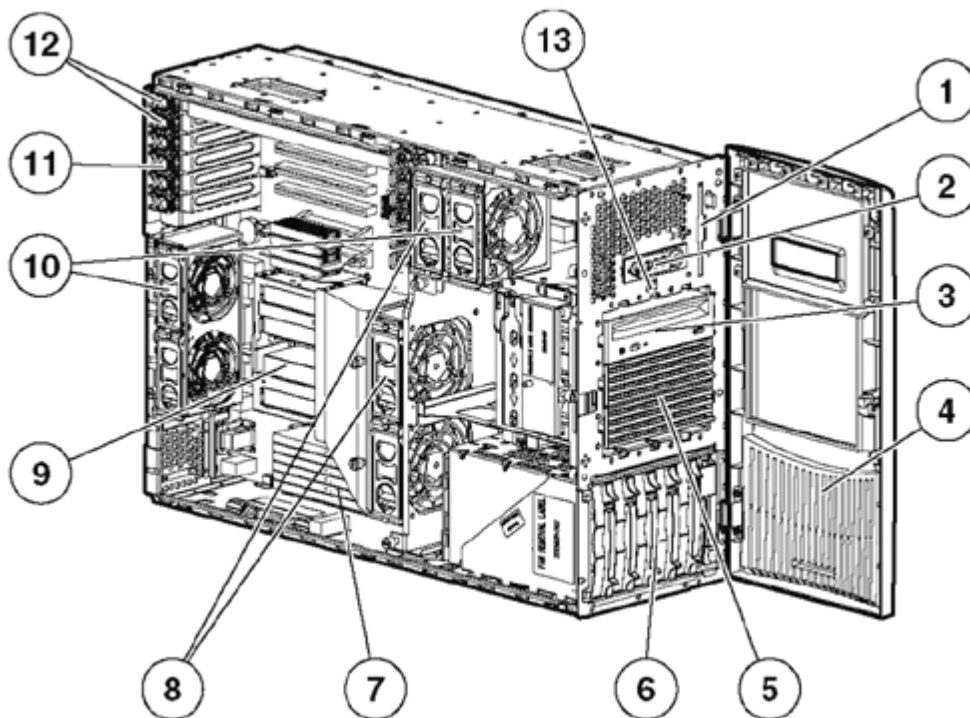


Overview



Ultra320 SCSI model shown above

1. 1.44 MB Diskette Drive
2. Front Panel LEDs (show server status)
3. 48X MAX CD-ROM
4. Front Bezel
5. Removable Media Bays
6. Six Hot Plug Ultra320 Drive Bays
7. 8 PC2-3200R Memory Slots
8. Hot Plug Fans (standard)
9. Intel Xeon Processors
10. Hot Plug Redundant Fans (Optional)
11. 2 PCI-Express Non-hot plug slots
12. 4 PCI-X 64-Bit/100-MHz Non-hot plug slots
13. USB 2.0 (on the front)Port

What's New

- Dual-core 2.8GHz Intel Xeon processors with 2x2MB Level 2 cache (4MB total) are available on Factory Integrated models.

At A Glance

The flagship ML370 G4 provides industry-leading management, performance and availability in a dual processor expansion server engineered to excel in a variety of environments - from corporate work groups in growing businesses to critical remote sites requiring continuous accessibility and uptime.

- **Processors:**
 - Systems support up to two Intel Xeon Processors with Hyperthreading Technology (2 processors standard on all High Performance models)
 - Single-core and Dual-core Intel Xeon Processors with 2MB Level 2 cache offer blazing performance increases
 - Dual-core: 2.8 GHz with 2x2MB L2 (4MB total)
 - Single-core: 3.8 GHz, 3.6 GHz, 3.4 GHz, 3.2 GHz, 3.0 GHz and 2.8 GHz

