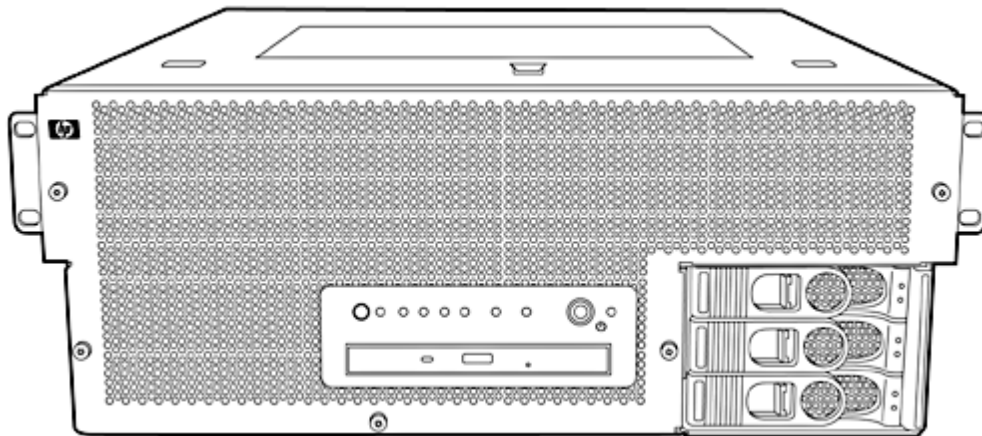


## Overview



## At A Glance

- HP Integrity cx2620 Server Product Numbers
  - HP cx2620 Server with one 1.6GHz/3MB single-core CPU  
AB401A
  - HP cx2620 Server with one 1.4GHz/12MB dual-core  
AB402A

## Standard System Features

- Multiple Operating Environment support (HP-UX 11i version 2, Linux)
- Dual-channel Ultra320 SCSI controller, 2 internal disks on one channel, 1 internal disk on a second channel
- External Ultra320 SCSI port
- 2 x 10/100/1000Base-TX LAN (auto speed sensing, RJ-45 connector)
- Management Processor for remote management and HA monitoring
- Telnet and web console via 10/100Base-TX management LAN (RJ-45 connector)
- Two general purpose RS-232 serial ports
- Three RS-232 serial ports linked to the management processor (multiplexed from a single DB-25 port)
- Factory integration of CPUs, memory, disk drives, removable media, I/O cards
- One-year warranty with next business day on-site

## Standard Features

<b>Minimum System</b>	<ul style="list-style-type: none"> <li>• One 64-bit Itanium 2 CPU: either 1.6GHz/3MB single-core or 1.4Hz/12MB cache dual-core</li> <li>• One GB PC2100 ECC Registered DDR266A SDRAM (4x256MB DIMMs)</li> <li>• Two hot swap power supplies, providing N+1 protection and dual feed input</li> </ul>
<b>Maximum Server Capacities</b>	<ul style="list-style-type: none"> <li>• Two 64-bit Itanium 2 CPUs: Either 1.6GHz/3MB single-core or 1.4GHz/12MB cache dual-core-processor types may not be mixed.</li> <li>• 32 GB PC2100 ECC Registered DDR266A SDRAM</li> <li>• Two hot swap power supplies, providing N+1 protection and dual feed input</li> <li>• Four full size PCI-X/PCI IO adapter cards</li> <li>• One internal DVD ROM or DVD+RW</li> <li>• Three internal hot plug LVD SCSI disks</li> </ul>
<b>Supported Operating Environments</b>	<ul style="list-style-type: none"> <li>• HP-UX 11i V2</li> <li>• Debian GNU/Linux with HP Telco Extensions 2.x</li> <li>• Red Hat Enterprise Linux version 4 Update 4 or later</li> </ul>
<b>Standard System Features</b>	<ul style="list-style-type: none"> <li>• Support for multiple operating environments (HP-UX 11i version 2, Linux)</li> <li>• Dual-channel Ultra320 SCSI controller, 2 internal disks on one channel, 1 internal disk on a second channel</li> <li>• External Ultra320 SCSI port 10/100/1000Base-TX LAN (auto speed sensing, RJ-45 connector)</li> <li>• 10/100/1000Base-TX LAN (auto speed sensing, wake-on capability, RJ-45 connector)</li> <li>• Management Processor for remote management and HA monitoring</li> <li>• Telnet and web console via 10/100Base-TX management LAN (RJ-45 connector)</li> <li>• Two general purpose RS-232 serial ports</li> <li>• Three RS-232 serial ports linked to the management processor (multiplexed from a single DB-25 port)</li> <li>• Factory integration of CPUs, memory, disk drives, removable media, PCI/PCI-X I/O cards</li> <li>• One-year warranty with next business day on-site</li> </ul>
<b>High Availability</b>	<ul style="list-style-type: none"> <li>• N+1 Hot swap, front to rear chassis cooling</li> <li>• Two Hot swap power supplies required, provides N+1 protection and dual feed capability</li> <li>• IPMI monitoring of system health and reporting to host based HA or remote manageability</li> <li>• Management processor with down system diagnostics and remote power down and boot</li> <li>• ECC protected DDR memory</li> <li>• Memory chip spare to overcome single DRAM chip failures</li> <li>• On-line memory page de-allocation</li> <li>• Dynamic Processor resilience and de-allocation</li> <li>• Hot Plug internal disks</li> <li>• Two independent Ultra SCSI channels to internal disks for mirroring across disks and channels</li> <li>• Journal file system for HP-UX</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>• Separate LAN for system management</li> <li>• Password protection on console port</li> <li>• Disablement of remote console ports</li> <li>• SSL encryption on web console</li> </ul>

