Overview

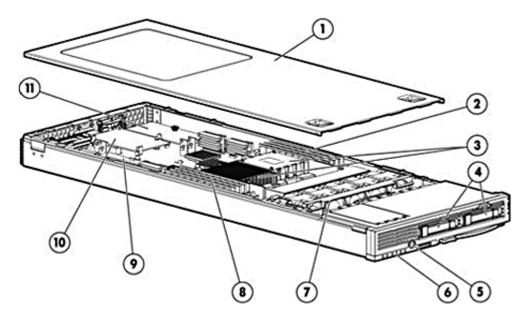|	
1. Access Panel	7. Redundant Fan Module
2. Processor 2 Memory Banks C and D	8. Processor 1 Memory Banks A and B
3. Up to two AMD Opteron™ 2000 Series processors (shown here with 1 processor installed)	9. Smart Array E200i Controller cache module
4. Up to 2 small form factor (SFF) SAS or SATA hot plug hard disk drives (optional)	10. Optional Dual Port Fibre Channel Adapter (QLogic-based or Emulex-based)
5. Power On/Standby Button	11. Optional NIC Adapter (single function or multifunction Gigabit)
6. Front panel LEDs	

What's New

- Support for 36 GB and 72 GB 15K DP Serial Attached SCSI (SAS) SFF Hot Plug Hard Drives
- Support for 72 GB and 146 GB10K DP Serial Attached SCSI (SAS) SFF Hot Plug Hard Drives

At A Glance

This QuickSpecs provides information for the HP ProLiant BL25p G2 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_na/12330_na.HTML and HP BladeSystem p-Class Interconnect Components QuickSpecs: http://h18000.www1.hp.com/products/quickspecs/12331_na/12331_na.HTML

The HP ProLiant BL25p Generation 2 server blade delivers maximum dual-processor performance, enterprise manageability and availability, and superior server design to the datacenter.

- Processor:
  - Up to two AMD Opteron 2000 Series processors
  - Supports up to two AMD Opteron processor Model 2220 (2.8 GHz) featuring 1MB Level 2 cache memory per core
  - Supports both standard (95W) and low power (68W) versions of AMD Opteron 2000 series processors
  - Processors are connected through 1 GHz HyperTransport™ links

Overview

- ○ ServerWorks HT-1000 and HT-2100 chipsets
- **Memory:**
  - ○ Up to 32 GB of PC2-5300 Registered DDR2 (667 MHz) memory, 8 DIMM slots
  - ○ Advanced ECC memory support
  - ○ Supports 2:1 memory interleaving
- **Storage Controller:**
  - ○ Integrated Smart Array E200i Controller with 64 MB cache
  - ○ Supports RAID 0 and 1
  - ○ Optional 128MB battery-backed write cache (BBWC) module for internal storage data protection
- **Internal Drive Support:**
  - ○ Up to 2 small form factor (SFF) SAS or SATA hot plug hard disk drives (support for SATA hard drives via Factory Integration only)
- **Network Controller:**
  - ○ Two (2) embedded NC373i Multifunction Gigabit Server Adapters with TCP/IP Offload Engine for Microsoft Windows
  - ○ One (1) additional 10/100 NIC dedicated to iLO 2 management
- **Optional Mezzanine Card support:**
  - ○ Supports (1) Fibre Channel card:
    - Dual Port Fibre Channel Mezzanine (2-Gb) options for SAN connectivity (Choice of Emulex or QLogic)
  - ○ Supports (1) networking card for two (2) additional Ethernet network ports, choose from the following:
    - HP NC374m PCI Express Dual Port Multifunction Gigabit Server Adapter for HP BladeSystem with TCP/IP Offload Engine for Microsoft Windows
    - HP NC320m PCI Express Dual Port Gigabit Server Adapter for HP BladeSystem
- **USB Ports:**
  - ○ One (1) internal USB 2.0 connector for security key devices and USB drive keys
  - ○ I/O cable with two (2) USB 2.0 ports, one (1) video port, one (1) iLO 2 port and one (1) kernel debug port. The cable was specifically designed to aid in initial server image deployment and ships with every HP BladeSystem p-Class server blade enclosure
- **Redundancy:**
  - ○ The HP BL25p G2 server features five (5) integrated fans for sufficient cooling. The redundant fan design allows for uninterrupted server operations
- **Operating Systems:**
  - ○ Supports Windows, Linux, Solaris, and VMware ESX Server
- **Form Factor:**
  - ○ The HP ProLiant BL25p G2 server blade plugs vertically into an HP BladeSystem p-Class server blade enclosure.
  - ○ HP BladeSystem p-Class server blade enclosures with enhanced backplane components might be required depending on which HP ProLiant server blade model is selected. Please visit the enclosure compatibility matrix at http://www.hp.com/go/bladesystem/enclosure/compatibility
- **Management:**
  - ○ Integrated Lights-Out 2 (iLO 2) Standard Blade Edition (includes virtual KVM and graphical remote console at no additional cost)
- **Enclosures:**
  - ○ The HP BladeSystem p-Class server blade enclosure is 6U (10.5-inches) in height, 19-inches wide and holds up to 8 HP ProLiant BL25p G2 server blades plugged vertically.
- **Warranty:**
  - ○ Protected by HP Services and a worldwide network of HP Authorized Channel Partners. Three-year parts, 3 Year Labor and 3 Year on-site limited global warranty. Certain restrictions and exclusions apply. SATA hard drives have a one year warranty.

