card	Product Number	Boot Support	Connector Type(s)	Maximum Cards	Special Notes
Mass Storage Host Bus Adapters					
PCI 2-channel Ultra320 SCSI	A7173A	Yes	VHDCI	2	
PCI-X 2-channel Smart Array 6402 Ultra320	A9890A[1]	Yes	VHDCI	2	Card is supported in slots 1, 2, and 3 only.
PCI-X 4-channel Smart Array 6404 Ultra320	A9891A[1]	Yes	VHDCI	1	Card is supported in slots 1, 2, and 3 only.
PCI X 266 MHz 1 channel 4 Gb/s Fiber Channel	AB378B	Yes	LC	4	OpenVMS V8.3 minimum
PCI X 266 MHz 2 channel 4 Gb/s Fiber Channel	AB379B	Yes	LC	4	OpenVMS V8.3 minimum
PCI-X 2-channel 2 Gb/s Fibre Channel	A6826A	Yes	LC	4	
Local Area Network (LAN) Adapters					
PCI 1-port 1000Base-T (gigabit copper)	A6825A	No	RJ-45	4	
PCI-X 1-port 1000Base-T (gigabit copper)	AD331A	No	RJ-45	4	OpenVMS V8.3 minimum
PCI 1-port 1000Base-SX (gigabit fiber)	A6847A	No	Duplex SC	4	
PCI-X 1-port 1000Base-SX (gigabit fiber)	AD332A	No	Duplex SC	4	OpenVMS V8.3 minimum
PCI-X 2-port 1000Base-T	A7012A	No	RJ-45	4	
PCI-X 2-port 1000Base-SX	A7011A	No	Duplex SC	4	
PCI-X 4-port 1000Base-T Gbit Adapter	AB545A	No	RJ-45	3	

Configuration

Multi-Function Cards (Mass Storage/LAN)					
PCI-X 2-Gb Fibre Channel/1000Base-SX	A9782A	Yes (FC)	LC	4	
PCI-X 2-Gb Fibre Channel/1000Base-TX	A9784A	Yes (FC)	1 LC, 1 RJ-45	4	
PCI-X 2-port 2-Gb Fibre Channel/2-port 1-Gb Ethernet Adapter	AB465A	Yes (FC)	2 RJ-45	2	
PCI-X 2-port 1000BT/2-port U320 SCSI Multifunction Adapter	AB290A	Yes (SCSI)	SCSI - LVD/SE LAN - RJ-45	2	Card is supported in slots 1, 2, and 3 only
HP PCI-X 1 port 4 Gb Fibre Channel and 1 port 1000Base T Adapter	AD193A	Yes (FC)	RJ-45	2	
HP PCI-X 2 port 4 Gb Fibre Channel and 2 port 1000Base T Adapter	AD194A	Yes (FC)	RJ-45	2	
Additional Interface Cards					
PCI ATI Radeon Graphics Adapter	AB551A	No	VGA	4	

HP Integrity rx2620 Windows Supported I/O Cards

I/O Card	Product Number	Boot Support	Connector Type(s)	Maximum Cards	Special Notes
Mass Storage Host Bus Adapters					
PCI Windows and Linux Ultra160 SCSI	A7059A[2]	Yes	VHDCI	1	
PCI Windows and Linux 2 port Ultra160 SCSI	A7060A[2]	Yes	VHDCI	2	
PCI 2 channel Ultra320 SCSI	A7173A	Yes	VHDCI	1	
PCI-X Smart Array P600 Serial Attached SCSI (SAS) Controller	337972-B21	Yes		2	Supported with external storage only.
512-MB cache memory upgrade for SA P600 controller	372538-B21	N/A		N/A	
PCI-X 2-channel Smart Array 6402 Ultra320	A9890A[1]	Yes	VHDCI	3	Card is supported in slots 1, 2, and 3 only. Supports internal and external storage. Can only support external connects from slot 2 and 3 only. Maximum of 2 cards for external storage.
PCI-X 4-channel Smart Array 6404 Ultra320	A9891A[1]	Yes	VHDCI	3	Card is supported in slots 1, 2, and 3 only. Supports internal and external storage.
PCI-X 1-channel 2-Gb/s Fibre Channel Windows	AB467A	Yes	LC	2	
PCI-X 2-channel 2-Gb/s Fibre Channel Windows	AB466A	Yes	LC	2	
PCI-X 2-Gb/s Fibre Channel	AB232A[2]	Yes	LC	2	
PCI 2-Gb/s Fibre Channel	A7298A[2]	Yes	LC	1	
Local Area Network (LAN) **Adapters**					