## Configuration

**CPU Configuration** The HP Integrity cx2620 is a symmetrical multiprocessing (SMP) server supporting up to two high-performance 64-bit Itanium 2 dual-core processors.

- Processor Details**
- 1.4GHz dual-core with 12MB of L3 cache  
Or
  - 1.6GHz single-core with 3MB of L3 cache
  - Single-bit cache error corrections
  - 50-bit physical addressing
  - 64-bit virtual addressing
  - 4 GB maximum page size

**Memory Configuration** HP Integrity cx2620 supports DDR (double data rate) SyncDRAM (synchronous dynamic random access memory) DIMMs with ECC and chip spare protection. The HP integrity cx2620 has twelve DIMM slots, allowing a maximum of 32 GB of total system memory.

### Memory Loading Rules and Performance Guidelines

- Memory must be installed in groups of four DIMMs, also know as quads
- Each quad must consist of equal density DIMMs
- Memory can be ordered in quads or 1 GB (4x256 MB), 2 GB (4x512 MB), 4 GB (4x1 GB), 8 GB (4x2 GB) or 16GB (4x4GB).
- Minimum memory is 1 GB (4x256 MB)
- Maximum memory is 32 GB.
- Memory must be loaded in the specific order 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 bandwidth is 8.5 GB/s, spit across two 4.25GB/s memory buses
- Open page memory latency is less then 80 nanoseconds

## I/O Architecture

The HP Integrity cx2620 I/O architecture utilizes industry standard PCI-X and PCI buses in a unique design for maximum performance, scalability and reliability.

The HP Integrity cx2620 architecture uses eight high-speed I/O channels, each channel providing 0.5 GB/s of sustained I/O throughput. The eight independent I/O channels provide improved I/O performance and failure containment Independence protects each channel from bus hangs or extended latencies due to failure or high bandwidth demands of other I/O. This architecture ensures an aggregated I/O throughput of over 4GB/s between the CPUs, memory, and I/O devices.

Three of the independent 0.5 GB/s I/O channels are dedicated to the core system I/O functions, such as onboard SCSI, IDE, and LAN controllers, as well as the system management processor.

The remaining five independent 0.5GB/s I/O channels are dedicated to the PCI-X sub-system. Each of the four open full size PCI-X slots (full length) has a dedicated 64-bit 133MHz PCI-X bus and their own independent I/O channels.

The first PCI-X slot uses two dedicated I/O channels, resulting in sustained PCI-X bandwidth of 1.0GB/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 slots are keyed for 3.3V I/O cards. 5V cards are not supported in the HP Integrity cx2620.

## Configuration

### Core I/O

- 2 x 10/100/1000Base-T LAN with RJ-45 connector - Supports LAN boot for operating system installation
- Ultra320 SCSI port
- Four USB 2.0 style A ports (USB 1.1 compatible)
- Two general purpose serial ports (Serial A and Serial B)
- VGA graphics

### Management Processor (MP) Functionality

- Dedicated I/O channel on the system's core I/O bus (33MHz, 32-bit PCI) with a private IPMB connection to a separate baseboard management controller
- Dedicated 10/100Base-T LAN console and embedded web console access
- DB-25 serial port - multiplexed (using W cable) into RS-232 ports: local ASCII console, remote/modem console, and general purpose
- Password protected console ports with configurable remote access control
- Console mirroring between all local, modem, LAN, and WEB consoles
- Remote power up and power down control via IPMI commands or simplified system console and control interface
- Event notification to system console - provides connectivity, information, and support for email, pager, and/or HP response centers
- Access to multiple I2C busses for CPU and memory status, fan and temperature status/control, power supply status, subsystem inventory, and LED indicator panel
- Interface to system monitoring and diagnostic hardware via internal IC busses
- Secure Sockets Layer (SSL) security on web console
- Complete sensor data records (SDR), system event log (SEL), field replaceable unit (FRU) inventory, and forward progress logs (FPL) accessible via IPMI commands or simplified system console interface
- Support for IPMI 1.0 via direct serial connection or LAN transport

### System Console Configurations

- - The HP Integrity cx2620's integrated Management Processor provides five methods for console connections
  1. SSL-secured web console accessible through the 10/100Base-T management LAN
  2. Standard telnet connections accessible through the management LAN
  3. Local console access via null-modem serial connection
  4. Remote console access via external modem
  5. VGA graphics console - supported on Linux, and HP-UX

### Internal Disk and Media Drives

- The HP Integrity cx2620 supports up to three internal low profile hot-plug drives
- A dual channel US320 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
- Support by MirrorDisk/UX across disk drives and independent channels
- The Smart Array 6402 SCSI RAID card is available for hardware RAID under the Linux operating system. Currently, the hp factory does not load the operating system in a RAID configuration. Customers should order internal RAID cables (A9827A) and re-load their operating system if internal RAID is desire.
- 73 GB 15K, 146 GB 15K and 300GB 15K hot-plug Ultr320 SCSI disks are supported
- Optional optical media drives include a DVD-ROM (A9919B) and DVD+RW AD348B).