QuickSpecs

Standard Features

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: http://h71028.www7.hp.com/ERC/downloads/4AA0-7325ENW.pdf

Processors	AMD Opteron™ processor Model 2220 (2.8 GHz, 95W)
	AMD Opteron processor Model 2218 (2.6 GHz, 95W)
	AMD Opteron processor Model 2216 (2.4 GHz, 95W)*
	AMD Opteron processor Model 2210 (1.8 GHz, 95W)*
	Low Power AMD Opteron processor Model 2216 HE (2.4 GHz, 68W)
	Low Power AMD Opteron processor Model 2214 HE (2.2 GHz, 68W)
	Low Power AMD Opteron processor Model 2212 HE (2.0 GHz, 68W)*
	Low Power AMD Opteron processor Model 2210 HE (1.8 GHz, 68W)

NOTE: AMD Opteron 2000 Series processors are 64-bit, dual-core, and support AMD Virtualization™ and DDR2 memory technology. AMD Opteron 2000 Series processors are connected through 1 GHz HyperTransport™ links.

NOTE: *Offered via Factory Integration only.

Upgradeability Upgradeable to dual processing (2 processors)

Cache Memory 1MB Level 2 cache memory per core (2MB total)

Chipset ServerWorks HT-1000 and HT-2100

Memory

Type	PC2-5300 Registered DDR2 DIMMs (667 MHz)
Standard (Depending on model)	1 GB (2 x 512 MB)
	2 GB (2 x 1 GB)
Maximum	32 GB (8 x 4 GB)

NOTE: Memory must be installed in pairs. For additional memory configuration guidelines, see "Memory" section of this HP BL25p G2 QuickSpecs.

Network Adapter Two (2) embedded NC373i Multifunction Gigabit Network Adapters

One (1) additional 10/100 NIC dedicated to iLO 2 Management

NOTE: Must use a HP BladeSystem p-Class server blade enclosure with enhanced backplane components to utilize all four possible NIC's (HP P/N's 281404-B22, 243564-B22 or 380625-B22).

Expansion Slots No PCI slots; all features are integrated

NOTE: Additional network and fibre channel connectivity is available via optional mezzanine cards.

I/O cable connectors:

(2) USB 2.0 ports, (1) video port, (1) iLO 2 port and (1) kernel debug port

(2) I/O cables ship with every HP BladeSystem p-Class server blade enclosure

Tested USB devices (keyboard, mouse, floppy) are listed in the "Options" section of this QuickSpecs.

Standard Features

Integrated Manageability   Integrated Lights-Out 2 (iLO 2) Standard Blade Edition (integrated on motherboard)

- Virtual KVM based remote console
- Virtual media (single server, browser based access only)
- Remote Serial Console
- Virtual Power Button Control
- Virtual Unit ID control
- Integrated Remote Console
- Dedicated network connectivity
- Embedded system health
- Browser, command line (SM-CLP) and scripted access
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell security (SSH)
- OS independent hardware health status
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privilege
- Single sign-on from HP BladeSystem Onboard Administrator

Storage Controller   Smart Array E200i Controller

- 64MB memory module supports RAID 0 and 1
- Supports SAS and SATA disk drives
- Available upgrades: 128MB battery-backed write cache (BBWC) module

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Maximum Internal Storage (internal drive cage)

Hot Plug Serial Attach SCSI (SAS)	292GB SAS	2 x 146GB Serial SCSI
Hot Plug Serial ATA (SATA)	240GB SATA	2 x 120GB Serial ATA

Graphics   Integrated ATI RN-50 1280 x 1024 x 16M color (32 MB DDR1 memory)

Graphics Resolution Supported   Resolution Color Depths

Depths 1280 x 1024, 64k, 256,16
1024 x 768, 16.7M, 64k, 256, 16
800 x 600, 16.7M, 64k, 256, 16
640 x 480, 16.7M, 64k, 256, 16

QuickSpecs

HP ProLiant BL25p Generation G2 (G2) Server Blade

Standard Features

Fiber Channel on the HP ProLiant BL25p G2 server blade

The HP ProLiant BL25p G2 supports one (1) optional fiber channel adapter for SAN connectivity. Customers are offered a choice of either a QLogic-based or Emulex-based fiber channel adapter. Both adapters are mezzanine circuit boards which connect directly to the server blade system board. These optional fiber channel adapters are available via option kits and must be ordered separately.

- QLogic-based
    - Utilizes a QLogic ISP2312 chipset
    - The HP QLogic-based dual port Fibre Channel Adapter (P/N 361426-B21) is compatible with the HP ProLiant BL20p G3, BL20p G4, BL25p G2, and BL45p G2 server blades. It cannot be used with HP ProLiant BL25p G1, BL35p, or BL45p G1 server blades
    - Includes two small form factor pluggable transceivers with LC connectors for installation into the Patch Panel 2, CGESM or GbE2 Interconnect Switch (with the Storage Connectivity Kit)
- Emulex-based
    - Utilizes an Emulex "Thor" chipset
    - The HP Emulex-based dual port fibre channel HBA (P/N 394757-B21) is compatible with the HP ProLiant BL20p G3, BL20p G4, BL25p G2, and BL45p G2 server blades. It cannot be used with HP ProLiant BL25p G1, BL35p, or BL45p G1 server blades
    - There are no SFP's included in the Emulex mezzanine kit for use with ProLiant BL p-Class Fibre Channel pass-through interconnects. If you require SFPs for use with an Emulex mezzanine and a FC pass through interconnect please order an SFP option kit (P/N 397577-B21) which will provide 2 FC SFPs per option kit
- Two ports on each Dual-port Fibre Channel Mezzanine Card provide a redundant Fibre Channel connection to each server blade
- Supports up to 2 Gb/s Fibre Channel equipment

Compatible SAN

HP ProLiant BL25p G2 server blades are optimized for StorageWorks MSA, EVA, and XP arrays.

- HP ProLiant BL25p G2 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

ProLiant Essentials Foundation Pack Software for the ProLiant BL Server

HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible environment to centrally manage servers, storage and other infrastructure devices across multiple operating system platforms.