PCI 2-port Windows/Linux 1000Base-SX	A9899A	No	LC	2	
PCI 2-port Windows/Linux 1000Base-TX	A9900A	No	RJ-45	2	
PCI 1-port 1000Base-T	A7061A	No	RJ-45	2	
PCI 1-port 1000Base-SX	A7073A	No	Duplex SC	2	
PCI-X 1-port 10GbE	AD144A	Yes	Duplex LC	1	

HP Integrity rx2620 Linux RHEL 4 (AS and ES) (available end of 2006), SLES 9 SP3, and SLES 10 Supported I/O Cards

I/O Card	Product Number	Boot Support	Connector Type(s)	Maximum Cards	Special Notes
Mass Storage Host Bus Adapters					
PCI Windows and Linux Ultra160 SCSI	A7059A	Yes	VHDCI	4	
PCI Windows and Linux 2 port Ultra160 SCSI	A7060A	Yes	VHDCI	4	
PCI 2 channel Ultra320 SCSI	A7173A	Yes	VHDCI	4	
PCI-X Smart Array P600 Serial Attached SCSI (SAS) Controller	337972-B21	Yes	SFF8470	2	Supported with external storage only.
512-MB cache memory upgrade for SA P600 controller	372538-B21	N/A	N/A	N/A	
PCI-X 2 channel Smart Array 6402 Ultra320	A9890A[1]	Yes	VHDCI	3	Card is supported in slots 1, 2, and 3 only. Only can be used for internal drives.
PCI-X 2 channel 2-Gb/s Fibre Channel	A6826A	Yes	LC	4	No Boot Support for Linux.
PCI-X 1 channel 2-Gb/s Fibre Channel Linux	A7538A	No	LC	4	
Local Area Network (LAN) Adapters					
PCI 2-port Windows/Linux 1000Base-SX	A9899A	No	LC	4	
PCI 2-port Windows/Linux 1000Base-TX	A9900A	No	RJ-45	4	
PCI 1-port 1000Base-T	A7061A	No	RJ-45	4	
PCI 1-port 1000Base-SX	A7073A	No	Duplex SC	4	
PCI-X 10GigE SR Fiber Adapter	AD144A	Yes	4x Infiniband Copper	2	
PCI-X 4-port 1000Base-T Gbit Adapter	AD145A	Yes	RJ-45	1	

[1] Internal configurations supported:
- RAID1 internal HDD connect (must order #0D1, minimum/maximum two identical HDDs and A9827A #0D1)
- RAID1 plus Hot Spare internal HDD connect (must order #0D1, minimum/maximum three identical HDDs and A9827A #0D1)
- RAID5 internal HDD connect (must order #0D1, minimum/maximum three identical HDDs and A9827A #0D1)

[2] Supported, but card is no longer orderable

Configuration

Internal Supported Storage Devices	Product Number
Internal Disk Drives (Optional – Maximum 3)	
36-GB 15K RPM Ultra320 SCSI Low Profile Hot Plug Disk	AB420A
73-GB 15K RPM Ultra320 SCSI Low Profile Hot Plug Disk	AB421A
146-GB 15K RPM Ultra320 SCSI Low Profile Hot Plug Disk	AD208A
300-GB 15K RPM Ultra320 SCSI Low Profile Hot Plug Disk	AD261A
Removable Media Drive (Optional – Maximum 1)*	
DVD-ROM drive	A9919B
DVD+RW drive	AB348B
*NOTE: DVD drive required for OpenVMS and Windows configurations. Third party software required to support DVD write with Windows. OpenVMS will support DVD write in a future release of the operating system. NOTE: CD RW/DVD ROM Combo drive (A9920A) is supported but no longer orderable.	

