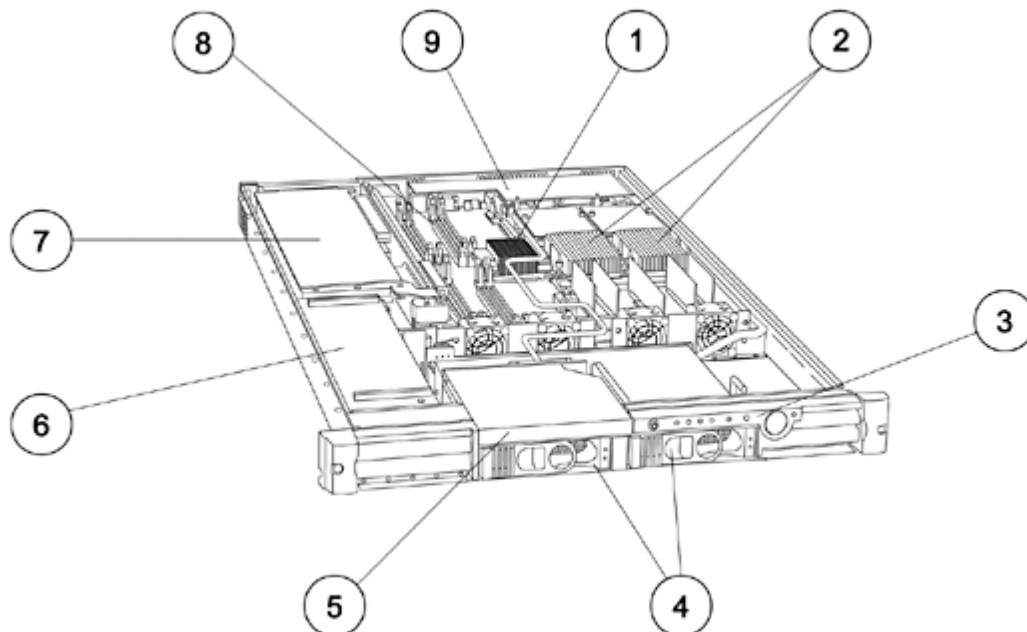


### Overview



1. ZX1 CEC
2. 1 or 2 Intel® Itanium 2® CPUs (Fanwood)
3. Front Panel
4. 2 Hot-swap U320 Drives (internal RAID support with optional RAID card)
5. Slimline Optical Drive (optional)
6. System Power Supply Unit
7. 2 PCI-X Slots
8. 8 DIMM slots 1-GB to 16-GB with chip sparing
9. Optional Management Processor Card

## At A Glance

### rx1620 Server Product Numbers

HP Integrity rx1620 server 1.3 GHz base system Includes one 1.3 GHz CPU (200 MHz system bus, 400 MT/s), core I/O, rack kit and one power supply. AB430A

HP Integrity rx1620 server 1.6 GHz base system Includes one 1.6 GHz CPU (267 MHz system bus, 533 MT/s), core I/O, rack kit and one power supply. AB431A

**NOTE:** Memory, storage and operating system are not included in the base system and must be purchased separately

### Standard System Features

- Four Operating System support: HP UX 11i version 2, Linux (RHEL 3 Update 3, RHEL 4, SuSE SLES9), Windows Server 2003 Enterprise and Datacenter Edition, and OpenVMS V8.2-1 or higher
- Dual channel Ultra320 SCSI controller, 2 internal disks on one channel, one channel external disks only
- External Ultra320 SCSI port
- Two 10/100/1000Base TX LAN (auto speed sensing, RJ 45 connector, wake on LAN capability)
- One 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 CPUs, memory, disk drives, removable media, and I/O cards
- Rackmountable into 19 inch cabinets
- One year warranty with next business day on site

### Standard Features

#### Minimum System

- One 64 bit Low voltage Intel Itanium 2 processor 1.3 GHz/3.0 MB cache/200 MHz system bus (400 MT/s) or one 64 bit Intel Itanium 2 processor 1.6 GHz/3.0 MB cache/267 MHz system bus (533 MT/s)
- 512-MB PC2100 ECC Registered DDR266A SDRAM (2×256MB DIMMs)
- One internal DVD drive for OpenVMS and Windows
- One power supply

