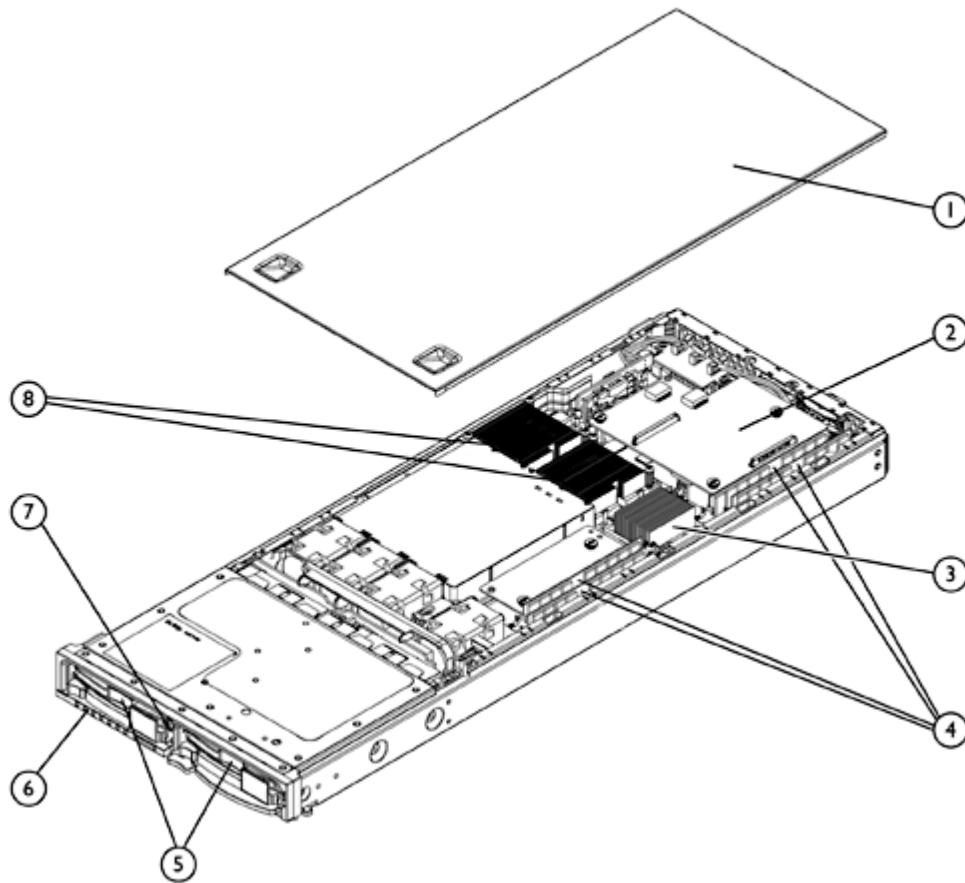


Overview



1. Access Panel
2. Mezzanine Card: 4 GigE ports and 2 FC ports
3. HP zx1 chipset
4. Memory banks 1 and 2 (4 DIMM slots)
5. Up to two Ultra320 hot-plug hard disk drives (optional)
6. Front panel LEDs
7. Power On/Standby Button
8. Up to two Intel Itanium2™ 1.6 GHz 3MB cache processors

Overview

At A Glance

This QuickSpecs provides information for the HP Integrity BL60p server blade only. For more information on HP BladeSystems p-Class Infrastructure and HP BladeSystem p-Class Interconnect Components, please see the following QuickSpecs:

HP BladeSystem p-Class Infrastructure QuickSpecs:

http://h18000.www1.hp.com/products/quickspecs/12330_div/12330_na.HTML and

HP BladeSystem p-Class Interconnect Components QuickSpecs:

http://h18000.www1.hp.com/products/quickspecs/12331_div/12331_na.HTML

- HP Integrity BL60p server blade supporting HP-UX for BladeSystems
- HP's high performance zx1 chipset for Intel Itanium™.
- Supports up to two Intel Itanium 2™ 1.6 GHz/3MB L3 Cache processors.
- PC2100 Registered ECC 133MHz DDR1 memory, 2 x 1 Interleaved Memory 4 DIMM slots, expandable to 8 GB. When the same density DIMMs are loaded in quads the Chip Sparing functionality is automatically enabled. HP's Chip Sparing will logically replace a SDRAM which has experienced a multi-bit error.
- Two (2) embedded Fibre Channel Ports (2-Gb per port)
- Five total network ports:
 - Four (4) PCI-X Gigabit Ethernet embedded ports consisting of two (2) Braodcom 5704 NICs.
 - One additional 10/100T NIC dedicated to Integrated Lights-Out (iLO) Management
- Ultra320 SCSI Drive Cage (standard) supports up to two 1" Ultra320 SCSI hot-plug hard disk drives
- Integrated Lights-Out (iLO) for Integrity remote management (embedded hardware and firmware on system board)
- Plugs vertically into 6U enclosure, up to 8 server blades per enclosure
- Compatible with HP ProLiant Server Blades in a single enclosure
- Integrated Access Tool for server blade management and enhanced server blade documentation including Best Practices and Common Procedures guides
- Protected by HP Services with a three-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives.

Standard Features (Server Blade)

Processors	Itanium 2™ 1.6 GHz/3MB L3 cache 400 MHz FSB Processor	
Upgradeability	Upgradeable to dual processing.	
Cache Memory	3MB Level 3 cache	
Chipset	HP zx1 NOTE: For additional information regarding HP za1 Chipset, please visit: http://h71028.www7.hp.com/enterprise/cache/81326-0-0225-121.html	
Memory	Type	PC2100 DDR SDRAM running at 133MHz and 266MHz transfers/second
	Standard	0 or 4 GB (depending on model)
	Maximum	8 GB
	NOTE: Memory must be installed in pairs. Chip Sparring is enabled if all four DIMMs are the same size/density.	
Network Adapter	Five network ports total: Four (4) PCI-X Gigabit Ethernet ports consisting of two Broadcom 5704s One 10/100 iLO NIC dedicated to management NOTE: Must use a HP BladeSystem p-class server blade enclosure with enhanced backplane (281404-B22, 243564-B22 or 380625-B22). NOTE: For more information on HP BladeSystems p-Class Infrastructure, please see the following QuickSpecs: HP BladeSystem p-Class Infrastructure QuickSpecs: http://h18000.www1.hp.com/products/quickspecs/12330_na/12330_na.HTML	
Expansion Slots	No I/O expansion slots; all I/O features are standard/embedded I/O cable connectors: (2)USB 2.0 ports, and (1) serial console port NOTE: The iLO LAN port and the VGA video ports on the I/O cable are not supported on the HP Integrity BL60p server blade. (2) I/O cables ship with every server blade enclosure NOTE: The HP Integrity BL60p server blade uses the same BladeSystems I/O cable Tested USB devices are listed in the "Options" section of this QuickSpecs	
Integrated Manageability	Integrated Lights-Out (iLO) remote ,management (embedded hardware and firmware) (Supports standard Integrity CLI (Command Line Interface) and BladeSystems Management Functions)	

Standard Features (Server Blade)

Internal Storage	Hard Drives	2 x 36.4 GB Ultra320, 1" drives
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Maximum Internal Storage	292.3 GB (internal drive cage)	2 x 146.8 GB Ultra320, 1" drive
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Fiber Channel on the HP Integrity BL60p server blade	Two standard fiber channel ports are embedded on the HP Integrity BL60p.
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- QLogic-FC Controller
 - Utilizes a QLogic ISP2312 chipset
 - Two ports provide a redundant Fibre Channel connection
 - Fibre Channel Transfer rate up to 2 Gb/s per port
-

Compatible SAN	HP Integrity BL60p server blades are optimized for StorageWorks arrays:
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- EVA, XP48, XP128, XP256, XP512, XP1024, XP10000, XP12000, HP StorageWorks Modular Smart Array 1000 and 1500 cs, HP StorageWorks Disk System (DS) 2405HP and HP StorageWorks Virtual Arrays.