Integrated Multi-function Core I/O

The integrated multi function I/O provides core I/O functionally and includes the management processor, which provides remote management and high availability monitoring capabilities.

Core I/O

- Two 10/100/1000Base T LAN with RJ 45 connector-Supports LAN boot for operating system installation and wake on LAN capability
- Two channel Ultra320 SCSI controller, two internal ports for integrated disks.
- Four USB 2.0 style A ports (USB 1.1 compatible)
- Two general purpose serial ports; an additional general-purpose serial port is available if Management Processor Card is installed.
- Telnet and web console via 10/100Base TX management LAN (RJ 45 connector) requires Management Processor Card.

Management Processor Functionality

- Dedicated 10/100Base T LAN port for LAN console and embedded web console access.
- DB 25 serial port-multiplexed (using W cable) into three RS 232 ports: local ASCII console, remote/modem console, and general purpose.
- Password protected console ports.
- Console mirroring between all local, modem, LAN, and web consoles.
- Remote power up and power down control.
- Configurable remote access control.
- Event notification to system console-Provides connectivity, information, and support for HP UX tools (such as STM and EMS) to notify by email, pager and/or HP response centers.
- Interface to system monitoring and diagnostic hardware via an internal IC bus.
- Secure Sockets Layer security on web console.
- Management Processor Card is required for Windows, recommended for HP-UX and OpenVMS
- Support for Integrated Lights Out (iLO) Advanced Pack version 1 activation key and license (AB500A). Firmware license installs on the integrated Processor Management Card. Integrated Lights Out (iLO) Advanced Pack provides additional remote management capabilities, including LDAP directory services, SSH security, and Group Actions with HP Systems Insight Manager (SIM).
- The Management Processor Card provides basic graphic capabilities via integrated Radeon 7000 2D graphics chip. VGA port is provided on rear of the system. Supported resolutions and refresh rates include:

Configuration

Operating System	Minimum Resolution	Refresh Rate	Maximum Resolution	Refresh Rate
HP-UX	1024x768	75 Hz	1920x1200	75 Hz
Linux	1024x768	75 Hz	1920x1200	75 Hz
Windows	640x480	75 Hz	1600x1200	75 Hz
OpenVMS	640x480	60 Hz	1920x1200	75 Hz

System Console Configurations

The HP Integrity rx2620's integrated Management Processor provides five methods for console connections.

- SSL-secured Web console accessible through the 10/100Base-T management LAN
- Standard telnet connections accessible through the 10/100Base-T management LAN
- Local VT100 or hpterm terminal, or VT100 or hpterm emulator via local RS-232 serial connection
- Remote VT100 or hpterm terminal, or VT100 or hpterm emulator via external modem
- VGA graphics console-supported on Windows, Linux, and HP-UX-using the integrated VGA port.

Internal Disk and Media Drives

- The HP Integrity rx2620 supports up to three internal low profile hot plug disk drives.
- A dual channel U320 SCSI channel provides independent channels for the internal disks-two disks on one channel and one disk on a second channel. Split SCSI channels provide enhanced high availability-one channel can fail without impacting the disks on the other channel.
- Supported by Mirrordisk/UX across disk drives and independent channels
- For Windows, the Smart Array 6402 may be factory configured to support RAID 1 on the internal disks
- Optional optical media drives include a DVD ROM (A9919B) and DVD+RW (AB348B). A DVD drive is required for all OpenVMS and Windows configurations. Third party software (not included with the AB348B) is required to support DVD write with Windows on AB348B. OpenVMS will support DVD write capability in a future release of the operating system.
- Factory configured RAID 1 array on internal disks is supported on the IPF servers. Refer to the following URL for details on servers, Smart Array cards, and operating systems supported. http://www.docs.hp.com/en/RAID_SM 20050125/CombinedRaidsupportMatrix.htm

HP Integrity rx2620 Power Subsystem

The HP Integrity rx2620 provides a high level of integrated power protection.

- N+1 redundant hot swap power supplies (N=1) (not supported with AD244A Office Friendly kit)
- N+1 redundant AC power input protection with electrical phase isolation (N=1)
- Power monitoring and control
- The HP Integrity rx2620 supports up to two hot swap power supplies for N+1 protection. One supply is shipped as a standard component with every system. The second supply is optional.
- The HP Integrity rx2620 provides an independent power input receptacle for each power supply. The independent design provides protection against losing the connection from a power cord or breaker. The HP Integrity rx2620 power cords should always be plugged into separate breakers when possible.