#### Maximum Server Capacities

- Two 64 bit Low voltage Intel Itanium 2 processors 1.3 GHz/3.0 MB cache/200 MHz system bus (400 MT/s) or two 64 bit Intel Itanium 2 processors 1.6 GHz/3.0 MB cache/267 MHz system bus (533 MT/s)
- 16-GB PC2100 ECC Registered DDR266A SDRAM (8×2GB DIMMs)
- Two PCI-X/PCI IO adapter cards
- One internal DVD ROM or DVD+RW drive
- Two internal hot-plug LVD SCSI disks

#### Standard System Features

- Four Operating System support: HP UX 11i version 2, Linux (RHEL 3 Update 3, RHEL 4, SuSE SLES9), Windows Server 2003 Enterprise and Datacenter Edition, and OpenVMS V8.2-1 or higher
- Dual channel Ultra320 SCSI controller, 2 internal disks on one channel, one channel external disks only
- External Ultra320 SCSI port
- Two 10/100/1000Base TX LAN (auto speed sensing, RJ 45 connector, wake on LAN capability)
- One 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
- One year warranty with next business day on site

#### High Availability

- 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
- Journal file system for HP-UX
- Auto reboot
- HP MC/ServiceGuard for HP-UX
- HP ServiceGuard Extension for RAC for HP-UX
- ServiceGuard Manager for HP-UX
- Microsoft Cluster Services for Windows Server 2003 Enterprise and Datacenter Edition
- Insight Manager 7 – proactive fault management
- EMS HA Monitors for HP-UX
- ECM Toolkit for HP-UX
- HP Surestore AutoPath for HP-UX
- MirrorDisk for HP-UX
- OpenVMS Clusters

## Standard Features

- 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 Manger (SIM)
  - Optional Management Processor Card for comprehensive remote management  
**NOTE:** [Management Processor Card is required for all Windows configurations](#)
  - HP Integrity Essentials Foundation Pack for Windows, includes SmartSetup CD for easy server setup and configuration.
  - Optional Integrated Lights-Out (iLO) Advanced Pack activation key and license
  - Process Resource Manager for HP-UX workload management

### Configuration

**Processor Configuration** The HP Integrity rx1620 is a symmetrical multiprocessing (SMP) server supporting up to two high performance 64 bit low voltage Intel single-core Itanium 2 processors.

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#### Processor Details

- 1.3 GHz one core with 200 MHz System Bus (400 MT/s)
- 1.6 GHz one core with 267 MHz System Bus (533 MT/s)
- Level 3 Cache: 3.0 MB
- Level 2 Cache: 256 KB
- Level 1 Cache: 32 KB
- Single-bit cache error correction
- 50-bit physical addressing
- 64-bit virtual addressing
- 4 GB maximum page size

The HP Integrity rx1620 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 rx1620 are:

- AB481A - Intel Itanium 2 1.3-GHz 3MB
- AB482A - Intel Itanium 2 1.6-GHz 3MB

#### **ACTION:**

Check server firmware prior to installing any of these processor products. The rx1620 requires system firmware 02.18 or later. The firmware version can be checked as follows:

#### FIRMWARE INFORMATION

Firmware Revision: 2.18 [4511]

BMC Revision: 3.48

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(R) 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
-

### Configuration

**Memory Configuration** The HP Integrity rx1620 supports DDR (double data rate) SyncDRAM (synchronous dynamic random access memory) DIMMs with ECC and chip spare protection. The HP Integrity rx1620 has eight DIMM slots, allowing a maximum of 16 GB of total system memory (using 2 GB DIMMs).

### Memory Loading Rules and Performance Guidelines

- Memory must be installed in groups of two DIMMs also known as pairs
- Each pair must consist of equal density DIMMs
- Memory must be installed in pairs of DIMMs: 512 MB (2x256 MB), 1 GB (2x512 MB), 2 GB (2x1 GB), or 4 GB (2x2 GB). To support chip sparing, identically sized DIMMs must be loaded in groups of four DIMMs (also known as quads).
- Minimum memory is 512 MB (2x256 MB)
- Maximum memory is 16 GB (8x2 GB)
- Each pair of memory is loaded across both memory buses (one 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

### Supported Memory Options

Description	Product Number
512-MB DDR-SDRAM memory pair (2x256MB DIMMs)	AB221A
1-GB DDR-SDRAM memory pair (2 x 512MB DIMMs)	AB222A
2-GB DDR-SDRAM memory pair (2 x 1GB DIMMs)	AB223A
4-GB DDR-SDRAM memory pair (2 x 2GB DIMMs)	AB224A

**Racking Configurations** The HP Integrity rx1620 is customer installable in HP or third party cabinets. The racking hardware includes slider rails, enabling the server to easily slide out of a cabinet for servicing, and an optional cable management arm that protects and organizes the external interface cables. The rails have adjustable mounting hardware, enabling the server to mount in many non-HP cabinets.