HP Integrity BL60p server blades are compatible with select 3rd party SANs (please see server blade storage page for more details:

<http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/storage.html>

Standard Features

Management Software	HP Integrity Essentials	HP offers a comprehensive set of integrated tools for seamless management of HP Integrity servers. HP Systems Insight Manager (SIM) and HP Integrity Essentials help you control IT infrastructure with unified management of your HP Integrity server environment. http://www.hp.com/go/integrityessentials
	HP Systems Insight Manager	HP Systems Insight Manager (SIM) is the foundation for HP's unified server-storage management strategy. It is a multiple operating system, hardware level management product that supports HP Integrity, HP ProLiant and HP 9000 servers. HP SIM is easily extensible, integrating other HP management products and value-add plug-ins such as HP Integrity Essentials. For more details on HP Systems Insight Manager visit http://www.hp.com/go/hpsim
	Software Deployment	<ul style="list-style-type: none">• HP Ignite-UX for installation and deployment of the HP-UX operating system• HP Software Distributor-UX for software and patch management• Update-UX automates updates to HP-UX operating environments.• Software Package Builder packages software into SD-UX packages
	Configuration Management	<ul style="list-style-type: none">• HP System Management Homepage/System Administration Manager for HP-UX system administration• HP Integrity Essentials Virtualization Manager provides comprehensive, integrated configuration and management of all Virtual Server Environment elements• HP Integrity Essentials Capacity Advisor for ongoing capacity planning simulating placement of application workloads• HP-UX webmin-based Admin allows easy plug-in of open source management tools• HP-UX Bastille provides security hardening and lockdown• Security Patch Check efficiently improves system security• WBEM for consistent management
	Workload Management	<ul style="list-style-type: none">• HP Process Resource Manager manages allocation of resources (optional)• HP-UX Workload Manager automatically manages resources based upon SLOs (optional)• HP Integrity Essentials Global Workload Manager manages resources in multi-server Virtual Server Environments• OpenView GlancePlus and Performance Agent for performance monitoring

OS Support

HP HP-UX 11i version 2 Foundation Operating Environment (Standard)

HP HP-UX 11i version 2 Enterprise Operating Environment (Optional)

NOTE: Each HP Integrity BL60p server blade includes a two processor License-to-Use for HP-UX Foundation Operating Environment.

NOTE: For more information about HP-UX go to:

<http://www.hp.com/go/hp-ux>.

Standard Features

Intelligent Manageability	<ul style="list-style-type: none">Integrated Lights-Out for Integrity (iLO)Dedicated LAN ConnectivityDedicated embedded manageability processors (BMC & MP)Web Graphical User Interface (GUI) - Access iLO from anywhere using any of standard browsersTelnet accessVirtual Power and reset controlRemote text console - Operating system-independent, text-based console to display and control remote host server activities such as shutdown or start-up- remotely view HPUX consoleCommand line and scripting interfaces - Flexible operation, configuration and maintenanceSSL encryption - All data transmitted between iLO processors and client browsersEmbedded System HealthiLO and server diagnostics - Detailed status, logsAutomatic IP Configuration via DHCP/DNSRemote Firmware UpdateSNMP identificationIPMI over LANIntegrated Lights-Out (iLO) for Integrity Advanced (Included)Directory Services Integration for iLO User Management using LDAP based Directory ServicesSecure Shell (SSH encryption) support for secure access to iLOiLO Group Actions for managing multiple systems using HP Systems Insight ManagerFull suite of HP-UX diagnostic utilitiesHP Systems Insight Manager integrationAdvanced Configuration and Power Interface Specification Compliant (ACPI)
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Availability	<ul style="list-style-type: none">Intel Itanium2™ Enterprise Class ProcessorItanium Enhanced Machine Check Architecture (MCA) with Extensive ECC - a comprehensive set of features and protocols for handling random system errorsProcessor cache parity / ECCSystem bus ECCData poisoning on double-bit errorsHardware error logging for root cause analysisDPR (dynamic processor resiliency) for HPUXDual-Port Fibre Channel for redundant SAN connectionHP-UX Mirror-UX for disc mirroring with HP HP-UX 11i version 2 Enterprise Operating EnvironmentECC Memory with Chip SparingNetwork adapter teaming (network fault tolerance, transmit load balancing, switch-assisted load balancing)
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Security	<ul style="list-style-type: none">Power-on passwordAdministrator's passwordIntegrated Lights-Out for Integrity has 19 customizable user accounts and SSL encryptionIntegrity Integrated Lights-Out LAN access methods can be individually enabled and disabled.
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Standard Features

