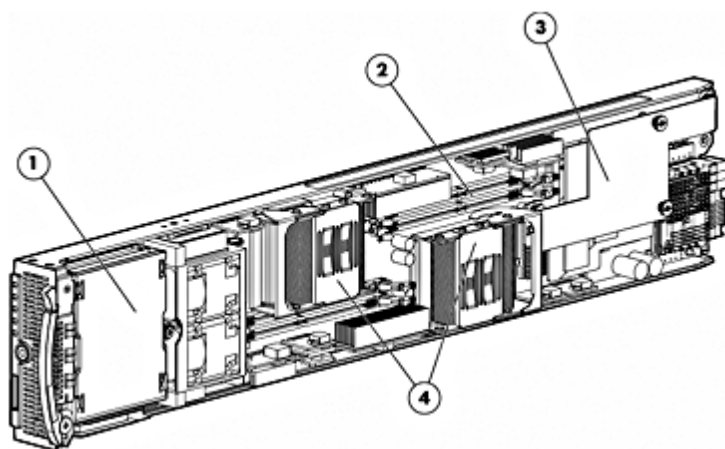


Overview



1. Up to two optional small form factor non-hot pluggable ATA or SAS hard disk drives
2. Up to 16 GB of memory (using optional PC2700 DDR SDRAM)
3. Mezzanine Card: Internal 4 Port SAS HBA (SAS models only) or optional Dual-Port Fibre Channel Adapter
4. Up to two Dual-Core AMD® Opteron™ 200 Series processors

What's New

- One year of 24 x 7 HP Software Technical Support and Update Service included with Insight Control management suites and select ProLiant Essentials Licenses.
- Support for two (2) 146GB (SAS) SFF hard disk drives

At A Glance

This document covers the HP ProLiant BL35p 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: http://h18000.www1.hp.com/products/quickspecs/12330_div/12330_div.HTML

HP BladeSystem p-Class Interconnect Components:

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

- **Processor:**
 - Up to two Dual-Core AMD® Opteron™ 200 Series processors running at 2.4 GHz, 2.2 GHz, 2.0 GHz, and 1.8 GHz with 1MB L2 cache per core and 1GHz HyperTransport (lower CPU power rating per processor: 68 watt)
 - AMD® Opteron™ 8000 series chipset
- **Memory:**
 - 1024 MB (2 x 512 MB) or 2048 MB (4 x 512 MB) PC3200 DDR 400 MHz memory, expandable to 8 GB (using optional PC3200 DDR SDRAM) or 16 GB max (using optional PC2700 DDR SDRAM)
- **Storage Controller:**
 - Internal 4 Port SAS HBA (on a mezzanine card) supports RAID 0 or 1
 - Dual-Port Fibre Channel Adapter (2Gb) option for SAN connectivity
- **Internal Drive Support:**
 - Supports up to two optional small form factor serial attached SCSI (SAS) 146GB non-hot plug hard drives or two optional small form factor ATA 60GB non-hot plug hard drives
 - BIOS-Enhanced RAID for Linux enables both primary and secondary hard drives to be bootable
- **Network Controller:**

Overview

- Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card)
- One 10/100T NIC (embedded) dedicated to iLO management
- **USB Ports:**
 - Local I/O cable provides two USB ports, one video port, one iLO port and serial port
- **Form Factor:**
 - HP ProLiant BL35p server blade plugs vertically into HP BladeSystem p-Class Blade Sleeve; sleeve plugs into 6U blade enclosure
 - Up to 96 HP ProLiant BL35p server blades fit in 42U rack in non-redundant power configuration; up to 80 HP ProLiant BL35p server blades fit in 42U in full power redundant configuration
- **Management:**
 - Integrated Lights-Out (iLO) Advanced Pack with static IP bay configuration and HP BladeSystem wizard features
- **Deployment/Serviceability:**
 - Integrated Access Tool for blade management and enhanced server blade documentation including Best Practices and Common Procedures guides
- **Warranty:**
 - Protected by HP Services and a worldwide network of resellers and service providers. Three-year parts, 1 year labor and 1 year on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives.
 - All ATA hard drives offered by HP carry a one year warranty regardless of the base system in which they are installed

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/4AA0-1493ENW.pdf>

Processors	Dual-Core AMD Opteron™ processor Model 280 (2.4 GHz/1MB L2 cache/1 GHz HyperTransport, 68 Watts)
	Dual-Core AMD Opteron processor Model 275 (2.2 GHz/1MB L2 cache/1 GHz HyperTransport, 68 Watts)
	Dual-Core AMD Opteron processor Model 270 (2.0 GHz/1MB L2 cache/1 GHz HyperTransport, 68 Watts)
	Dual-Core AMD Opteron processor Model 265 (1.8 GHz/1MB L2 cache/1 GHz HyperTransport, 68 Watts)

Upgradeability	Upgradeable to dual processing
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Cache Memory	1MB Level 2 Cache per core 2MB total for Dual-Core models
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Chipset	AMD® 8000 series chipset
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Memory One of the following depending upon model	Type	PC3200 DDR 400 MHz (2 slots) 2:1 interleave PC2700 DDR 333 MHz (2 slots) 2:1 interleave
	Standard	1024 MB (2 x 512 MB)
		2048 MB (4 x 512 MB)
	Maximum	16 GB max (using optional 333 MHz PC2700 DDR SDRAM) 8 GB max (using optional 400 MHz PC3200 DDR SDRAM)

NOTE: Memory must be installed in pairs.