Through a single management view, HP SIM provides core management services that include device discovery and identification, event views, health monitoring, inventory data collection, software version control and reporting. HP SIM is built on industry standards and is extensible with value-added ProLiant Essentials, Integrity Essentials and Storage Essentials software to meet individual management needs. For more details on HP SIM visit http://www.hp.com/go/hpsim.

HP SIM provides organizations with the following benefits:

- Simplifies and consolidates infrastructure lifecycle management using task and query based functionality
- Provides the foundation for infrastructure automation and virtualization
- Enables IT management based on business processes not hardware platforms
- Lowers infrastructure maintenance cost and frees resources for innovation

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Standard Features

- Maximizes resource utilization with virtualization technologies
- Provides a central point of integration between infrastructure and Enterprise management tools such as HP OpenView

ProLiant Essentials Rapid Deployment Pack	Rapid Deployment Pack (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the Altiris Deployment Solution and ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP CD includes 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with blade servers. For more information, visit http://www.hp.com/servers/rdp.
Insight Management Agents	Insight Management Agents should be installed on all HP servers to present system instrumentation, health and configuration information into HP Systems Insight Manager and the HP System Management Homepage. The HP System Management Homepage aggregates systems data from Insight Management Agents and other HP management tools, providing a consolidated browser-based interface for managing individual servers,
	Insight Management Agents and The HP System Management Homepage are included on ProLiant Support Packs, and can also be installed using the server profiles provided with the ProLiant Essentials Rapid Deployment Pack. For additional information about the Management Agents and the HP System Management Homepage please visit the management Web site at http://www.hp.com/servers/manage
Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
ROMPaq, support software, and configuration utilities	The latest drivers and firmware fully optimized and tested for your ProLiant server and options, available on the RDP Media kit, SmartStart or downloadable from Software and Drivers download pages, linked from the SmartStart website at http://www.hp.com/go/support.
Insight Diagnostics	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.
	NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials

Standard Features

Optional ProLiant
Essentials Value Packs

HP Insight Control management suites and most HP ProLiant Essentials will include one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.

Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs:

- **Insight Control Environment for BladeSystem** - is based on HP Systems Insight Manager and ProLiant Essentials software, and brings the value of Insight Control to ProLiant customers by delivering comprehensive health and performance monitoring, remote control, vulnerability scanning and patch management as well as flexible deployment and power management through an integrated installation package and streamlined licensing. For more information, visit: http://www.hp.com/go/ice
- **Rapid Deployment Pack** (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP disc includes 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with HP servers. For more information, visit: http://www.hp.com/servers/rdp.
- **Server Migration Pack - Universal Edition** - Upgrading, replacing, or virtualizing your existing server? Effortlessly transition to new virtual or physical HP ProLiant servers or BladeSystem with automated, accurate and affordable migration of OS, application and data. SMP Universal automates the manual processes required for migrating servers between physical or virtual platforms, whether migrating to VMware or Microsoft virtual machines. SMP Universal allows all of the following:
    - ○ Physical to ProLiant
    - ○ Physical to virtual
    - ○ Virtual to virtual
    - ○ Virtual to ProLiant
- **Virtual Machine Management Pack** - Get the most out of server virtualization by unifying the management of physical and virtual servers in HP Systems Insight Manager. The Virtual Machine Management Pack plug-in provides central management and control of VMware and Microsoft virtual machines and provides physical host to virtual machine association.

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

Optional Remote
Management

- Integrated Lights-Out Select Pack - upgrades the Integrated Lights-Out processor with scripted and command line virtual media (floppy, CD/DVD, USB key), historical power reporting and enterprise security (directory services and two-factor authentication).

Standard Features

SmartStart	SmartStart is a tool that simplifies single server setup, providing a rapid way to deploy reliable and consistent server configurations. SmartStart 7.60 and later can now deploy all HP ProLiant BL25p G2 server blades, using the I/O port with an attached USB CD-ROM device. To obtain a copy of SmartStart for your blade server, redeem the coupon that is included with your Blade server or order your copy from the SmartStart web site. For more information, please visit the SmartStart Web site at http://www.hp.com/servers/smartstart. SmartStart version supported (minimum): SmartStart 7.60

OS Support	Windows Server 2003, Web edition Windows Server 2003, Server/Standard edition (32 & 64 bit editions) Windows Server 2003, Enterprise edition (32 & 64 bit editions) Red Hat Enterprise Linux SUSE Linux Enterprise Server Solaris 10 (32 & 64 bit editions) VMware ESX Server 3 **NOTE:** For a complete and up-to-date listing of supported OSs and versions, please visit our OS Support Matrix at: http://www.hp.com/go/supportos. **NOTE:** For an up-to-date listing of the latest drivers available for the HP ProLiant BL p-Class, please see: http://h18004.www1.hp.com/support/files/server/us/family/model/5342.html. **NOTE:** For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at: http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html. **NOTE:** For more Linux OS support & certification information, please visit our the ProLiant & Bladesystem Server Linux matrix http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html

Supported Software Options	VMware Virtualization Software **NOTE:** For more information on HP's Certified and Supported HP ProLiant Servers, please visit the VMware Server Support Matrix at: http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html

Availability	• Dual Port Fibre Channel Mezzanine Card (optional) for redundant SAN connection • Two hot plug SAS/SATA hard drive bays and integrated RAID (Smart Array E200i) controller on every server blade (Battery-backed write cache is optional) • Redundant ROM on every server blade • Advanced ECC Memory support on every server blade - Advanced ECC can actually correct a multi-bit error (up to 4 bits) that occurs within one memory chip • Redundant fan design on every server blade - The HP ProLiant BL25p G2 server features five (5) integrated fans for sufficient cooling. A single fan can fail without interrupting server operations indefinitely • Network adapter teaming (network fault tolerance, transmit load balancing, switch-assisted load balancing)

Security	Power-on password Administrator's password Integrated Lights-Out has 12 customizable user accounts and SSL encryption Integrated Lights-Out can be disabled via a Global Setting

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 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.