Configuration

AC Power Requirements at Various Configurations

The following table displays the AC power needs of the HP Integrity rx2620 at various configurations. These power figures are based on actual measurements under typical server workloads, and are appropriate for power budgeting at customer installations.

Processors	DIMMs	I/O Cards	Watts, AC	Volt Amps	Amps @ 200V
1	4	2	366	373	3.2
1	8	4	456	465	4.0
1	12	4	500	510	4.4
2	4	2	501	511	4.4
2	8	4	591	603	5.2
2	12	4	635	648	5.6

Assumes:

- One Single-core Intel Itanium 2 Processor 130W @ 85% max
- ½ I/O CCA @ 25W and ½ I/O CCAs @ 15W
- 2 GB DIMMs
- Typical power usage
- Three hard disk drives
- No CD ROM

Server model number	rx2620

Server product numbers		
	2-processor/4-core capable HP Integrity rx2620 Server Base System: With one dual-core Itanium 2 processor 1.4-GHz/12-MB (400-MHz front side bus). System includes one processor, core I/O, and one power supply.4 Memory and disk drive must be added for a complete hardware configuration.	AD152A
	2-processor/4-core capable HP Integrity rx2620 server base system: With one dual-core Itanium 2 processor 1.6 GHz/18 MB (400 MHz front side bus). System includes one processor, core I/O, and one power supply4. Memory and disk drive must be added for a complete hardware configuration.	AD153A
	2 processor/2 core capable HP Integrity rx2620 server base system: With one single core Itanium 2 processor 1.3 GHz/3 MB (400 MHz front side bus). System includes one processor, core I/O, and one power supply4. Memory and disk drive must be added for a complete hardware configuration.	AB332A
	Rack and Pedestal Mounting Options: (Required - Maximum 1). Please refer to the HP 10000 Series G2 Rack Best Practices Guide for information on rack deployment, stabilization and transportation (http://www.HP.com/go/rackandpower).	
	Field rack kit for factory and field integration into 19" wide cabinets at customer location. Kit includes rails.	AD154A
	Conversion kit from Pedestal to rack server at customer location. Kit includes rails and bezel.	AB376A
	Racking Support Shelf Kit. Required for all factory racked orders. One shelf kit is needed for every 10 servers in the rack and one for every gap left between servers.	AB469A
	Rx2620 Office Friendly conversion kit. Kit includes 3 x fans, one label, install sheet, firmware and packaging. NOTE: That the conversion kit is not customer installable. Kit can be installed in the field, but HA113A1 installation service must be ordered. Office Friendly version does not support redundant hot-plug power not hot-plug fans.	AD244A
	Pedestal Server Mounting Kit for standalone, vertical system mounting.	AB377A
	NOTE: Two power cords are shipped with each system; one connects the system to the rack PDU and one enables connection to a wall socket. The cord that connects the system power supply to the PDU has an IEC 13 end, which plugs into the system power supply's IEC 14 socket, and an IEC 14 end, which plugs into the PDU's IEC 13 socket. The localized cord that connects the system power supply directly to the wall socket has an IEC 13 end, which plugs into the system power supply's IEC 14 socket, and a country specific end, which plus into the wall socket. This localized cord is included at the distribution site.	