NOTE: PC2700 and PC3200 memory should not be mixed within the server blade and is not an HP supported configuration.

Network Adapter	Three (3) network adapters total:
	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE
	One 10/100T NIC (embedded) dedicated to iLO management

Expansion Slots	No PCI slots; all features are integrated.
	Two (2) USB 1.1 ports, one (1) video port, one (1) iLO port and one (1) serial port
	Two (2) Local I/O cables ship with each server blade enclosure with enhanced backplane components (281404-B22 and 243564-B22)
	NOTE: Tested USB devices (keyboard, mouse, floppy) are listed in options section below.

Integrated Manageability	Integrated Lights-Out (iLO) Management Advanced (ASIC on the system board)
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Standard Features

Internal Storage	Hard Drives	None ship standard
Maximum Internal Storage	120GB (2 x 60GB small form factor ATA, 5,400 rpm non-hot plug hard drives) 292GB (2 x 146GB small form factor SAS, 10,000 rpm non-hot plug hard drives)	
Graphics	Integrated ATI Rage XL Video Controller with 8 MB SDRAM Video 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

Fibre Channel on the HP ProLiant BL35p server blade Two optional fibre channel adapters are supported by the HP ProLiant BL35p. 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 ProLiant BL35p Dual-Port Fibre Channel Adapter (P/N 354054-B21) is compatible with the HP ProLiant BL35p and HP ProLiant BL30p server blades. It cannot be used with an HP ProLiant BL20p, HP ProLiant BL25p, HP ProLiant BL35p SAS models, HP ProLiant BL40p, or HP ProLiant BL45p server blade.
 - 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 Emulex-based FC Mezzanine for HP p-Class BladeSystem dual port Fibre Channel HBA (P/N 394588-B21) is compatible with the HP ProLiant BL25p, BL30p, BL35p, and BL45p server blades. It cannot be used with an HP ProLiant BL20p, HP ProLiant BL35p SAS model, or HP ProLiant BL40p server blade as these devices take a different Emulex card.
- Two ports on each Dual-port Fibre Channel Mezzanine Card provide a redundant Fibre Channel connection to each server blade
- Supports up to 2Gb/s Fibre Channel equipment
- 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.

NOTE: Fibre Channel connectivity is not available on the HP ProLiant BL35p SAS models.

Standard Features

Compatible SAN

HP ProLiant BL35p server blades are optimized for StorageWorks arrays:

- Modular Smart Array 1000, Enterprise Virtual Array 5000 (EVA5000) V2, Enterprise Virtual Array 3000 (EVA3000), XP48, 128, 512, 1024

HP ProLiant BL35p server blades are compatible with select 3rd party SANs. Please refer to blade storage website for details: <http://h18000.www1.hp.com/products/servers/proliant-bl/p-class/storage.html>

Insight Control Environment for BladeSystem

Starting July 9, 2007, 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. From more information about this service, please visit: <http://www.hp.com/services/insight>.

Insight Control Environment for BladeSystem delivers foundation management for HP BladeSystem lifecycles, including hardware resource deployment, health monitoring, software version control, performance monitoring, vulnerability scanning and patch management.

Installs and licenses the following components by default using a wizard-based integrated installer:

- HP Systems Insight Manager
- HP iLO Select Pack
- HP Insight Power Manager
- HP ProLiant Essentials Rapid Deployment Pack
- HP ProLiant Essentials Performance Management Pack
- HP ProLiant Essentials Vulnerability and Patch Management Pack
- HP ProLiant Essentials Virtual Machine Management Pack

Additional ProLiant Essentials software and management tools included on the Insight Control Management DVD can be installed manually.

- Server Migration Pack
- HP Open Service Event Manager
- HP Instant Support Enterprise Edition

NOTE: Server Migration Pack - Physical to ProLiant Edition can be installed from the SMP-P2P CD included in the Insight Control Management media kit.

NOTE: Insight Control Data Center Edition can be installed from the Insight Control Management DVD, which can be delivered with HP BladeSystem c-Class enclosures with a choice of licensing options. Licensing options include a free 30 day evaluation license for 8 servers (default option for every enclosure order), a full purchased license for 8 blade servers or a full purchased license for 16 blade servers). For additional information on HP c-Class Infrastructure please visit: HP BladeSystem c-Class Infrastructure QuickSpecs:

http://h18000.www1.hp.com/products/quickspecs/12517_div/12517_div.HTML

NOTE: For additional product and licensing information about Insight Control Environment for BladeSystem, HP Systems Insight Manager and Essentials software refer to <http://www.hp.com/servers/proliantessentials>

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

Standard Features

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
- 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 .
ProLiant Essentials Performance Management Pack	Performance Management Pack (offered exclusively through the Insight Control suites) - a performance management solution that identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources
Virtual Machine Management Pack	Virtual Machine Management Pack - provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and virtual resources from a single management console.
Vulnerability and Patch Management Pack	Vulnerability and Patch Management Pack (offered exclusively through the Insight Control suites) - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats.
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

Standard Features

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 .

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>

Optional ProLiant Essentials Value Packs

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

- Server Migration Pack - The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).
- Server Migration Pack - P2P Edition - Upgrading or replacing your existing server? Effortlessly transition to new servers with automated, accurate and affordable migration of OS, application and data.
- Virtualization Management Software - 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. The Server Migration Pack plug-in automates the manual task of migrating servers between physical or virtual platforms.
- Vulnerability and Patch Management Pack (offered exclusively through the Insight Control suites) - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats.