Overview

- Preconfigured High Performance models save valuable deployment time at a discounted bundle price
- **Memory:**
 - Maximum 16 GB of 2-way interleaved PC2-3200R 400MHz DDR2 memory with Advanced ECC capabilities;
 - 1 GB (2 x 512 MB) standard,
 - 2 GB (2 x 1024 MB) standard on all High Performance models
- **Storage Controller:**
 - Integrated Dual Channel Ultra320 SCSI Adapter
 - Ultra320 High Performance Models ship with the Smart Array 6404/128 Controller
 - SAS Array and SAS High Performance Models ship with the Smart Array P600/256 BBWC Controller
- **Internal Drive Support:**
 - (8) small form factor (SFF) hot-plug drive bays for serial models or (6) hot-plug Ultra320 SCSI drive bays
 - 2-bay Ultra320 drive cage to support a total of 8 Ultra320 hot plug drives included on Ultra320 High Performance models
 - Optional duplex drive backplane splits the standard Ultra320 drive cage (2:4) into two separate data channels
- **Network Controller:**
 - Integrated NC7781 PCI-X Gigabit Server Adapter
- **Expansion Slots:**
 - 6 expansion slots - 2 PCI-Express x4 and 4 PCI-X 64-Bit/100-MHz (3 PCI-X slots and 2 PCI-Express slots available on all High Performance and Array models)
- **USB 2.0 Ports:**
 - 3 Total: (1) front; (2) rear accessible ports
- **Redundancy:**
 - Optional Hot plug redundant power supplies and cooling fans (Hot plug redundant fans and power supplies included on all High Performance models)
- **Management:**
 - Powerful Integrated Lights-Out remote management technology embedded
 - HP Integrated Lights-Out firmware includes HP Power Regulator for ProLiant - server level, policy based power management for industry leading energy efficiency and savings on system power and cooling costs. Also, introducing support for the draft DMTF System Management Architecture for Server Hardware Command Line Protocol standard
 - HP Systems Insight Manager
 - SmartStart 7.1 +
- **Form Factor:**
 - 5U Tower and Rack Models
- **Deployment/Serviceability:**
 - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components
 - Tool-free serviceability
 - Diagnostic and Unit ID LEDs
- **Warranty:**
 - Protected by HP Services and a worldwide network of resellers and service providers. Three-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI/SAS hard drives. SATA hard drives have a one-year warranty.

Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor Dual-core Intel Xeon Processor 2.8 GHz/800MHz -2x2MB L2 cache (4MB total)

One of the following depending on Model

Intel Xeon Processor 2.8 GHz/800MHz -2MB L2 cache

Intel Xeon Processor 3.0 GHz/800MHz -2MB L2 cache

Intel Xeon Processor 3.2 GHz/800MHz -2MB L2 cache

Intel Xeon Processor 3.4 GHz/800MHz -2MB L2 cache

Intel Xeon Processor 3.6 GHz/800MHz -2MB L2 cache

Intel Xeon Processor 3.8 GHz/800MHz -2MB L2 cache

NOTE: Up to 2 processors supported.

NOTE: High Performance configurations include two processors up to 3.6 GHz. Models available with either 2MB or 1MB of Level 2 cache.

Cache Memory 2MB Level 2 cache

Chipset Intel E7520 Chipset

NOTE: For more information regarding Intel chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

Memory Type Single-ranked 2-way interleaved PC2-3200R running at 400MHz
One of the following depending on Model **NOTE:** HP ProLiant ML370 G4 does not support dual ranked DIMMs.

Standard	1 GB (2 x 512 MB)
Standard (High Performance SCSI models)	2 GB (2 x 1024 MB)
Standard (High Performance SAS models)	2 GB (4 x 512 MB)
Maximum	16 GB

Memory Protection Advanced ECC and Online Spare capabilities

Network Controller Integrated NC7781 PCI-X Gigabit NIC (single port)

Standard Features

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug	PCI Voltage	Notes
	1	64-bit/100MHz PCI-X	3	1	no	3.3 Volt	Supported RILOE slot
	2	64-bit/100MHz PCI-X	3	2	no	3.3 Volt	
	3	64-bit/100MHz PCI-X	7	1	no	3.3 Volt	
	4	64-bit/100MHz PCI-X	7	2	no	3.3 Volt	
	5	PCI Express x4	11	0	no	N/A	
	6	PCI Express x4	14	0	no	N/A	

NOTE: Smart Array controller installed in Slot 1 on High Performance and Array models.