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging. HP products supported through Factory Express include: a wide array of servers and storage: HP Integrity, HP ProLiant & HP ProLiant Server Blades, HP Integrity Server Blade, HP BladeSystem, HP 9000 servers as well as the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to <http://www.hp.com/go/factory-express>.

Service and Support

HP Premium Services are available for the HP Integrity BL60p server blade. These services offer integrated hardware and software support to help customers maintain a robust, stable, flexible IT environment that enhances their business agility. They encompass today's most popular products, including UNIX, Windows, and Linux servers, as well as mobile technology, network devices, desktops, printers, storage solutions, management software and more.

All of these Premium offerings let customers leverage HP Services multi-vendor, multi-technology experience and expertise; global reach with delivery capabilities from 600 offices in 160 countries; single-point-of-contact problem diagnosis and resolution; advanced remote monitoring and performance enhancement technologies; and proven support management processes based on IT best practices.

HP Services professionals can help customers identify the Premium support offering that fits their business and technology goals. HP Premium Hardware and Software Services include:

- [Mission Critical Partnership](#) - custom services to help you achieve your strategic business goals and fulfill your most demanding service-level commitments through continual service-quality improvements
- [HP Critical Service](#) - comprehensive preventive services and super-responsive support to maximize availability and minimize downtime risk exposure in mission-critical environments
- [HP Proactive 24 Service](#) - collaborate with HP Services professionals to improve operational effectiveness, performance, and stability through joint services planning and 24x7 hardware/Software Support
- [Support Plus 24](#) - 24x7x365 onsite hardware and over-the-phone Software Support for HP and selected multi vendor products, plus software updates at substantial subscription savings
- [Support Plus](#) - the economical choice for single-source hardware/Software Support delivered during extended business hours, as well as cost-saving software updates

This product is covered by a global limited warranty and supported by HP Services:

NOTE: Server Blade Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.

NOTE: Server Blade Enclosure Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses

Standard Features

- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support.
- System Management, Performance Services and Mission Critical Support Solution

NOTE: For more information regarding the Blade service portfolio visit our worldwide web site on the internet at: <http://h20219.www2.hp.com/services/cache/81725-0-0-225-121.html>

Models

Pre-Configured Models

NOTE: The Pre-configured model is designed for ease of ordering and deployment. This model has no available expansion slots (no processor, memory, or drive bays) for options, but can be factory installed in an enclosure with a Factory Express order. The HP-UX operating environment can be loaded on the hard drive, using HP Ignite UX or an USB DVD drive. The HP-UX Operating Environment can be factory loaded on the Drive-0 hard drive with the appropriate ordered options.. Upgrades to HP-UX Enterprise Operating Environment (HP-UX EOE) can be factory load the HP-UX EOE to be loaded on Drive-0.

Integrity BL60p 1.6GHz-3MB, 4GB, (2P) (2)36GB SCSI AD106A	Processor(s)	Two (2) Intel Itanium2™ processors: 1.6 GHz (2 standard)
	Cache Memory	3MB Level 3 cache
	Memory	4 GB 2-way interleaved PC2100 DDR SDRAM running at 133MHz
	Network Adapter (Standard)	Four (4) PCI-X Gigabit Ethernet embedded ports consisting of two (2) Broadcom 5704 controllers One additional 10/100 NIC dedicated to iLO Management
	Storage Controller (Standard)	Two (2) FC Qlogic ISP2312 controllers (2 Gb ports) One (1) LSI U320 controller for hot plug U320 SCSI drives
	Hard Drives	Two (2) 36.4 GB 15,000 rpm U320 SCSI hard drive (1")
	Internal Storage	Up to 293.6 GB maximum (with optional, U320 SCSI 1" hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Server Blade Enclosure (full height server blade)
	Operating Environment	HP HP-UX 11i version 2 Foundation Operating Environment

NOTE: Option 0D1 installs in a server blade enclosure when ordered with Factory Express.; which is installed in a HP Rack 10000 series on a shock pallet.