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.

Standard Features

Optional Remote Management Packs

- 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>
- Integrated Lights-Out Select Pack - upgrades the iLO 2 processor with enhanced console sharing and replay, virtual media (floppy, CD/DVD, USB key), virtual folders, historical power reporting, power capping and enterprise security (directory services and two-factor authentication) for servers managed using remote consoles available in iLO 2 Standard and iLO 2 Standard Blade Edition.
- Insight Power Manager (IPM) - upgrades the single-server remote management capabilities of iLO Select/Advanced to include centralized reporting and policy-based management of power consumption and thermal output provided by the Insight Power Manager. IPM unifies all of this functionality within a single user interface - HP Systems Insight Manager.
- iLO Power Management Pack for BladeSystem is energy-efficient management software that delivers centralized control, reliable security, and energy savings for your BladeSystem infrastructure. iPMP combines the total control of iLO 2 Advanced in the area of remote management with the energy monitoring and control of the Insight Power Manager to deliver a robust solution capable of full remote control and power management of ProLiant servers through a unified interface within HP Systems Insight Manager.

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: Selected software packages listed here include one year of 24 x 7 Software Technical Support and Update Service. If you have any questions about this service please visit the HP website at <http://www.hp.com/services/insight>

SmartStart

SmartStart is a tool that simplifies single server setup, providing a rapid way to deploy reliable and consistent server configurations. 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 7.20

OS Support: Dual-Core

1.8 GHz, 2.0 GHz, 2.2 and 2.4 GHz models

Microsoft Windows 2000 Server (licensed by core)
Microsoft Windows 2000 Advanced Server (licensed by core)
Windows Server 2003, Standard Edition
Windows Server 2003, Enterprise Edition
Red Hat Enterprise Linux
SUSE Linux Enterprise Server
Solaris 10 32/64-bit

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://h18023.www1.hp.com/support/files/server/us/family/model/6067.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>

Standard Features

Supported Software Offerings

VMware Virtualization Software

NOTE: For more information on HP 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>

Intelligent Manageability

Integrated Lights-Out (iLO) Advanced Pack

- HP BladeSystem wizard - blade and OS installation and configuration
- Static IP bay configuration
- Virtual Text and Graphical Remote Console
- Virtual CD-ROM and Virtual Floppy
- Virtual Power Button Control
- Dedicated LAN Connectivity
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) Security
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privileges

NOTE: For more information on iLO Advanced visit the website: <http://www.hp.com/servers/ilo/>

Automatic Server Recovery-2 (ASR-2)

HP Systems Insight Manager

Redundant ROM

Remote Flash ROM

ROM Based Setup Utility (RBSU)

Advanced Configuration and Power Interface Specification Ready (ACPI)

Server and Interconnect Switch Health Logs

Redundant Power Supply Utility

Pre-Failure Warranty (covers processors, as well as SCSI hard drives and memory)

Integrated Management Log (IML)

Network adapter teaming set-up utility

Availability

Dual-Port Fibre Channel Mezzanine Card for redundant SAN connections Redundant ROM on each server blade ECC Memory Network adapter teaming (network fault tolerance, transmit load balancing, switch-assisted load balancing)

Security

Power-on password

Administrator's password

Integrated Lights-Out provides user authentication via directory services or 12 customizable user accounts

Integration Lights-Out supports SSH 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 resellers and service providers. 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 Blade Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support. This warranty supports the HP ProLiant BL20p, HP ProLiant BL25p, HP ProLiant BL40p and HP ProLiant BL45p Server Blades.

NOTE: Server Blade Limited Warranty includes 3 year Parts, 1 year Labor, 1-year on-site support. This warranty supports the HP ProLiant BL30p and HP ProLiant BL35p 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. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

NOTE: ATA drives have a 1 year warranty.

The HP Care Pack service part numbers below for 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.

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

To fully capitalizing on your HP BladeSystem servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender 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 HP BladeSystem server

Standard Features

support offer to help you speedily deploy and maximize system uptime.

Enhanced Care - Minimum recommended service support offer designed to ensure customers have access to expert assistance, whenever they need it.

- *4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years.*

Continuance Care - Recommended service delivering cost-effective support options designed to extend HP Services committed response and guaranteed fix times, designed to speed problem identification and resolution.

- *4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years.*

Total Care - Highest HP Support service level recommend to help increase IT performance and availability with comprehensive, integrated hardware and software services

- *Support Plus 24 - Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays.*

Deployment Services - HP Installation and Start Up services designed to take time, risk, and worry out of the deployment of HP BladeSystem servers - and free customers IT support staff to focus on what they do best, their business.