### HP Cabinets

The HP Integrity rx1620 was designed for and has been tested in both HP Standard Rack System/E and HP Universal G2 10000 series cabinets for factory and field racking. The capacity of servers in the HP racking systems is equal to the number of EIA units. To support the maximum number of servers in a cabinet, power from an adjacent cabinet PDU or wall outlet is required. HP cabinets are the best option for customers who want to ensure that their rack environment offers the utmost in safety, ease of service, and HP field support. The rack kit is included with the server base system.

### Configuration

#### Non-HP Cabinets

For customers who choose to use non-HP cabinets, the HP Integrity rx1620 provides simple options for installation and HP field support. The HP Integrity rx1620 field rack kit (AB276A) contains adjustable slide rails, allowing the server to be mounted in cabinets that use the four post EIA mounting system. The rack kit is included with the server base 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 rx1620 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.

### I/O Architecture

The HP Integrity rx1620 I/O architecture utilizes industry standard PCI-X and PCI buses in a unique design for maximum performance, scalability and reliability.

The HP Integrity rx1620 architecture uses seven high speed I/O channels. Each channel provides 0.5 GB/s of sustained I/O throughput.

The two open PCI X slots each 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.

Both PCI X slots have two dedicated I/O channels, resulting in sustained PCI X bandwidth of 1.0 GB/s for each slot. All I/O slots are keyed to support 3.3V and universal PCI cards. 5V cards are not supported in the HP Integrity rx1620. The remaining three I/O channels are allocated to the integrated core I/O.

	Number of Slots	Bandwidth Per Slot	Bus Width	Bus Speed	Slot Keying
Dedicated 1 GB/s	2	1.0 GB/s	64 bits	133 MHz, 66 MHz or 33 MHz	3.3 Volts

#### Supported I/O Cards

I/O Card	Product Number	Half or Full Slot <sup>1</sup> / Boot Support	Connector Type(s)	Operating Systems	Max Cards / Max Ports	Special Notes
<b>Mass Storage Host Bus Adapters</b>						
PCI 2 Gb/s Fibre Channel	A6795A	Half / Yes	LC	HP UX	2 / 2	
PCI 2 channel Ultra320 SCSI	A7173A	Half / Yes	VHDCI	HP UX, Linux, OpenVMS Windows	2 / 4	Windows supports 1 card / 2 ports