NOTE: Please use BL p-Class sizing tool to determine power based on your configuration <http://h30099.www3.hp.com/configurator/calc/Power%20Calculator%20Catalog.xls>.

Base Models

NOTE: The Base model allows for the most configuration flexibility. This model does not support factory configuration or integration. This model requires the customer (or reseller) to assemble the options on site, after which the HP-UX OE can be loaded on the hard drive (using HP IgniteUX or a USB DVD drive). The base model also includes an HP-UX Foundation OE two processor License-to-use, which can be upgraded to HP-UX Enterprise OE two processor License-to-use.

Integrity BL60p 1.6GHz/3MB AD000A	Processor(s)	One (1) Itanium2™ 1.6 GHz (Up to 2 supported)
	Cache Memory	3MB Level 3 cache
	Memory	None
	Network Adapter (Standard)	Four (4) 1-Gigabit Ethernet embedded ports One additional 10/100 NIC dedicated to iLO Management
	Storage Controller (Standard)	Two (2) Fibre Channel 2-Gigabit per second Ports
	Hard Drives	None
	Internal Storage	Up to 293.6 GB maximum (with optional, U320 SCSI 1" hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Server Blade Enclosure (full height blade server)
	Operating Environment	HP-UX Foundation Operating Environment 2 Processor License-to-Use

Models

NOTE: Base Models do not support factory configuration or integration and requires customer and/or reseller to assemble options on site. The HP-UX operating environment can be loaded on the hard drive, using HP Ignite UX or an USB DVD drive.

NOTE: Please use BL p-Class sizing tool to determine power based on your configuration
<http://h30099.www3.hp.com/configurator/calc/Power%20Calculator%20Catalog.xls>.

Options

Processor	HP BL60p Intel Itanium2M 1.6 GHz/3MB Processor Option Kit NOTE: If 2 processors are desired for base models, please select one AD115A.	AD115A
Operating System	HP-UX 11i v.2 Upgrade to Enterprise Operating Environment MEDIA NOTE: Choose Foundation or Enterprise OE media corresponding to license. Choose Instant Ignition option 0D1 to pre-load the appropriate OE on the Pre-Configured models ONLY. The Base Model is BTO (build to order and the customer must install HP-UX. (HP-UX cannot be factory loaded on the base model). Choose one of the localization options to determine startup language for instant ignition and HP-UX documentation. One copy of the DVD media is required for each site.	BA535AC
	HP-UX 11i v.2 Foundation Operating Environment media for Itanium servers NOTE: Kit includes: DVD media; Factory Integrated (pre-loads HP-UX 11i v.2; online diagnostics and drivers; HP-UX 11i version 2; Select appropriate language option for system messages and documentation.	B9106AA
	HP-UX 11i v.2 Enterprise Operating Environment media for Itanium servers NOTE: Kit includes: DVD media; Factory Integrated (pre-loads HP-UX 11i v.2; online diagnostics and drivers; HP-UX 11i version 2; Select appropriate language option for system messages and documentation.	B8482AA
Memory (SDRAM DIMMs)	HP Integrity 1 GB PC2100 DDR Memory Module/Kit (2 x 512 MB)	AD195A
	HP Integrity 2 GB PC2100 DDR Memory Module/Kit (2 x 1 GB)	AD196A
	HP Integrity 4 GB PC2100 DDR Memory Module/Kit (2 x 2 GB)	AD197A
NOTE: When selecting the base models, one of the above memory modules (pair) must be selected. A maximum of two modules are supported. NOTE: No memory is included in the Pre-Configured models. You must choose at least one of the memory modules (pair). A maximum of two modules are supported. NOTE: Memory DIMMs must be installed in modules (pairs).		
Hard Drives	Ultra320 SCSI - Universal Hot Plug	
	HP 146GB U320 10K Universal HDD	286716-B22
	HP 72GB U320 15K Universal HDD	286778-B22
	HP 36GB U320 15K Universal HDD	286776-B22