- *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, excl. HP holidays*

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/bladestimateservices>

<http://www.hp.com/go/proliant/carepack>

Models

Dual-Core Models

ProLiant BL35p 2.4GHz-1MB, DC, 2GB, SAS (2P) 406024-B21	Processor(s)	Two (2) Dual-Core AMD Opteron™ 200 Series processors Model 280 2.4 GHz (68 Watts) standard
	Cache Memory	1MB Level 2 writeback per core
	Memory	2048 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Storage Controller	Internal 4 Port SAS HBA (on a mezzanine card) supports RAID 0 or 1
	Hard Drives	None ship standard
	Internal Storage	Up to 292GB maximum (with optional non-hot plug SAS hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

ProLiant BL35p 2.2GHz-1MB, DC, 2GB, SAS (2P) 395222-B21	Processor(s)	Two (2) Dual-Core AMD Opteron™ 200 Series processors Model 275 2.2 GHz (68 Watts) standard
	Cache Memory	1MB Level 2 writeback per core
	Memory	2048 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Storage Controller	Internal 4 Port SAS HBA (on a mezzanine card) supports RAID 0 or 1
	Hard Drives	None ship standard
	Internal Storage	Up to 292GB maximum (with optional non-hot plug SAS hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

Models

ProLiant BL35p 1.8GHz-1MB, DC, 1GB, SAS (1P) 394876-B21	Processor(s)	One (1) Dual-Core AMD Opteron™ processor Model 265 1.8 GHz (68 Watts) standard (up to 2 supported)
	Cache Memory	1MB Level 2 writeback per core
	Memory	1024 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Storage Controller	Internal 4 Port SAS HBA (on a mezzanine card) supports RAID 0 or 1
	Hard Drives	None ship standard
	Internal Storage	Up to 292GB maximum (with optional non-hot plug SAS hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

ProLiant BL35p 2.4GHz-1MB, DC, 2GB, (2P) 399601-B21	Processor(s)	Two (2) Dual-Core AMD Opteron™ 200 Series processors Model 280 2.4 GHz (68 Watts) standard
	Cache Memory	1MB Level 2 writeback per core
	Memory	2048 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Hard Drives	None ship standard
	Internal Storage	Up to 120GB maximum (with optional non-hot plug ATA hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

Models

ProLiant BL35p 2.2GHz-1MB, DC, 2GB (2P) 392446-B21	Processor(s)	Two (2) Dual-Core AMD Opteron™ processors Model 275 2.2 GHz (68 Watts) standard
	Cache Memory	1MB Level 2 writeback per core
	Memory	2048 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Hard Drives	None ship standard
	Internal Storage	Up to 120GB maximum (with optional non-hot plug ATA hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

ProLiant BL35p 2.0GHz-1MB, DC, 2GB (2P) 392448-B21	Processor(s)	Two (2) Dual-Core AMD Opteron™ processors Model 270 2.0 GHz (68 Watts) standard
	Cache Memory	1MB Level 2 writeback per core
	Memory	2048 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Hard Drives	None ship standard
	Internal Storage	Up to 120GB maximum (with optional non-hot plug ATA hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

Models

ProLiant BL35p 1.8GHz- 1MB, DC, 1GB (1P) 392450-B21	Processor(s)	One (1) Dual-Core AMD Opteron™ processor Model 265 1.8 GHz (68 Watts) standard (up to 2 supported)
	Cache Memory	1MB Level 2 writeback per core
	Memory	1024 MB (standard) of PC3200 DDR SDRAM 400 MHz 8 GB (maximum) of PC3200 DDR SDRAM 400 MHz 16 GB (maximum) of PC2700 DDR SDRAM 333 MHz 2-way interleaved, 4 DIMM slots
	Network Adapter	Two (2) NC7781 PCI-X Gigabit NICs (on a mezzanine card) with WOL and PXE One (1) 10/100T NIC (embedded) dedicated to iLO management
	Hard Drives	None ship standard
	Internal Storage	Up to 120GB maximum (with optional non-hot plug ATA hard drives)
	Optical Drive	None
	Form Factor	Plugs vertically into HP BladeSystem p-Class Blade Sleeve. Blade sleeve supports 1 or 2 BL30p and BL35p blades, or any combination of BL30p and BL35p blades. Blade sleeve plugs vertically into HP BladeSystem p-Class Enhanced Server Blade Enclosure

Configuration Information - Factory Integrated Models (North America only)

NOTE: For Configure to Order requirements within EMEA region, please consult local Sales Contact.

NOTE: HP does not allow factory integration of options into standard models listed above.

Configure-to-order servers must start with a CTO Chassis.

NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.

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

Step 1: Base Server Blade Configuration

Model	HP ProLiant BL35p Configurable Model CTO Blade (North America)	382734-405
	Factory Integrated Model ships with:	
	- One embedded 10/100T NIC for iLO	
	- Integrated Lights-Out (iLO) Management with Advanced Pack features	
	HP ProLiant BL35p SAS Configurable Model CTO Blade (North America)	398605-405
	Factory Integrated Model ships with:	
	- Internal 4 Port SAS HBA (on a mezzanine card)	
	- One embedded 10/100T NIC for iLO	
	- Integrated Lights-Out (iLO) Management with Advanced Pack features	
	NOTE: HP ProLiant BL35p SAS Configurable Model CTO Blade (P/N 398605-405) does not support single-core processors.	

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

Processor	Dual-Core AMD Opteron™ Model 280 2.4 GHz/68W FIO ALL	399602-L21
	NOTE: If dual processor configurations are desired, select one 399602-L21 and one 399602-B21.	
	Dual-Core AMD Opteron Model 275 2.2 GHz/68W FIO ALL	392447-L21
	NOTE: If dual processor configurations are desired, select one 392447-L21 and one 392447-B21.	
	Dual-Core AMD Opteron Model 270 2.0 GHz/68W FIO ALL	392449-L21
	NOTE: If dual processor configurations are desired, select one 392449-L21 and one 392449-B21.	
	Dual-Core AMD Opteron Model 265 1.8 GHz/68W FIO ALL	392451-L21
	NOTE: If dual processor configurations are desired, select one 392451-L21 and one 392451-B21.	