HP Enterprise Configurator

The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

NOTE: Server Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html
NOTE: Server Blade Limited Warranty includes 3 year Parts, 1 year Labor, 1-year on-site support. This warranty supports the HP ProLiant 35p Server Blades.
NOTE: Server Blade Enclosure Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.
NOTE: Server Blade Interconnect Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.
NOTE: The p-Class SAN switch limited warranty is unique to the SAN switch which includes 1 year warranty that is upgradeable to 3 years via Care Pack

HP services provide total care and support expertise with committed response designed to meet your IT and business needs.

The HP Care Pack services ProLiant BL p-Class server blades, cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.

HP Care Pack services for HP BladeSystem p-Class server blade enclosure covers the enclosure including patch panels, HP supported Ethernet interconnects, power enclosure with power supplies and power distribution.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vendor support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support

Standard Features

offer to help you speedily deploy and maximize system uptime.

Recommended Service - Simplify ProLiant solution implementation, maintenance and management.

- **Support Service** - 4-Hour Response Coverage, 3-Year, 24 x 7, Same Business Day
- **Deployment Service** - Installation and Start Up for HP BladeSystem Infrastructure

Enhanced Service - Optimize service level to increase IT performance and availability

- **Support Service** - HP Proactive BladeSystem Service, 1-Year
- **Deployment Service** - Enhanced Network Installation and Start-up for HP BladeSystem Switches

Installation & Start-Up service for HP BladeSystem Infrastructure plus HP BladeSystem Enhanced Network Installation and Start-UP as per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

For a complete listing of service offerings and information visit:
http://www.hp.com/services/bladesystemservices
http://www.hp.com/go/proliant/carepack

Models

Dual-Core Models

HP ProLiant BL25p G2 2220 DC, 2GB (1P) 438211-B21 ProLiant BL25p G2 2218 2GB (1P) 408666-B21 ProLiant BL25p G2 2216 HE 2GB (1P) 408665-B21 ProLiant BL25p G2 2214 HE 2GB (1P) 408664-B21 ProLiant BL25p G2 2210 HE 1GB (1P) 408663-B21	Processor(s)	(1) AMD Opteron™ processor Model 2220 (2.8 GHz, 95W) Processor Option Kit (1) AMD Opteron processor Model 2218 (2.6 GHz, 95W) (1) Low Power AMD Opteron processor Model 2216 HE (2.4 GHz, 68W) (1) Low Power AMD Opteron processor Model 2214 HE (2.2 GHz, 68W) (1) Low Power AMD Opteron processor Model 2210 HE (1.8 GHz, 68W)
	Cache Memory	1MB Level 2 cache memory per core (2MB total)
	Memory One of the following depending on model	2 GB (2 x 1 GB) PC2-5300, Registered DDR2-667 1 GB (2 x 512 MB) PC2-5300, Registered DDR2-667
	Network Adapter	Two (2) embedded NC373i Multifunction Gigabit Network Adapters; one (1) additional 10/100 NIC dedicated to iLO 2 management
	Storage Controller	Smart Array E200i Controller with 64MB (optional 128MB battery-backed write cache module available)
	Hard Drives	(2) SFF SAS/SATA drive bays; no hard drives ship standard
	Internal Storage	Up to 292GB SFF SAS (with optional hot plug hard disk drives) Up to 120GB SFF SATA (with optional hot plug hard disk drives)
	Optical Drive	None
	Form Factor	Up to 8 HP BL25p G2 server blades plug vertically an HP BladeSystem p-Class server blade enclosure. Please visit the enclosure compatibility matrix at http://www.hp.com/go/bladesystem/enclosure/compatibility

QuickSpecs

HP ProLiant BL25p Generation G2 (G2) Server Blade

Configuration Information Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above.
Configure-to-order servers must start with a CTO Blade.
NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.

NOTE: FIO indicates that this option is only available as a Factory Installable Option.

Step 1: Base Server Blade Configuration

Models	HP ProLiant BL25p G2 CTO Blade	404839-B21

Configurable Model ships with:

Two (2) embedded NC373i Multifunction Gigabit Network Adapters plus one (1) additional 10/100 NIC dedicated to iLO 2 management

Integrated Smart Array E200i controller
NOTE: Controller cache module selection is required. Select either the standard 64 MB cache module or the optional 128 MB battery-backed write cache (BBWC) module in step 2 below.

Two small form factor (SFF) SAS or SATA hot plug hard drive bays

Integrated Lights-Out 2 Standard Blade Edition

Step 2: Choose Required Options (one of the following from each list unless otherwise noted)

Processors	AMD Opteron™ processor Model 2220 (2.8 GHz, 95W) Processor Option Kit, FIO Base NOTE: If 2 processors are desired, select one 438213-L21 and one 438213-B21.	438213-L21
	AMD Opteron processor Model 2218 (2.6 GHz, 95W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 409380-L21 and one 409380-B21.	409380-L21
	AMD Opteron processor Model 2216 (2.4 GHz, 95W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 409381-L21 and one 409381-B21.	409381-L21
	AMD Opteron processor Model 2210 (1.8 GHz, 95W), Option Kit, FIO Base NOTE: If 2 processors are desired, select one 415619-L21 and one 415619-B21.	415619-L21
	Low Power AMD Opteron processor Model 2216 HE (2.4 GHz, 68W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 415620-L21 and one 415620-B21.	415620-L21
	Low Power AMD Opteron processor Model 2214 HE (2.2 GHz, 68W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 409383-L21 and one 409383-B21.	409383-L21
	Low Power AMD Opteron processor Model 2212 HE (2.0 GHz, 68W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 415621-L21 and one 415621-B21.	415621-L21
	Low Power AMD Opteron processor Model 2210 HE (1.8 GHz, 68W) Option Kit, FIO Base NOTE: If 2 processors are desired, select one 432811-L21 and one 432811-B21.	432811-L21