Options

Tape Libraries	<p>HP StorageWorks MSL6000 Tape Library</p> <p>Ultrium 960 technology</p> <p>MSL6030, 1 drive, 30 slots, Ultrium 960, with embedded FC router AD608A</p> <p>MSL6060, 2 drive, 60 slots, Ultrium 960 AD610A</p> <p>MSL6060, 2 drive, 60 slots, Ultrium 960, with embedded FC router AD611A</p> <p>Ultrium 460 technology</p> <p>MSL6030, 1 drive, 30 slots, Ultrium 460 AD598A</p> <p>MSL6030, 1 drive, 30 slots, Ultrium 460, with embedded FC router AD600A</p> <p>MSL6060, 2 drive, 60 slot Ultrium 460, with embedded FC router AD604A</p> <p>NOTE: Please reference the MSL6000 Tape Library QuickSpecs at <u>http://www.hp.com/go/automation</u> for additional information needed to create a complete solution; reference current compatibility information at <u>http://www.hp.com/go/ebs</u></p> <p>HP StorageWorks Virtual Library Systems</p> <p>HP StorageWorks 6105 Virtual Library System AF728A</p> <p>HP StorageWorks 6510 Virtual Library System AF729A</p> <p>HP StorageWorks 6840 Virtual Library System AG051A</p> <p>HP StorageWorks 6109 Virtual Library System AG167A</p> <p>HP StorageWorks 6518 Virtual Library System AG168A</p> <p>HP StorageWorks 6870 Virtual Library System AG169A</p> <p>NOTE: Please reference the Virtual Library Systems QuickSpecs at <u>http://www.hp.com/go/automation</u> for additional information needed to create a complete solution. Reference current compatibility information at <u>http://www.hp.com/go/ebs</u></p>	
HP StorageWorks Modular Smart Array 1000	<p>HP StorageWorks Modular Smart Array 1000 201723-B22</p> <p>NOTE: Please see the StorageWorks Modular Smart Array 1000 QuickSpecs for additional options and configuration information at: <u>http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML</u></p>	
HP StorageWorks Modular Smart Array 1500 cs	<p>Modular Smart Array 1500 Controller Shelf AA986A</p> <p>NOTE: Please see the StorageWorks Modular Smart Array 1500 cs QuickSpecs for additional options and configuration information at: <u>http://www.hp.com/go/MSA1500cs</u></p>	
HP StorageWorks Virtual Array Family	<p>Please see the QuickSpecs for additional options and configuration information at: <u>http://www.hp.com/go/storageworks</u></p>	

Options

HP StorageWorks Enterprise Virtual Array	Please see the QuickSpecs for additional options and configuration information at: http://www.hp.com/go/storageworks	
	EVA4000 2C1D Array	AD554A
	EVA6000 2C4D Array	AD556A
	EVA8000 2C2D Array 60Hz	AD518A
	EVA8000 2C2D Array 50Hz	AD519A

HP StorageWorks XP	Please see the QuickSpecs for additional options and configuration information at: http://www.hp.com/go/storageworks
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USB Options	MultiBay USB Cradle	DC373A
	MultiBay DVD +/- RW Drive	DC189B
	MultiBay 24X DVD/CD-RW Combo Drive	DC364B
	MultiBay 8x DVD-ROM Drive	DC352B
	24x Max CD-ROM Drive	DC351B
	256MB HP Drive Key II (USB 2.0)	PH657A

HP Rack 5000 Series (Metallic Carbonite)	HP 5642 Rack - Unassembled	358254-B21
	NOTE: Please see the HP Rack 5642 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12074_na/12074_na.HTML	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower	

HP Rack 10000 G2 Series (Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10642 G2 (42U) Rack Cabinet, without door - Shock Pallet	AF005A
	10642 G2 (42U) Rack Cabinet, with Extension, without door - Shock Pallet	AF006A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Crated	AF012A
	10636 G2 (36U) Rack Cabinet , with Extension - Shock Pallet	AF013A
	10636 G2 (36U) Rack Cabinet, without door - Shock Pallet	AF014A
	10636 G2 (36U) Rack Cabinet, with Extension, without door - Shock Pallet	AF015A
	10642 G2 (42U) Rack Cabinet - Pallet	AF016A
	NOTE: Please see the Rack 10000 G2 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12402_na/12402_na.HTML	
NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .		