## Configuration

### HP Integrity cx2620 Power Subsystem

- The HP Integrity cx2620 provide a high level of integrated power protection
- N+1 redundant hot swap power supplies (N=1)
- N+1 redundant -48VDC power feed (N=1)
- Power monitoring and control via integrated management processor

*Technical Specifications*

Server model number     cx2620

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Server product number    AB401A, AB402A

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Supported Processors     1.6GHz Intel Itanium2 single core processor  
                                   1.4GHz Intel Itanium 2 dual core processor  
                                   Cache single-core            3MB  
                                   Cache dual-core              12MB  
                                   Floating point                yes, included  
                                   Coprocessor

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System Memory            **Minimum memory**        1GB  
                                   **Maximum memory**       32GB

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

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Standard Integrated I/O   **Ultra320 SCSI-LVD**        2 Channel  
                                   **10/100/1000Base-T**        2  
                                   (RJ-45 connector)  
                                   **RS232 serial ports**         5  
                                   **10/100Base-T**                Yes  
                                   **Management port (RJ-45 connector)**  
                                   **VGA graphics**                Yes  
                                   **USB**                             4

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I/O Buses and Slots       **Total PCI-X/PCI Slots**       4 (Full length)  
                                   All four slots are 133MHz, 64-bit slots on dedicated PCI-X buses capable of 0.5 GB/s throughput, with one capable of 1.0 GB/s throughput.

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## Technical Specifications

PCI I/O Cards (Optional - Max 4 full length)

**NOTE:** Select up to four (4) cards from the list below in any combination unless otherwise noted. All 4 slots are full length.

		HP-UX	Red Hat	
Storage Network Adapters Cards	Dual Port 2Gbps Fibre Channel Adapter	•	•	A6826A
	Dual Port 2Gbps FC and Dual Port 1000BT Adapter	•		AB465A
SCSI Adapter Cards for External Storage	PCI-X Dual-channel Ultra320 SCSI adapter card	•	•	A7173A
RAID Adapters Cards	Smart Array Cache Controller 6402 U320 - For external storage only (Max 3)	•	•	A9890A
Local Area Network (LAN) Adapter Cards	PCI-X Dual Port GigE-TX adapter card for HP-UX and OpenVMS	•		A7012A
	PCI-X Dual Port GigE-TX adapter card for Linux and Windows		•	A9900A
	Single Port GigE-SX adapter card for HP-UX and OpenVMS	•		A6847A
	Single Port GigE-SX adapter card for Linux and Windows		•	A7073A
	PCI-X Dual Port GigE-SX adapter card for Linux and Windows		•	A9899A
	4-port 1000B-T	•		AB545A
	HP PCI-X 133MHz 10GbE SR Fiber Adapter. Max 1	•		AB287A
	Win/Linux 4-port 1000Base-T Gigabit Adapter AD145A requires RHEL AS 4 for Linux support		•	AD145A
	Win/Linux 133MHz 10Gigabit Ethernet SR Fiber Adapter		•	AD144A

Supported Operating Environments	HP-UX 11i V2
	Debian GNU/Linux with HP Telco Extensions
	Red Hat Enterprise Linux version 4 Update 4 or later

Electrical Characteristics	Power supply specification	DC input power	-48VDC
		Nominal input operation range	-40VDC to -60VDC
		Inrush current	25A
		Power supplies	2 required, N+1 Hot swappable
			@-48VDC
	System Power draw	Input power	580 watts - input line
		Typical Heat dissipation	1,826 BTUs/hour
		Input current	12A @ -48VDC

## Technical Specifications

<b>Site Preparation</b>	<b>Site planning and installation included</b>	No
	Chassis depth	20.0 in (508 mm)
	Chassis width	17.32 in (440 mm)
	Chassis height	7.00 in (178 mm)
	Rack depth (inches/mm)	23.6 in (600 mm)
	Rack width (inches/mm)	19.0 in (482 mm)
	Rack height (EIA/inches/mm)	4U/7.0 in (172 mm)
	Weight (lbs/kg) maximum	62 lbs (27.7 kg)
	Weight w/o power & disk removed	49.5lbs (22.1 kg)
<b>Regulatory Compliance</b>	<b>NEBS</b>	NEBS level 3 (as specified in Telcordia SR-3580) NEBS 2000 form factor, Seismic Zone 4
	<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>	UL Listed, CSA Certified, UL GS Mark compliant with EN 60950 and EN 41003

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