Configuration Information Factory Integrated Models

Memory	HP 1GB REG PC2-5300 2x512MB 1RANK Kit	408850-B21
	HP 2GB REG PC2-5300 2x1GB 1RANK Kit	408851-B21
	HP 4GB REG PC2-5300 2x2GB 2RANK Kit	408853-B21
	HP 8GB REG PC2-5300 2x4GB 2RANK Kit	408854-B21
	NOTE: Must be installed in pairs. For additional memory configuration guidelines, see "Memory" section of this HP BL25p G2 QuickSpecs.	
Communications	64 MB Cache - FIO Only	405102-B21
	128MB Battery-Backed Write Cache with Battery Housing	346914-B21
	NOTE: Supports the Smart Array E200i Controller.	

Step 3: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "options" section below. For server blade enclosures, interconnect options, and power subsystem options; please see the following QuickSpecs:

HP BladeSystem p-Class Infrastructure QuickSpecs:
http://h18000.www1.hp.com/products/quickspecs/12330_na/12330_na.HTML

and HP BladeSystem p-Class Interconnect Components QuickSpecs:
http://h18000.www1.hp.com/products/quickspecs/12331_na/12331_na.HTML

And/or refer to the "Options" section below.

Options

Communications	HP NC320m PCI Express Dual Port Gigabit server adapter for HP BladeSystem	405095-B21
	Or upgrade to:	
	HP NC374m PCI Express Dual Port Multifunction Gigabit server adapter for HP BladeSystem	405094-B21
	NOTE: There are two mezzanine adapter card connectors on the HP BL25p G2 motherboard. There is a dedicated networking connector which supports one (1) optional Ethernet NIC mezzanine adapter card, either the HP NC320m PCI Express Dual Port Gigabit server adapter or the HP NC374m PCI Express Dual Port Multifunction Gigabit server adapter. The other connector(s) is dedicated for the optional, fibre channel mezzanine card adapter.	

Fibre Channel Adapters	HP QLogic-based dual port Fibre Channel Adapter	361426-B21
	NOTE: Includes two small form factor pluggable transceivers with LC connectors for installation into the Patch Panel 2, CGESM or GbE2 Interconnect Switch (with the Storage Connectivity Kit.)	
	HP Emulex-based dual port Fibre Channel Adapter for p-Class BladeSystem	394757-B21
	NOTE: SFPs for use with pass through SAN switches not included with the Emulex-based Fibre Channel Adapter. If SFPs are required, please order the SFP option kit (P/N 397577-B21) which includes 2-2Gb SFPs per option kit.	
	HP 2-2Gb SFP for Fibre Channel pass through kit	397577-B21
	NOTE: Must select if SFP for use with pass through SAN switches is required when ordering Emulex based Fibre Channel Mezzanine card for HP p-Class BladeSystem (P/N 394757-B21).	

HP Insight Control and ProLiant Essentials Offerings	**Insight Control Environment for BladeSystem**	
	HP Insight Control Environment for BladeSystem, No Media 1-Server License including 1 year of 24x7 Technical Support and Updates	453484-B21
	NOTE: Contains 1 license for each of RDP, PMP, VPM, IPM and iLO Select. Includes one year of 24 x 7 HP Software Technical Support and Update Service.	
	NOTE: For additional License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.HTML	
	ProLiant Essentials Value Packs	
	NOTE: Electronic licensing options are available for Insight Control suites and select ProLiant Essentials software products. Please see the appropriate Insight Control and ProLiant Essentials QuickSpecs for additional information.	
	Rapid Deployment Pack	
	ProLiant Essentials Rapid Deployment Pack No Media 1-Server License including 1 year of 24x7 Technical Support and Updates	452151-B21
	NOTE: This license allows 1 server to be deployed and managed via RDP. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.	
	ProLiant Essentials BL p-Class Server Blade Enclosure with Enhanced Backplane Components and RDP Software Option Kit - 8 server	281404-B22
	NOTE: This license allows 8 servers to be deployed and managed. Only available with the purchase of ProLiant BL p-Class server blade enclosure (Blade Enclosure QS only)	

Options

NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.HTML

Server Migration Pack - Universal Edition

HP Server Migration Pack - Universal Edition, No Media, Physical / Virtual to ProLiant Single Migration License, including 1 year of 24x7 Technical Support **NOTE:** This license allows 1 physical to ProLiant or virtual to ProLiant migration. Customer will receive a printed license entitlement certificate and documentation via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service	460750-B21
HP Server Migration Pack - Universal Edition, No Media, Physical / Virtual to Virtual Single Migration License, including 1 year of 24x7 Technical Support **NOTE:** This license allows 1 physical to virtual or virtual to virtual migration. Customer will receive a printed license entitlement certificate and documentation via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service.	460753-B21
HP Server Migration Pack - Universal Edition, No Media, 1-Year Unlimited Migration License, including 1 year of 24x7 Technical Support **NOTE:** This license allows unlimited migrations (physical to ProLiant, physical to virtual, virtual to virtual, and virtual to ProLiant) for one year. Customer will receive a printed license entitlement certificate and documentation via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service	460756-B21

NOTE: For additional Server Migration Pack - Universal Edition License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12855_div/12855_div.HTML

Virtual Machine Management Pack

ProLiant Essentials Virtual Machine Management Pack, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates **NOTE:** Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service..	452153-B21

NOTE: For additional ProLiant Virtual Machine Management Pack License Kits please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12328_div/12328_div.HTML
NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to http://www.hp.com/servers/proliantessentials or the various ProLiant Essentials Value Pack product QuickSpecs for more information.
NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.