Configuration Information - Factory Integrated Models (North America only)

Memory	<p>For 1 GB Total Memory: 1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB) 376638-B21</p> <p>For 2 GB Total Memory, choose A or B: A) 2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB) 376639-B21 B) 2 x 1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB) 376638-B21</p> <p>For 4 GB Total Memory, choose A or B: A) 4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB) 379300-B21 B) 2 x 2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB) 376639-B21</p> <p>For 8 GB Total Memory, choose A or B: A) 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) 395409-B21 B) 2 x 4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB) 379300-B21</p> <p>For 16 GB Total Memory: 2 x 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) 395409-B21</p> <p>NOTE: Two-way interleaving memory is enabled when an identical pair of DIMMs is installed.</p> <p>NOTE: Maximum performance in a two processor (2P) server blade is achieved when Option B memory configurations are utilized.</p>
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Communications	<p>HP ProLiant BL25/35/45p NIC Mezz FIO Base 382850-B21</p> <p>NOTE: Must select one</p> <p>Or upgrade to:</p> <p>HP ProLiant BL25p/35p/45p Dual NC370i Multifunction Network Adapter 384043-B21</p> <p>NOTE: NC370i adapter supports iSCSI, RDMA, TOE with applicable licenses.</p> <p>NOTE: Accelerated iSCSI is not yet supported for Linux environments, and RDMA is not yet supported for Windows or Linux environments. Future support is planned for both.</p> <p>NOTE: A minimum of 1 GB of memory per port is required for NC370x adapters, with a maximum of two NC370x ports permitted in a server.</p>
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Step 3: Choose Additional Options for Factory Integration

Hard Drive	<p>SAS Non-Hot Plug</p> <p>HP 36GB 3G SAS 10K NHP SFF HDD 384038-B21</p> <p>HP 72GB 3G SAS 10K NHP SFF HDD 384141-B21</p> <p>HP 146GB 3G SAS 10K NHP SFF HDD 436649-B21</p> <p>NOTE: Supported on SAS models only</p> <p>ATA Non-Hot Plug</p> <p>HP BL30p/BL35p 60G ATA HDD ALL 354052-B21</p>
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Configuration Information - Factory Integrated Models (North America only)

Fibre Channel Option	Emulex-based BL25/30/35/45p Dual Port Fibre Channel HBA NOTE: SFPs for use with pass through SAN switches not included with the Emulex-based Fibre Channel Mezzanine card. If SFPs required please order the SFP option kit (P/N 397577-B21) which includes 2 2Gb SFPs per option kit.	394588-B21
	HP 2-2Gb SFP for Fibre Channel pass through kit 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).	397577-B21
	BL30p/BL35p Dual Port Fibre Channel Adapter NOTE: The BL30p/BL35p Dual Port Fibre Channel Adapter is QLogic based. NOTE: For additional options, including HP BladeSystem p-Class blade sleeves, enhanced server blade enclosure, interconnect options and power subsystem options please refer to the "Options" section below. NOTE: Fibre Channel connectivity is not available on the HP ProLiant BL35p SAS model (P/N 398605-405).	354054-B21

NOTE: For additional options, please refer to the "Options" section below.

Options

NOTE: Some options may not be factory integratable. Please contact your local sales representative for additional information.

Unique Options	<p>HP BladeSystem p-Class Blade Sleeve Kit 354101-B21</p> <p>NOTE: Each blade sleeve supports one or two HP ProLiant BL30p/HP ProLiant BL35p server blades. HP ProLiant BL30p and BL35p server blades may be mixed within the blade sleeve.</p>
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ProLiant Essentials Value Pack Software	<p>Insight Control Environment for BladeSystem</p> <p>HP Insight Control Environment for BladeSystem, No Media 1-Server License including 1 year of 24x7 Technical Support and Updates 453484-B21</p> <p>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.</p> <p>NOTE: For additional License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.HTML</p> <p>ProLiant Essentials Rapid Deployment Pack</p> <p>ProLiant Essentials Rapid Deployment Pack No Media 1-Server License including 1 year of 24x7 Technical Support and Updates 452151-B21</p> <p>NOTE: This license allows 1 server to be deployed and managed via RDP.</p> <p>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</p> <p>ProLiant Essentials Server Migration Pack</p> <p>ProLiant Essentials Server Migration Pack, Single-Migration License 435663-B21</p> <p>NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.</p> <p>NOTE: This license allows 1 server to be migrated from a physical server to a virtual machine. Or this license can be used to migrate a virtual machine from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.</p> <p>NOTE: For additional ProLiant Server Migration Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12328_div/12328_div.HTML</p> <p>Server Migration Pack - P2P</p> <p>ProLiant Essentials Server Migration Pack - P2P Edition, 1- Migration License, - License Only, No Media 417435-B21</p> <p>NOTE: This license allows 1 migration. Contains one license with a unique license activation key and documentation</p> <p>NOTE: For additional License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12467_div/12467_div.HTML</p> <p>ProLiant Essentials Virtual Machine Management Pack</p> <p>ProLiant Essentials Virtual Machine Management Pack, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates 452153-B21</p> <p>NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.</p> <p>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</p>