### Configuration

PCI-X Smart Array P600 Serial Attached SCSI (SAS) Controller	337972-B21	Full / Yes	SFF8470	Windows, Linux	1/4 <sup>4</sup>	Supported with external storage only
512MB cache memory upgrade for SA P600 controller	N/A	N/A	N/A	N/A	N/A	
PCI-X 2 channel Smart Array 6402 U320	A9890A <sup>5</sup>	Full / Yes	VHDCI	HP UX, Linux, Windows, OpenVMS <sup>3</sup>	1 /2	
PCI-X 4 channel Smart Array 6404 U320	A9891A <sup>5</sup>	Full / Yes	VHDCI	HP UX, Windows, OpenVMS <sup>3</sup>	1 /4	
PCI X 2 channel 2 Gb /sFibre Channel	A6826A	Half / No	LC	HP UX, Linux, OpenVMS	2 /4	
PCI X 1 channel 2 Gb /sFibre Channel Windows	AB467A	Half / Yes	LC	Windows	2 /2	
PCI X 2 channel 2 Gb /sFibre Channel Windows	AB466A	Half / Yes	LC	Windows	2 /4	
PCI X 266 MHz 1 channel 4 Gb/s Fiber Channel	AB378B	Half / Yes	LC	HP-UX, OpenVMS <sup>10</sup>	2 /2	
PCI X 266 MHz 2 channel 4 Gb/s Fiber Channel	AB379B	Half / Yes	LC	HP-UX, OpenVMS <sup>10</sup>	2 /4	
<b>Local Area Network (LAN) Adapters</b>						
PCI 1 port 1000Base T (gigabit copper)	A6825A	Half / No	RJ-45	HP UX, OpenVMS	2 /2	
PCI-X 1 port 1000Base T (gigabit copper)	AD331A	Half/No	RJ-45	HP UX, OpenVMS <sup>10</sup>	2 /2	
PCI 1 port 1000Base SX (gigabit fiber)	A6847A	Half / No	Duplex SC	HP UX, OpenVMS	2 /2	
PCI-X 1 port 1000Base SX (gigabit fiber)	AD332A	Half/No	Duplex SC	HP UX, OpenVMS <sup>10</sup>	2 /2	
PCI 1 port 10/100Base-TX	A5230A <sup>5</sup>	Half / No	RJ-45	HP UX, OpenVMS	2 /2	
PCI-X 2-port 1000Base-T	A7012A	Half / No	RJ-45	HP UX, OpenVMS	2 /4	
PCI-X 2-port 1000Base-SX	A7011A	Half / No	Duplex SC	HP UX, OpenVMS	2 /4	
PCI 4 port 100Base-TX	A5506B <sup>5</sup>	Half / No	RJ-45	HP UX, Linux, OpenVMS	2 /8	
PCI 1 port Universal FDDI LAN	A3739B	Half / No	FDDI SC	HP UX	2 /2	
PCI 2 port Windows/Linux 1000Base-SX	A9899A	Half / Yes	LC	Linux, Windows	2 /4	
PCI 2 port Windows/Linux 1000Base-TX	A9900A	Half / Yes	RJ-45	Linux, Windows	2 /4	
PCI 1 port 1000Base-T	A7061A	Half / No	RJ-45	Linux, Windows	2 /2	
PCI 1 port 1000Base-SX	A7073A	Half / No	Duplex SC	Linux, Windows	2 /2	

## Configuration

PCI-X 2 port 4x Fabric (HPC) Adapter <sup>2</sup>	AB286C	Half/No	4x Infiniband Copper	HP-UX	2/4	
PCI-X 1-port 2-GbE Fiber Adapter for Linux	A7538A	Half / Yes	LC	Linux RHEL 3 Linux SLES 9	2/2	
PCI-X 4-port 1000Base-T 1-GbE Adapter	AB545A	Half / Yes	RJ-45	HP-UX, OpenVMS	1 / 4	
PCI-X 4-port 1000Base-T 1-GbE Adapter	AD145A	Half / Yes	RJ-45	Linux RHEL 4	1/4	
PCI-X 1-port 10GbE	AD144A	Full/Yes	Duplex LC	Windows	1/1	
<b>Multi-Function Cards (Mass Storage / LAN)</b>						
PCI-X 2-port 1000BT and 2-port U320 SCSI Multifunction adapter	AB290A	Full / Yes	SCSI - LVD/SE LAN - RJ-45	HP-UX, OpenVMS	1/4	
PCI X 2 Gb Fibre Channel/1000Base T	A9782A	Half/Yes	2 LC	HP UX, OpenVMS	2/4	
PCI-X 2Gb Fibre Channel, 1000Base-T HBA	A9784A	Half / Yes	1 LC/ 1 RJ-45	HP-UX, OpenVMS	2/4	
HP PCI-X 2-port 2GB Fiber Channel	AB465A	Half <sup>6</sup> /Yes	RJ-45	HP-UX, OpenVMS	1/1	
HP PCI-X 1-port 4Gb Fibre Channel & 1-port 1000Base-T Adapter	AD193A	Half/Yes	RJ-45	HP-UX, OpenVMS	2/2	
HP PCI-X 2-port 4Gb Fibre Channel & 2-port 1000Base-T Adapter	AD194A	Half/Yes	RJ-45	HP-UX, OpenVMS	2/4	
<b>Wide Area Network (WAN) Adapters</b>						
2 port Programmable Serial Interface (PSI) X.25 / Frame Relay / SDLC	J3525A	Half / No	RS 530, RS 232, V.35, RS 449 or X.21	HP-UX	2 / 4	
<b>Additional Interface Cards</b>						
PCI HyperFabric 2 Fibre	A6386A	Half / No	LC Duplex	HP-UX	2 / 2	
PCI 2D/3D Graphics	AB551A	Full / No	VGA	OpenVMS HP-UX	1/1	
PCI 8 port Serial MUX Adapter	AD278A	No		HP UX	1/8	
PCI 64 port Serial MUX Adapter	AD279A	No		HP UX	1/64	
16-port RS-232 RJ45 Port Module	AD280A <sup>8</sup>	No		HP UX	4 per AD279A	
16-port RS-232 DB25 Port Module	AD281A <sup>9</sup>	No		HP UX	4 per AD279A	

<sup>1</sup> One of the two I/O slots is full length, while one slot will accommodate cards up to 7.5" in length.