Remote Management

NOTE: Electronic licensing options are available for Insight Control suites and select ProLiant Essentials software products. Please see the appropriate Insight Control and ProLiant Essentials QuickSpecs for additional information.

ProLiant Essentials Integrated Lights-Out Select Pack

ProLiant Essentials Integrated Lights-Out Select Pack, No Media, 1-Server License	452158-B21

Options

Featuring: sophisticated remote control and security features for HP BladeSystem servers and ProLiant ML/DL servers in text console environments.
NOTE: For additional ProLiant Essentials Integrated Lights-Out Packs please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.HTML

HP Insight Control Linux Edition for HP BladeSystem	HP Insight Control Linux Edition - MEDIA KIT NOTE: This optional Media pack CD contains the ISO image for the HP Insight Control Linux Edition management appliance (see support servers below under "Management appliance (host) supported servers"). Servers must be acquired separately. For information on HP ProLiant Servers please visit: http://h18000.www1.hp.com/products/quickspecs/North_America/11070.html NOTE: This Media pack is optional because the latest ISO image and latest updates may be downloaded at no cost from: http://www.hp.com/go/controltower (click on Download button from this page).	412956-B22
	HP Insight Control Linux Edition 1.6 -No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates NOTE: This license allows one (1) server blade to be deployed and managed via HP Insight Control Linux Edition.	452155-B21
	HP Insight Control Linux Edition 1.6,No Media, 8-Server License, including 1 year of 24x7 Technical Support and Updates NOTE: This license allows eight (8) server blades to be deployed and managed via HP Insight Control Linux Edition.	452156-B21
	HP Insight Control Linux Edition 1.6, No Media, Flexible-Quantity License, including 1 year of 24x7 Technical Support and Updates NOTE: For use with multiple servers (minimum of 5). This part number allows you to specify the license quantity. When ordering this part number, the quantity ordered will be the number of licenses embedded in a single activation key. A single kit containing that key is then delivered to you.	452157-B21
Processor	AMD Opteron™ processor Model 2220 (2.8 GHz, 95W) Processor Option Kit	438213-B21
	AMD Opteron processor Model 2218 (2.6 GHz, 95W) Option Kit	409380-B21
	AMD Opteron processor Model 2216 (2.4 GHz, 95W) Option Kit	409381-B21
	AMD Opteron processor Model 2210 (1.8 GHz, 95W), Option Kit	415619-B21
	Low Power AMD Opteron processor Model 2216 HE (2.4 GHz, 68W) , Option Kit	415620-B21
	Low Power AMD Opteron processor Model 2214 HE (2.2 GHz, 68W), Option Kit	409383-B21
	Low Power AMD Opteron processor Model 2212 HE (2.0 GHz, 68W), Option Kit	415621-B21
	Low Power AMD Opteron processor Model 2210 HE (1.8 GHz, 68W), Option Kit	432811-B21
	NOTE: AMD Opteron 2000 Series processors are 64-bit, dual-core, and support AMD Virtualization™ and DDR2 memory technology. AMD Opteron 2000 Series processors are connected through 1 GHz HyperTransport™ links.	

QuickSpecs

HP ProLiant BL25p Generation G2 (G2) Server Blade

Options

Memory (SDRAM DIMMs)	HP 1GB REG PC2-5300 2x512MB 1RANK Kit	408850-B21
	HP 2GB REG PC2-5300 2x1GB 1RANK Kit	408851-B21
	HP 4GB REG PC2-5300 2x2GB 2RANK Kit	408853-B21
	HP 8GB REG PC2-5300 2x4GB 2RANK Kit	408854-B21

NOTE: Must be installed in pairs. For additional memory configuration guidelines, see "Memory" section of this HP BL25p G2 QuickSpecs.

Hard Drives

Serial Attached SCSI (SAS) SFF Hot Plug

HP 72GB 3G SAS 15k SFF DP HDD	418371-B21
HP 72GB 3G SAS 15K SFF SP HDD	431935-B21
HP 36GB 3G SAS 15K SFF DP HDD	418369-B21
HP 36GB 3G SAS 15K SFF SP HDD	431933-B21
HP 146GB 3G SAS 10K SFF DP HDD	418367-B21
HP 146GB 3G SAS 10K SFF HDD	431958-B21
HP 72GB 3G SAS 10K SFF DP HDD	384842-B21
HP 72GB 3G SAS 10K SFF SP HDD	375861-B21
HP 36GB 3G SAS 10K SFF SP HDD	375859-B21

NOTE: SAS drives have a 3 year warranty.
NOTE: Please see the SAS Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:
http://h18000.www1.hp.com/products/quickspecs/12244_na/12244_na.HTML

Serial-ATA (SATA) SFF Hot Plug

HP 120GB 1.5G SATA 5.4K SFF HDD	431786-B21
HP 60GB 1.5G SATA 5.4K SFF HDD	379306-B21

NOTE: SATA drives have a 1 year warranty. Please see the SATA Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:
http://h18000.www1.hp.com/products/quickspecs/11940_na/11940_na.HTML

Controller Cache	128 MB Battery-Backed Cache Enabler	346914-B21

NOTE: Supports the Smart Array E200i Controller.

HP BladeSystem p-Class Other Options	HP BladeSystem p-Class Diagnostic Station	230743-B21

NOTE: The Diagnostic Station allows access to the HP ProLiant p-Class server blades and the BL p-Class interconnect switch outside of the server blade enclosure. The option provides power and a data interface so that "offline" upgrade and diagnostic functions may be performed.