Options

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	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 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	453484-B21
HP Insight Control Linux Edition for HP BladeSystem	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	Dual-Core AMD Opteron™ processor Model 280 2.4 GHz/1M/68W Processor Option Kit	399602-B21
	Dual-Core AMD Opteron processor Model 275 2.2 GHz/1M/68W Processor Option Kit	392447-B21
	Dual-Core AMD Opteron processor Model 270 2.0 GHz/1M/68W Processor Option Kit	392449-B21
	Dual-Core AMD Opteron processor Model 265 1.8 GHz/1M/68W Processor Option Kit	392451-B21
	Single-Core AMD Opteron processor Model 250 2.4 GHz/1M/68W Processor Option Kit	381883-B21
Memory	8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) NOTE: Must install in pairs	395409-B21
	4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB) NOTE: Must install in pairs	379300-B21
	2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB) NOTE: Must install in pairs	376639-B21
	1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB) NOTE: Must install in pairs	376638-B21

Options

Hard Drive	SAS Non-Hot Plug	
	HP 36GB 3G SAS 10K NHP SFF HDD	384038-B21
	HP 72GB 3G SAS 10K NHP SFF HDD	384141-B21
	HP 146GB 3G SAS 10K NHP SFF HDD	436649-B21
	NOTE: Supported on SAS models only	
Hard Drive	ATA Non-Hot Plug	
	HP BL30p/BL35p 60G ATA HDD ALL	354052-B21
Communications	Multifunction NIC with support for iSCSI, RDMA, TOE:	
	HP ProLiant BL25p/35p/45p Dual NC370i Multifunction Network Adapter	384043-B21
	NOTE: NC370i adapter supports iSCSI, RDMA, TOE with applicable licenses.	
	NOTE: Accelerated iSCSI is not yet supported for Linux environments, and RDMA is not yet supported for Linux environments.	
ProLiant BL30p/BL35p Fibre Channel Adapter	Emulex-based BL25/30/35/45p Dual Port Fibre Channel HBA	394588-B21
	Dual-Port Fibre Channel Adapter (2Gb) Kit (option) for HP ProLiant BL30p or HP ProLiant BL35p server blades	354054-B21
	NOTE: This Fibre-Channel adapter is QLogic-based	
	NOTE: When using this adapter, Patch Panel 2, CGESM, or a GbE2 Interconnect Switch Kit (with Storage Connectivity Kit) must be used to provide pass through of the Fibre Channel signals.	
	NOTE: For additional information on HP p-Class Interconnect Kits please visit: http://h18000.www1.hp.com/products/quickspecs/12331_div/12331_div.HTML	
ProLiant BL30p/BL35p Fibre Channel Adapter	NOTE: Fibre Channel connectivity is not available on the HP ProLiant BL35p SAS models.	
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.	

Options

Tape Libraries

HP StorageWorks MSL2024 Tape Library

HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
HP StorageWorks MSL2024 1 Ultrium 960 4GB FC Library	AG326B
HP StorageWorks MSL2024 1 Ultrium 920 Drive Library	AH169A
HP StorageWorks MSL2024 2 Ultrium 920 Drive Library	AH170A
HP StorageWorks MSL2024 1 Ultrium 448 Drive Library	AG116A
HP StorageWorks MSL2024 2 Ultrium 448 Drive Library	AG117A

HP StorageWorks MSL4048 Tape Library

HP StorageWorks MSL4048 1 Ultrium 448 Drive Library	AG320A
HP StorageWorks MSL4048 2 Ultrium 448 Drive Library	AG321A
HP StorageWorks MSL4048 1 Ultrium 960 Drive Library	AG322A
HP StorageWorks MSL4048 1 Ultrium 960 4GB FC Library	AG324B
HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A
HP StorageWorks MSL4048 2 Ultrium 960 4GB FC Library	AG325B
HP StorageWorks MSL4048 1 Ultrium 920 Tape Library	AH171A
HP StorageWorks MSL4048 2 Ultrium 920 Tape Library	AH172A

HP StorageWorks MSL6000 Tape Library

Ultrium 960 technology

HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library	AD606B
HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library	AD608B
HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library	AD607B
HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library	AD609B

Ultrium 460 technology

HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library	AD598B
HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library	AD600B
HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library	AD599B
HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library	AD601B

NOTE: Please reference the [MSL6000 Tape Library QuickSpecs at http://www.hp.com/go/automation](http://www.hp.com/go/automation) for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

HP StorageWorks Virtual Library Systems

HP Virtual Library Systems 300 Base Unit	AH138A
HP StorageWorks 1002i 2TB Virtual Library System	AG124A
HP StorageWorks 6105 Virtual Library System	AF728A
HP StorageWorks 6510 Virtual Library System	AF729A
HP StorageWorks 6840 Virtual Library System	AG051A
HP StorageWorks 6109 Virtual Library System	AG167A
HP StorageWorks 6518 Virtual Library System	AG168A
HP StorageWorks 6870 Virtual Library System	AG169A

NOTE: Please reference the [Virtual Library Systems QuickSpecs at http://www.hp.com/go/automation](http://www.hp.com/go/automation) for additional information needed to create a complete solution. Reference current compatibility information at <http://www.hp.com/go/ebs>

Options

HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000 NOTE: Please see the StorageWorks Modular Smart Array 1000 QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)	201723-B22
Cluster Options	ProLiant Cluster Starter kit NOTE: For additional information regarding the HP ProLiant Cluster Starter Kit please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)	364023-B22
	ProLiant Cluster HA/F200 for the Entry Level SAN 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_div/11932_div.html (Worldwide)	364026-B22
	ProLiant Cluster HA/F500 for the Enterprise SAN 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_div/11933_div.html (Worldwide)	364024-B21
	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, A.11.18 (single license version - Red Hat EL 4&5, SUSE SLES9&10)	305199-B27
	HP Serviceguard for Linux A.11.16 for SUSE SLES9 & 10 and Red Hat EL 3 & 4 (single license version)	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 HP Serviceguard for Linux, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)	
	NOTE: For configuration/certification options for HP Serviceguard for Linux please go to: http://www.hp.com/info/sglx	
USB Options	USB Optical Scroll Mouse (Carbonite)	DD441B
	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	USB 2.0 4-port HUB	DG954AA
	NOTE: USB 2.0 devices will operate at USB 1.1 speeds.	