Options

HP Rack 10000 Series (Graphite Metallic)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	HP S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	HP 10842 (42U, 800mm wide) Rack Cabinet - Pallet	257415-B21
	HP 10842 (42U, 800mm wide) Rack Cabinet - Shock Pallet	257415-B22
	HP 10647 (47U) Rack Cabinet - Pallet	245160-B21
	HP 10647 (47U) Rack Cabinet - Shock Pallet	245160-B23
	HP 10642 (42U) Rack Cabinet - Pallet	245161-B21
	HP 10642 (42U) Rack Cabinet - Shock Pallet	245161-B22
	HP 10642 (42U) Rack Cabinet - Crated	245161-B23
	HP 10636 (36U) Rack Cabinet - Pallet	245162-B21
	HP 10636 (36U) Rack Cabinet - Shock Pallet	245162-B22
	HP 10636 (36U) Rack Cabinet - Crated	245162-B23
	HP 10622 (22U) Rack Cabinet - Pallet	245163-B21
	HP 10622 (22U) Rack Cabinet - Shock Pallet	245163-B22
	HP 10622 (22U) Rack Cabinet - Crated	245163-B23

NOTE: xxxxx-B21 (pallet) used to ship empty racks shipped on a truck. xxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels). xxxxx-B23 (crated) used for air shipments of empty racks.

NOTE: It is mandatory to use a shock pallet in order to ship racks with equipment installed.

NOTE: Please see the Rack 10000 QuickSpecs for additional part number and Technical Specifications such as height, width, depth, weight, and color:

http://h18000.www1.hp.com/products/quickspecs/10995_na/10995_na.HTML

NOTE: For additional information regarding Rack Cabinets, please see the following URL: <http://www.hp.com/go/rackandpower>.

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	348373-B21
	NOTE: For a complete list of Monitors please view the following URL: http://www.hp.com/go/kvm	
	TFT7600 Rackmount Keyboard Monitor	AG052A
	1U Rack Keyboard & Drawer (Carbon)	257054-001

NOTE: For additional information regarding Rack Options, please see the following URL: <http://www.hp.com/go/rackandpower>

Options

HP KVM Switch Options	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm .	
	HP 1x 4 USB/PS2 KVM Switch, TT	371301-D71
	HP 1x 4 USB/PS2 KVM Switch, RM	371302-B21
	HP PS2 KVM Cable with audio, 6', 2-pack	371730-B21
	HP USB KVM Cable with audio, 6', 2-pack	371729-B21
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm .	

HP Serial Console Server Options	HP 16 Port Serial Console Server	AF101A
	HP 48 Port Serial Console Server	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A
	NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm .	
NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm .		

Service and Support Offerings (HP Care Pack Services)	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 13 Hour, 1-Year	HA101A1
	Next Business Day On-site Service, 5-Day x 13 Hour, 3-Years	HA101A3
	4-Hour On-Site Service, 5 Day x 13 Hour Coverage, 1 Year	HA103A1
	4-Hour On-Site Service, 5 Day x 13 Hour Coverage, 3 Years	HA103A3
	4-Hour On-Site Service, 7 Day x 24 Hour Coverage, 1 Year	HA104A1
	4-Hour On-Site Service, 7 Day x 24 Hour Coverage, 3 Years	HA104A3
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 1 Year	HA105A1
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Year s	HA105A3
	Software Telephone Support	
	Software Phone-In Service, 7-Day x 24 Hour, 2 Hour Call Back, 1 Year	HA106A1
	Software Phone-In Service, 7-Day x 24 Hour, 2 Hour Call Back, 3 Years	HA106A3
	Software Support	
	Software Support, 7-Day x 24 Hour, 2 Hour Call Back, 1 Year	HA107A1
	Software Support, 7-Day x 24 Hour, 2 Hour Call Back, 3 Years	HA107A3