<sup>2</sup> A minimum 512MB of system memory per card is required for performance considerations.

<sup>3</sup> Support in V8.2-1 in Q4 Calendar Year 2005.

<sup>4</sup> For Windows the 337972-B21 external port supports a maximum of two (2) MSA50s attached in series.

<sup>5</sup> RAID1 internal HDD connect (must order #0D1 and 2 identical HDDs)

<sup>6</sup> Card can only be installed in the full length slot due to power restrictions

<sup>7</sup> A minimum 1 GB of system memory per card is required for performance considerations.

<sup>8</sup> AD280A #001 Port Module Power Supply, required on Port Module (3) and Port Module (4) connected to an AD279A 64P MUX adapter.

<sup>9</sup> AD281A #001 Port Module Power Supply, required on Port Module (3) and Port Module (4) connected to an AD279A 64P MUX adapter.

<sup>10</sup> OpenVMS minimum version is V8.3.



## Configuration

### Supported Internal Storage Devices

Device	Product Number
<b>Internal Disk Drives</b> (Optional – Maximum 2)	
36GB 15K RPM Ultra320 SCSI Low Profile Hot Plug Disk	AB420A
72GB 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
<b>Removeable Media Drives</b> (Optional – Maximum 1) <sup>1</sup>	
DVD-ROM Drive, Slimline	AB299B
DVD+RW Drive, Slimline	AB350B

<sup>1</sup>**NOTE:** DVD drive required for Windows and OpenVMS configurations. Third party software required to support DVD write with Windows. OpenVMS will support DVD write in a future OS release.

**Integrated Multi-function Core I/O** The integrated multi-function I/O provides core I/O functionality and includes the optional 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; one external port with 68-pin high-density connector and one internal port for integrated disks
- Two USB 2.0 style A ports (USB 1.1 compatible)
- One general purpose serial port with DB-15 connector
- Telnet and web console via 10/100Base TX management LAN (RJ45 connector) requires Management Processor Card.

### Optional Management Processor Functionality (Requires the Management Processor Card)

- 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 configurations
- Support for Integrated Lights Out (iLO) Advanced Pack activation key and license (AB500A). Firmware license installs on the integrated Management Processor 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). Note: Management Processor Card is a prerequisite for Integrated Lights-Out (iLO) Advanced Pack activation key and license.
- The Management Processor Card provides basic graphic capabilities via integrated Radeon 7000 2D graphics chip with 16 MB of on card support. 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 rx1620's Management Processor Card 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 is available with purchase of the optional Management Processor Card, which is supported on Linux, HP UX and Windows

### Internal Disk and Media Drives

- The HP Integrity rx1620 supports up to two internal low profile hot plug Ultra320 SCSI disk drives.
- A dual channel U320 SCSI channel provides one internal channel for connection to up to two internal disks, and one channel for connection to external disks.
- 36 GB 15K, 73 GB 15K, 146 GB 15K and 300 GB 15K hot plug Ultra320 SCSI disks are supported.
- Optional optical media drives include a DVD ROM (AB299A) and DVD+RW (AB350A). A DVD drive is required for all Windows and OpenVMS configurations. Third party software (not included with the AB350A) is required to support DVD write with Windows on AB350A. 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](http://www.docs.hp.com/en/RAID_SM_20050125/CombinedRaidsupportMatrix.htm)

### HP Integrity rx1620 Power Subsystem

The HP Integrity rx1620 provides a high level of integrated power protection.