Options

HP Rack 5000 Series (Graphite Carbonite)	HP 5642 Rack - Unassembled 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_div/12074_div.HTML (Worldwide) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower	358254-B21
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HP Rack 10000 G2 Series (Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet 10642 G2 (42U) Rack Cabinet - Shock Pallet 10642 G2 (42U) Rack Cabinet - Crated 10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet 10636 G2 (36U) Rack Cabinet - Shock Pallet 10636 G2 (36U) Rack Cabinet - Crated 10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet 10636 G2 (36U) Rack Cabinet, without door - Shock Pallet 10622 G2 (22U) Rack Cabinet - Shock Pallet 10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet 10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet 10647 G2 (47U) Rack Cabinet - Pallet 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_div/12402_div.HTML (Worldwide) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	AF001A AF002A AF003A AF004A AF011A AF012A AF013A AF014A AF022A AF041A AF042A AF031A
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HP Rack 10000 Series (Graphite Metallic)	10642 (42U) Infrastructure Rack (Low Voltage) 10642 (42U) Infrastructure Rack (High Voltage) HP S10614 (14U) Rack Cabinet - Shock Pallet NOTE: 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_div/10995_div.HTML (Worldwide) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	379006-001 379005-001 292302-B22

Options

Monitors and Keyboards	TFT7210R Rack Mounted 17" Monitor	348373-B21
	TFT7600 Rackmount Keyboard Monitor US	AG052A
	TFT7600 Rackmount Keyboard Monitor UK	AG053A
	TFT7600 Rackmount Keyboard Monitor GR	AG054A
	TFT7600 Rackmount Keyboard Monitor FR	AG055A
	TFT7600 Rackmount Keyboard Monitor IT	AG056A
	TFT7600 Rackmount Keyboard Monitor SP	AG057A
	TFT7600 Rackmount Keyboard Monitor DEN	AG058A
	TFT7600 Rackmount Keyboard Monitor NOR	AG059A
	TFT7600 Rackmount Keyboard Monitor SE/FI	AG060A
	TFT7600 Rackmount Keyboard Monitor SWI	AG061A
	TFT7600 Rackmount Keyboard Monitor PORT	AG062A
	TFT7600 Rackmount Keyboard Monitor BEL	AG063A
	TFT7600 Rackmount Keyboard Monitor JPN2	AG064A
	TFT7600 Rackmount Keyboard Monitor RUS	AG065A
	TFT7600 Rackmount Keyboard Monitor INTL	AG066A
	1U Rackmount Keyboard with USB, US	AG072A
	1U Rackmount Keyboard with USB, UK	AG073A
	1U Rackmount Keyboard with USB, GR	AG074A
	1U Rackmount Keyboard with USB, FR	AG075A
	1U Rackmount Keyboard with USB, ITL	AG076A
	1U Rackmount Keyboard with USB, SP	AG077A
	1U Rackmount Keyboard with USB, DEN	AG078A
	1U Rackmount Keyboard with USB, NOR	AG079A
	1U Rackmount Keyboard with USB, SE/FI	AG080A
	1U Rackmount Keyboard with USB, SWI	AG081A
	1U Rackmount Keyboard with USB, PORT	AG082A
	1U Rackmount Keyboard with USB, BEL	AG083A
	1U Rackmount Keyboard with USB, JPN2	AG084A
	1U Rackmount Keyboard with USB, RUS	AG085A
	1U Rackmount Keyboard with USB, INTL	AG086A

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

Options

HP KVM Switch Options	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x1x16 IP Console Switch with Virtual Media	AF601A
	2x16 Server Console Switch with Virtual Media	AF600A
	Server Console Switch (KVM), 0 x 1 x 8	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	BladeSystem p-Class KVM Interface Adapter	AF100A
	Serial Interface adapter - 1 Pack with power supply	373035-B21

NOTE: Cat5e cables are required to connect Interface Adapters to Consoles Switches. Cat52e 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>

HP Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	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 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.

Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UD186E
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

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UC007E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UC008E

Options

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, Electronic	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	
ProLiant BL p-Class Blade Server Hardware Installation, Electronic	UA219E
ProLiant BL p-Class Enclosure and Server Blade Hardware Installation, Electronic	UA971E
Provides for the Installation and Start-up of Compaq's Rapid Deployment Pack, Electronic	U5683E
NOTE: Provides 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, Electronic	UC929E
NOTE: Installation and Startup Service. 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/ .	
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

Memory

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

DIMM installation guidelines:

1. All DIMMs must be PC3200 DDR 400 MHz SDRAM DIMMs, or PC2700 DDR 333 MHz SDRAM DIMMS.
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 must always be populated.
5. For optimal performance in most applications, populate the memory bank for every populated processor socket.
6. DIMM banks are active only when the corresponding processor socket is populated.