Options

Software Update Support

Software Update Support 7-Day x 24 Hour, 1 Year HA108A1

Software Update Support, 7-Day x 24 Hour, 3 Years HA108A3

Support Plus

Support Plus, 1 Year HA109A1

Support Plus, 3 Years HA109A3

Support Plus 24, 1 Year HA110A1

Support Plus 24, 3 Years HA110A3

HP Proactive Service

HP Proactive Service, 24 Hour, 1 Year HA111A1

HP Proactive Service, 24 Hour, 3 Year HA111A3

Installation Services

Hardware Installation and Network Configuration, 1 Year HA113A1

HP Critical Service

Hardware Only, Critical Service, 7-Day x 24 Hour, 1 Year HA112A1

Hardware Only, Critical Service, 7-Day x 24 Hour, 3 Years HA112A3

Memory

HP Integrity BL60p Server Blade (2P Models)

DIMM installation Rules:

1. All DIMMs must be PC2100 DDR 133-MHz SDRAM DIMMS.
2. Both DIMM slots in a memory bank must be populated.
3. Both DIMM slots in a memory bank must be identical.
4. Processor 1 memory bank 1 must always be populated.

NOTE: Two-way memory interleaving is enabled when an identical pair of DIMMs is installed.

NOTE: Chip Sparing is automatically enabled with 4 DIMMs of the same size/density installed.

Standard Memory

4096 MB PC2100 DDR SDRAM DIMM installed (4 x 1024 MB DIMM) running at 133-MHz

Standard Memory Replaced with Optional Memory

Up to 8192 MB of PC2100 DDR SDRAM DIMM memory is available with the removal of standard memory and the installation of optional PC2100 DDR SDRAM DIMM memory expansion modules/kits.

Memory		Slot			
		1	2	3	4
Standard	4096 MB	1024 MB	1024 MB	1024 MB	1024 MB
Maximum	8192 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

- HP Integrity 1 GB PC2100 DDR SDRAM Memory Module Kit (2 x 512 MB) AD195A
- HP Integrity 2 GB PC2100 DDR SDRAM Memory Module Kit (2 x 1 GB) AD196A
- HP Integrity 4 GB PC2100 DDR SDRAM Memory Module Kit (2 x 2 GB) AD197A

Technical Specifications

System Unit	Dimensions (HxWxD)	1.69 x 10.29 x 28.00 in (4.29 x 26.14 x 71.1 cm)		
	Weight (maximum)	9.43 kg (20.8 lb)		
	Temperature Range*	Operating	50° to 95° F (10° to 35° C)	
		Shipping	-40° to 140° F (-40° to 60° C)	
		Storage	-4 to 140° F (-20° to 60° C)	
	Relative Humidity** (non-condensing)	Operating	10% to 90%	
		Shipping	10% to 90%	
		Storage	10% to 95%	
	Wet Bulb Temperature	Maximum	86° F (30° C)	

*NOTE: All temperature ratings shown are for sea level. An altitude derating of 1° C per 304.8 m (1.8° F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3 KPa/4.4 psia.

**NOTE: Storage maximum humidity of 95% is based on a maximum temperature of 45° C (113° F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

Hot Pluggable Ultra320 SCSI Hard Drive	36.4 GB 15K 286776-B22	Capacity	36419.2 MB	
		Height	1.0 in (2.54 cm)	
	Width	4.0 in (10.16 cm)		
	Interface	Ultra320 SCSI		
	Transfer Rate Synchronous (Maximum)	320 MB/s		
	Seek Time (typical reads, including settling)	Single Track	0.4 ms	
		Average	3.8 ms	
		Full-Stroke	8.0 ms	
	Physical Configuration	Rotational Speed	15,000 rpm	
		Bytes/Sector	512	
Operating Temperature	Logical Blocks	71,132,000		
		50° to 95° F (10° to 35° C)		

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.