HP StorageWorks Modular Smart Array 1500 cs	HP StorageWorks Modular Smart Array 1500	AA986A

NOTE: Please see the StorageWorks Modular Smart Array 1500 cs QuickSpecs for additional options and configuration information at:
http://www.hp.com/go/MSA1500cs

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QuickSpecs

Options

HP StorageWorks Options	HP StorageWorks Fibre Channel Mezzanine Host Bus Adapter	394588-B21
	NOTE: Support HP ProLiant BL25p/45p Server Blades	

Cluster Options	ProLiant Cluster Starter Kit	364023-B22
	NOTE: For additional information regarding the ProLiant Cluster Starter Kit please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11935_na/11935_na.html	
	HP HA/F200 for Entry SAN Cluster	364026-B22
	NOTE: For additional information regarding the ProLiant Cluster for Entry Level SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11932_na/11932_na.html	
	ProLiant Cluster HA/F500 for the Enterprise SAN	364024-B21
	NOTE: For additional information regarding the ProLiant Cluster HA/F500 for Enterprise SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11933_na/11933_na.html	
	NOTE: For configuration/certification options for the HP Parallel Database Cluster for Oracle RAC please go to: http://www.hp.com/solutions/highavailability/oracle	
	HP Serviceguard for Linux ProLiant Cluster, A.11.18 (2 license version - Red Hat EL 4&5, SUSE SLES10)	305199-B27
	HP Serviceguard for Linux, A.11.18 (single license version - Red Hat EL 4&5, SUSE SLES10)	307754-B27
	HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
	HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003
	NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_na/11518_na.html	

USB Options	HP USB 2-Button Optical Mouse (Carbonite)	DC172B
	HP USB 04 Standard Keyboard	DT528A#ABA
	USB 2.0 4-port HUB	DG954A
	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	HP 256MB USB 2.0 Floppy Drive Key	442084-B21
	External USB 2.0 Multi-Bay II Cradle	PA509A
	Multibay II 9.5mm DVD Drive	PA849A

HP Rack 5000 Series (Graphite Metallic)	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.	

Options

HP Rack 10000 G2 Series (Graphite Metallic)	10647 G2 (47U) Rack Cabinet - Pallet	AF031A
	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
	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
	10622 G2 (22U) Rack Cabinet - Pallet	AF021A
	10622 G2 (22U) Rack Cabinet - Shock Pallet	AF022A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet	AF041A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet	AF042A

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.

HP Rack 10000 Series (Graphite Metallic)	HP S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22

NOTE: Server Blade Enclosures must be field integrated into the 10842 racks. Factory integration of Server Blade Enclosures into the 10842 is not supported.

	HP 10647 (47U) Rack Cabinet - Shock Pallet	245160-B23
	HP 10622 (22U) Rack Cabinet - Crated	245163-B23

NOTE: xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels). xxxxxx-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.

Options

Monitors and Keyboards	TFT7210R Rack Mounted 17" Monitor	348373-B21
	TFT7600 Rackmount Keyboard Monitor	AG052A
	1U Rackmount Keyboard with USB	AG072A

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

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
	BladeSystem p-Class KVM Interface Adapter	AF100A

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.

Service and Support Offerings (HP Care Pack Services)

NOTE: The HP Care Pack service part numbers below for HP BladeSystem p-Class server blades, cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UD187E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UD188E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UD189E

NOTE: The HP Care Pack service part numbers below for HP BladeSystem p-Class server blade enclosure covers the enclosure including patch panels, HP supported Ethernet interconnects, power enclosure with power supplies and power distribution.

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	HC031E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HC032E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	HC033E

NOTE: The HP Care Pack service part numbers below covers the HP BladeSystem Brocade and McData SAN Switches.

Hardware Services On-site Service

Options

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UC007E
Hardware Installation, Electronic	U5988E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, (24 port) Electronic	UE438E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UC008E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UC009E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UC023E

Installation & Start-up Services

HP Installation & Startup Service for HP BladeSystem Infrastructure	UC905E

NOTE: provides for an integrated hardware and software implementation that includes remote service planning, onsite deployment of hardware and software, installation verification testing and customer orientation. Hardware deployment covers the installation of a single BladeSystem enclosure that include server blades (up to 16), Ethernet network interconnect, and power options. Software deployment covers the installation and configuration of HP Systems Insight Manager (SIM), HP Rapid Deployment Pack (RDP), and deploy up to two operating system editions of either Windows or Linux, using scripted operating system installation software.

Installation and Start Up Service for HP BladeSystem	UE604E
ProLiant BL p-Class Blade Server Hardware Installation, Electronic	UA219E
HP BladeSystem p-Class Enclosure and Server Blade Hardware Installation, Electronic	U4971E
Installation and Start-up of Rapid Deployment Pack, Electronic	U5683E

NOTE: Provides for the installation on a Customer supplied server designated as a Deployment Server. Includes the deployment of a single server. This new server will be deployed using either one of the pre-configured scripts or an image. In addition, the service will provide for the capture and storage of the configuration of the newly deployed server and orientation on product usage. To be delivered during standard office ours, standard office days.

Provides for the Installation and Start-up of Rapid Deployment Pack Implementation of Rapid Deployment Pack (Basic) (Electronic)	UA042E
HP ProLiant Essentials Vulnerability and Patch Management Pack Installation and Startup Service. (Electronic)	UC929E

NOTE: Service coverage: onsite installation of the Vulnerability and Patch Management (VPM) software on a customer designated server, configuration of the VPM software to acquire security patches, enabling the VPM software to scan up to five (5) systems, applying the security patches to the designated servers, generating a report from VPM that shows the vulnerability assessment results, and providing customer with an orientation to the software.