Technical Specifications

Supported Processors	**1.4-GHz Dual-Core Intel Itanium 2 Processor** (AD122A)	
	Cache - On-Chip Level 1	32-KB
	Cache - On-Chip Level 2	1-MB Instruction/256-KB Data per Core
	Cache - On-Chip Level 3	12-MB (6-MB per Core)
	Floating point Coprocessor included	Yes
	1.6-GHz Dual-core Intel Itanium 2 processor (AD123A)	
	Cache - On-Chip Level 1	32-KB
	Cache - On-Chip Level 2	1-MB Instruction/256-KB Data per Core
	Cache - On-Chip Level 3	18-MB (9-MB per Core)
	Floating point Coprocessor included	Yes
	1.3 GHz Single-Core Intel Itanium 2 processor (AB336A)	
	Cache - On-Chip Level 1	32-KB
	Cache - On-Chip Level 2	256-KB
	Cache - On-Chip Level 3	3 MB
	Floating point Coprocessor included	Yes
	1.6 GHz Single-Core Intel Itanium 2 processor (AB335A)	
	Cache - On-Chip Level 1	32-KB
	Cache - On-Chip Level 2	256-KB
	Cache - On-Chip Level 3	3 MB
	Floating point Coprocessor included	Yes
	1.6 GHz Single-Core Intel Itanium 2 processor (AB334A)	
	Cache - On-Chip Level 1	32-KB
	Cache - On-Chip Level 2	256-KB
	Cache - On-Chip Level 3	6 MB
	Floating point Coprocessor included	Yes

System Memory	**Minimum memory**	1 GB
	Maximum memory capacity	32 GB
	NOTE: Please see "Configuration" section for configuration details.	

Internal Disks	**Maximum disk mechanisms**	3
	Maximum disk capacity	900 GB

Technical Specifications

Standard Integrated I/O	Ultra320 SCSI–LVD	2 channels
	10/100/1000Base-T (RJ-45 connector)	2 port
	RS-232 serial ports (general purpose)	2
	10/100Base-T management port (RJ-45 connector)	Optional
	VGA graphics	Optional
	USB	4
I/O Buses and Slots	Total PCI-X/PCI Slots	4
	All four slots are 133-MHz, 64-bit slots on dedicated PCI-X buses	
Maximum I/O Cards (See supported I/O table for product specifics)	Mass Storage	1-4
	LAN	2-4
	WAN	4
	Multi-Function (Mass Storage / LAN)	3-4
	Additional Interface Cards	4
Electrical Characteristics	AC Input power	100-240V 50/60 Hz
	Hot swap Power supplies	1 included, 2nd for N+1
	Redundant AC power inputs	1 included, 2nd for N+1
	Current requirements at 230V	4 A (shared across inputs)
	Typical maximum power dissipation	600 Watts
	Theoretical maximum power dissipation	1,350 Watts
	kW rating for UPS loading	1.3
	Typical Heat dissipation (BTUs/hour)	1,945
	Maximum Heat dissipation (BTUs/hour)	4,375

Technical Specifications

Site Preparation	Site planning and installation included NOTE: System is customer installable.	No
	Rack depth (inches/mm)	26.8 in (680 mm)
	Rack width (inches/mm)	19 in (482 mm)
	Rack height (EIA/inches/mm)	2U/ 3.4 in (86 mm)
	Pedestal depth (inches/mm)	26.5 in (672 mm)
	Pedestal width (inches/mm)	11.7 in (297 mm)
	Pedestal height (inches/mm)	19.5 in (494 mm)
	Weight (lb/kg) Maximum	56 lb (25 kg)
Environmental Characteristics	Acoustics (operator/bystander) at 77° F (25° C)- Rackmount Server	<6.8 Bels LwA
	Acoustics (operator/bystander) at 77° F (25° C) - Office Environment Server	<5.5 Bels LwA
	Operating Temperature (up to 5000 ft/1524 m)*	41° to 95° F (5° to 35° C)
	Non-operating Temperature	5° to 35° F (-40° to 70° C)
	Maximum rate of temperature change	10° C/hour
	Operating relative humidity	15% to 80% RH non-condensing
	Non-operating relative humidity	8% to 85% non-condensing
	Operating altitude above sea level	10,000 ft (3,000 m) maximum
	Non-operating altitude above sea level	15,000 ft (4,600 m) maximum
	*NOTE: Maximum operating temperature range up to 5000 feet. For higher altitudes, de-rate the maximum temperature by 2°C/1000 feet above 5000 feet.	
Regulatory Compliance	RMN	RSVLA-0403
	Electromagnetic interference	Complies with FCC Rules and Regulations, Part 15 as a Class A digital device. Manufacturer's Declaration to EN55022 Level A, VCCI Registered, Class A, Korea RLL, CCC, BMSI Taiwan
	Safety	CSA NRTL Certified, EN 60950-1