- Wide ranging input voltage VIN = 100V - 127V & 200V - 240V
- Input line THD < 10%
- Power Factor designed to 0.98 @ 120VAC and 0.92 @ 240VAC
- 80% Efficiency
- Power monitoring and control
- Brownout protection
- Over Current Protection
- Over Voltage Protection
- Over temperature protection

### Configuration

#### AC Power Requirements at Various Configurations

The table below displays the AC power needs of the HP Integrity rx1620 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	1	280	286	1.4
1	8	2	338	345	1.7
2	4	1	383	391	2.0
2	8	2	441	450	2.3

Assumes:

- 1 Intel® Itanium 2® Processor 99W @ 85% max
- I/O power calculated at 75% of 25W per slot
- 2GB DIMMs
- Typical Power Usage
- 2 Hard Disk Drives
- No CD ROM

## Technical Specifications

<b>Server model number</b>	rx1620 <b>NOTE:</b> Two power cords are shipped with each system; one that connects the system to the rack PDU and one that enables direct connection to the wall socket. Localized cords are provided by the regional distribution site.		
<b>Server product numbers</b>	<b>NOTE:</b> Memory, storage, and operating system are not included in the base system and must be purchased separately.		
	HP Integrity rx1620 server 1.6 GHz base system Includes one 1.6 GHz processor with one core (267 MHz system bus, 533 MT/s), core I/O, rack kit and one power supply.		AB431A
	<b>Number of Processors</b>	1-2	
<b>Supported Processors</b>	1.3 GHz Intel Itanium 2 processor AB481A	Cache Floating Point Coprorocessor included	3.0 MB Yes
	1.6 GHz Intel Itanium 2 processor AB482A	Cache Floating Point Coprorocessor included	3.0 MB Yes
<b>System Memory</b>	<b>Minimum memory</b>	512 MB	
	<b>Maximum memory capacity</b>	16 GB	
<b>Internal Disks</b>	<b>Max. disk mechanisms</b>	2	
	<b>Max. disk capacity</b>	600 GB	
<b>Standard Integrated I/O</b>	<b>Ultra320 SCSI-LVD</b>	2 Channels	
	<b>10/100/1000Base-T (RJ-45 connector)</b>	2 Ports	
	<b>RS-232 serial ports (general purpose)</b>	1	
	<b>10/100Base-T management port (RJ-45 connector)</b>	Optional	
	<b>VGA graphics</b>	Optional	
	<b>USB 2.0</b>	2	

## Technical Specifications

I/O Buses and Slots	Total PCI X/PCI Slots; one 2 full length, one shorter length slot (accommodates cards up to 7.5 inch) Both slots are 133-MHz, 64-bit slots on dedicated PCI-X buses
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Maximum I/O Cards See supported I/O table for product specifics	Mass Storage	1-2
	LAN	1-2
	WAN	2
	Multi-Function (Mass Storage / LAN)	1
	Additional Interface Cards	2

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Electrical Characteristics	AC Input power	100-240V 50/60 Hz
	Maximum input power	585W
	Typical input power	440W
	Maximum input current	6 A@100Vrms or 3 A@200Vrms
	Typical BTU	1390

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Site Preparation	Site planning and installation included	No
	<i>NOTE: System is customer installable.</i>	
	Rack depth (in/mm)	26.8 in (680 mm)
	Minimum standalone configuration	29 lb (13.2 kg)
	Maximum standalone configuration	31 lb (14.1 kg)
	Minimum rack configuration	31 lb (14.1 kg)
	Maximum rack configuration	33 lb (15.0 kg)

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### Technical Specifications

<b>Environmental Characteristics</b>	<b>Acoustics</b> (operator/bystander) at 25° C	7.1 Bels LwA
	<b>Operating Temperature</b> (up to 3000 ft/ 900m)*	32° to 95° F (0° to 35° C)
	<b>Non-operating Temperature</b>	-40° to 158° F (-40° to 70° C)
	<b>Maximum rate of temperature change</b>	68° F/hour (20° C/hour) w/disc media
	<b>Operating relative humidity</b>	15% to 80% RH non-condensing
	<b>Non-operating relative humidity</b>	8% to 85% non-condensing
	<b>Operating altitude above sea level</b>	10,000 ft (3000 m) max
	<b>Non-operating altitude above sea level</b>	15,000 ft (4600 m) max

\*NOTE: Max operating temperature range up to 3000 ft (900 m). For higher altitudes de-rate the max temperature by 1° C/1000 ft (300 m) above 3000 ft (900 m).

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<b>Regulatory Compliance</b>	<b>Regulatory Model</b>	RSVLA-0406
	<b>Electromagnetic interference</b>	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
	<b>Safety</b>	CSA Certified, IEC 60950-1

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