Provides for the Installation and Start-up of System Insight Manager (Electronic)	UA041E
Provides for the Installation and Start-up of System Insight Manager (Electronic)	UA040E

NOTE: For more information, customer/resellers can contact
http://www.hp.com/hps/carepack/services/

Software Operating Environment Care Packs

Microsoft Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic)	U8169E
Red Hat Software Operating Environment Software Telephone 9x5 - 10 incident (Electronic)	U3402E
SUSE Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic)	U9615E

ProLiant Essentials Operating Environment, - 5 Day, 8x5,1 year, 3 incident (Electronic)   U8222E

Software Operating Environment Care Packs

NOTE: For more information, customer/resellers can contact
http://www.hp.com/hps/carepack/services/

HP Proactive BladeSystem Service Care Pack

1 Year, HP Proactive BladeSystem Service   UG858E

NOTE: For more information, customer/resellers can contact
http://www.hp.com/services/proactivebladeservice

QuickSpecs

Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".
DIMM Installation Rules:

1. All DIMMs must be PC2-5300 Registered DDR2 DIMMs (667 MHz.)
2. Both DIMM slots in a memory bank must be populated.
3. Both DIMMs in a memory bank must be identical.
4. Processor 1 memory bank A must always be populated.
5. DIMM banks are active only when the corresponding processor socket is populated.
6. If installing only one bank on a processor, populate the bank physically farthest from the processor.
7. If mixing DIMM sizes on the same processor, the largest capacity DIMMs must be populated in the bank physically farthest from the processor. The smallest capacity DIMMs must be populated in the bank physically nearest the processor.
8. For optimal performance in most applications, populate the first memory bank for every populated processor socket.

HP ProLiant BL25p G2 Server Blade (1P Model)
Standard Memory
1024-MB (2 x 512 MB) or 2048-MB (2 x 1024 MB) (depending on model) of PC2-5300, Registered DDR2-667 DIMMs.

Standard Memory Plus Optional Memory
Up to 25600-MB or 26624-MB (depending on model) of PC2-5300, Registered DDR2-667 DIMMs is available with the installation of optional PC2-5300, Registered DDR2-667 DIMM memory expansion kits.

Standard Memory Replaced with Optional Memory
Up to 32768-MB of PC2-5300, Registered DDR2-667 DIMMs. Memory is available with the removal of standard memory and the installation of optional PC2-5300, Registered DDR2-667 DIMM memory expansion kits.
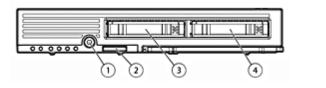
Memory		Slot							
		1A	2A	3B	4B	5C	6C	7D	8D
Standard	1024 MB	512 MB	512 MB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	2048 MB	1024 MB	1024 MB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	25600 MB	4096 MB	4096 MB	512 MB	512 MB	4096 MB	4096 MB	4096 MB	4096 MB
Optional	26624 MB	4096 MB	4096 MB	1024 MB	1024 MB	4096 MB	4096 MB	4096 MB	4096 MB
Maximum	32768 MB	4096 MB	4096 MB	4096 MB	4096 MB	4096 MB	4096 MB	4096 MB	4096 MB

Following are memory options available from HP:
HP 1GB REG PC2-5300 2x512MB 1RANK Kit — 408850-B21
HP 2GB REG PC2-5300 2x1GB 1RANK Kit — 408851-B21
HP 4GB REG PC2-5300 2x2GB 2RANK Kit — 408853-B21
HP 8GB REG PC2-5300 2x4GB 2RANK Kit — 408854-B21

Storage

1		Power On/Standby button
2		Local I/O cable connector*
3-4		Two (2) SFF SAS or SATA Hot Plug Hard Drives

NOTE: *The local I/O connector is used with the local I/O cable to perform server blade configuration and diagnostic procedures.

Drive Support

SFF SAS Hard Drives Hot Plug

	Quantity Supported	Position Supported	Controller
72 GB 15,000 rpm SAS SFF SP 36 GB 15,000 rpm SAS SFF SP 146 GB 10,000 rpm SAS 72 GB 10,000 rpm SAS SFF SP 36 GB 10,000 rpm SAS SFF SP	2	3-4	Integrated Smart Array E200i Controller

SFF SATA Hard Drives Hot Plug

	Quantity Supported	Position Supported	Controller
120 GB 5,400 rpm SATA 60 GB 5,400 rpm SATA	2	3-4	Integrated Smart Array E200i Controller

Power Specifications

To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: http://www.hp.com/go/bladesystem/powercalculator

Technical Specifications

System Unit	Dimensions (HxWxD)	1.69 in (4.29 cm) x 10.29 in (26.14 cm) x 28.00 in (71.1 cm)	
	Weight (maximum)	18.19 lb (8.25 kg)	
	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.

Smart Array E200i Controller (with optional battery-backed write cache)	Disk Drive and Enclosure Interface	3G SAS (Serial Attached SCSI)
		1.5G SATA (Serial Advanced Technology Attachment)
	Cache Memory Speed	DDR-1/266 MHz provides up to 4.2 GB/s maximum bandwidth.
	Server Interface	x4 2.5G PCIe provides 2GB/s maximum bandwidth.
	SAS Speed	x2 3G SAS provides 600MB/s maximum bandwidth.
	Cache Memory	40-bit 64MB or 128MB cache: ECC protection, battery-backed, and transportable
	Logical Drives Supported	Up to 32 logical volumes
	Maximum Logical Drive Capacity	292GB (2 x 146GB)
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 1 (Mirroring)
		RAID 0 (Striping)
	Upgradeable Firmware	Upgradeable Firmware

Two (2) Embedded NC373i Multifunction Gigabit Network Adapters	Network Interface	Blackplane connection
	Data Transfer Method	PCI-Express, four lanes (x4)
	Network Transfer Rate	1000Mbps

Technical Specifications

Environment-friendly Products and Approach	End-of-life Management and Recycling	
		Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
		The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.