HP ProLiant BL35p Server Blade (1P model)

Standard Memory

1024 MB of PC3200 DDR SDRAM running at 400 MHz (2 x 512 MB)

Standard Memory Replaced with Optional Memory

Up to 4096 MB of PC3200 DDR SDRAM DIMM memory is available with the removal of standard memory and the installation of optional DDR SDRAM DIMM memory expansion kits.

Up to 8192 MB of PC2700 DDR SDRAM DIMM memory is available with the removal of standard memory and the installation of optional PC2700 SDRAM DDR DIMM memory expansion kits.

NOTE: Maximum memory configuration with one processor installed using PC3200 DDR SDRAM DIMMs is 4096 MB (2 x 2048 MB), or 8192 MB using PC2700 DDR SDRAM DIMMs (2 x 4096 MB.) Second processor must be installed in order to use the 2nd bank of memory (Slots 3 and 4.) Maximum memory configuration with two processors installed using PC3200 DDR SDRAM DIMMS is 8192 MB (4 x 2048 MB), or 16384 MB using PC2700 DDR SDRAM DIMMs (4 x 4096 MB.)

Memory		Slot			
		1	2	3	4
Standard	1024 MB	512 MB	512 MB	Empty	Empty
Optional	2048 MB	1024 MB	1024 MB	Empty	Empty
4 GB PC3200 Maximum	4096 MB	2048 MB	2048 MB	Empty	Empty
8 GB PC2700 Maximum	8192 MB	4096 MB	4096 MB	Empty	Empty

Following are memory options available from HP:

- 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) 395409-B21
- 4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB) 379300-B21
- 2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB) 376639-B21
- 1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB) 376638-B21

Memory

HP ProLiant BL35p Server Blade (2P model)

Standard Memory

2048 MB of PC3200 DDR SDRAM running at 400 MHz (4 x 512 MB)

Standard Memory Replaced with Optional Memory

Up to 8192 MB of PC3200 DDR SDRAM DIMM memory is available with the removal of standard memory and the installation of optional DDR SDRAM DIMM memory expansion kits.

Up to 16384 MB of PC2700 DDR SDRAM DIMM memory is available with the removal of standard memory and the installation of optional PC2700 SDRAM DDR DIMM memory expansion kits.

NOTE: Maximum memory configuration with one processor installed using PC3200 DDR SDRAM DIMMs is 4096 MB (2 x 2048 MB), or 8192 MB using PC2700 DDR SDRAM DIMMs (2 x 4096 MB.) Second processor must be installed in order to use the 2nd bank of memory (Slots 3 and 4.) Maximum memory configuration with two processors installed using PC3200 DDR SDRAM DIMMs is 8192 MB (4 x 2048 MB), or 16384 MB using PC2700 DDR SDRAM DIMMs (4 x 4096 MB.)

Memory		Slot			
		1	2	3	4
Standard	2048 MB	512 MB	512 MB	512 MB	512 MB
Optional	4096 MB	1024 MB	1024 MB	1024 MB	1024 MB
8 GB PC3200 Maximum	8192 MB	2048 MB	2048 MB	2048 MB	2048 MB
16 GB PC2700 Maximum	16384 MB	4096 MB	4096 MB	4096 MB	4096 MB

Following are memory options available from HP:

- 8 GB PC2700 DDR SDRAM DIMM Memory Kit (2 x 4 GB) 395409-B21
- 4 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 2 GB) 379300-B21
- 2 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 1 GB) 376639-B21
- 1 GB PC3200 DDR SDRAM DIMM Memory Kit (2 x 512 MB) 376638-B21

Technical Specifications

HP ProLiant BL35p Server Blade	Dimensions	Height	1.61 in (4.1 cm)
		Depth	25.35 in (64.4 cm)
		Width	4.72 in (12.0 cm)
Weight	Maximum	No Drives Installed	8.19 lb (3.72 kg)
			7.76 lb (3.52 kg)
Temperature Range*	Operating	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)
		Maximum Wet Bulb Temperature	86° F (-30° C)
Relative Humidity**	Operating	Operating	10% to 90%
		Shipping	10% to 90%
		Storage	10% to 95%

*NOTE: All temperature ranges 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 3,048 m (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.

Tape Drives, Tape Autoloaders, & Tape Libraries

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: <http://h18000.www1.hp.com/products/quickspecs/Division/10233.html> (Worldwide)

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders & Tape Libraries listed below, please see the following: <http://h18000.www1.hp.com/products/quickspecs/Division/10809.html> (Worldwide)

NOTE: For complete listing of tape drive offerings see <http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For recommended tape drive offerings for this ProLiant server see the following:

	Position Supported	Controller	Controller/HBA Option Kit Part Number
HP StorageWorks Tape Libraries, External	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information.	N/A
MSL2024 (Ultrium 448, Ultrium 920 and 960-based)			
MSL4048 (Ultrium 448, Ultrium 920 and 960-based)			
MSL6000 (Ultrium 960 and 460-based)			
MSL6000 (SDLT 600-based)			

Technical Specifications

HP StorageWorks Virtual Library Systems	External	Please consult the EBS connectivity matrix at <u>http://www.hp.com/go/ebs</u> for detailed connectivity information.	N/A
300 VLS			
1002i VLS			
6105 VLS			
6109 VLS			
6515 VLS			
6840 VLS			
6870 VLS			

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