NOTE: x8 cards are supported but will run at x4 speeds.

***NOTE:** Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

****NOTE:** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

NOTE: All PCI-X slots can only accept universal keyed PCI cards running at 3.3 volts.

Remote Management

Integrated Lights-Out (iLO) Standard Management

- Virtual Text Remote Console
- Virtual Power Button Control
- Virtual Unit Identification Light Control
- Virtual Serial Port Redirection
- 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 privilege

Intelligent Manageability

HP Systems Insight Manager
 SmartStart
 Management Agent
 Redundant ROM
 Remote Flash ROM
 Remote Lights-Out Edition II (Optional)
 ROM-Based Setup Utility (RBSU)
 Integrated Management Log
 Automatic Server Recovery (ASR)
 Dynamic Sector Repairing (with Smart Array controller)
 Drive Parameter Tracking (with Smart Array controller)
 Hot Spare Boot

NOTE: Upon the event of a failed processor in a multi-processing environment, the system will automatically reboot and attempt to use the remaining good processor.

Pre-Failure Warranty (covers processors, SCSI/SAS hard drives and memory)

Standard Features

Storage Controller One of the following depending on Model	Integrated Dual Channel Ultra320 SCSI Adapter Smart Array 6402/128 Controller ship on Ultra320 High Performance Models Smart Array P600/256 BBWC Controller ship on SAS High Performance and Array Models		
Storage	Diskette Drive	1.44MB Diskette Drive	
	Optical Drive	48x IDE CD-ROM Drive	
	Hard Drives	None standard	
Maximum Internal Storage	Hot Plug Ultra320 SCSI	2.4TB	6 x 300GB Ultra320 SCSI with standard internal hot plug drive cage + 2 x 300GB Ultra320 SCSI with optional ML3xx Two Bay Hot Plug Ultra320 SCSI Drive Cage
	Hot Plug SAS	1.168TB	8 x 146GB with standard internal hot plug Serial SCSI/ATA drive cage
Interfaces	Parallel	1	
	Serial	2	
	Pointing Device (Mouse)	1	
	Graphics	1	
	Keyboard	1	
	Network RJ-45	1	
	iLO remote management port	1	
	USB 2.0 Ports	3 total: 2 on the rear and 1 on the front NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html	
	Dedicated USB 2.0 Port	1 internal for USB tape support	
Graphics	Integrated ATI Rage XL Video Controller with 8MB SDRAM Video Memory		
Form Factor	Tower or Rack (5U)		

Standard Features

ProLiant Essentials Foundation Pack Software

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

SmartStart

SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at <http://www.hp.com/servers/smartstart>.
SmartStart version supported (minimum): SmartStart 7.10

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 automatic delivery of 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 software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages <http://www.hp.com/go/support>.

Standard Features

Insight Diagnostics Online Edition	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.
Optional ProLiant Essentials Value Packs	Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs: <ul style="list-style-type: none">• 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.• Workload Management Pack – provides easier management of complex environments, improving overall server utilization and enabling Windows 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.• Performance Management Pack – identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources.• Intelligent Networking Pack – detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions, plus it provides an extra layer of protection. The virus throttle feature of the solution slows the propagation of fast spreading virus• Vulnerability and Patch Management Pack – 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• 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.• Server Migration Pack – The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).
Optional Remote Management Packs	<ul style="list-style-type: none">• Integrated Lights-Out Advanced Pack – upgrades the Integrated Lights-Out processor to full virtual presence and control with graphical console and virtual media.

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>.

Standard Features

Industry Standard Compliance	ACPI 1.0b Compliant PCI 2.2 Compliant WOL Support Microsoft® Logo certifications PXE Support
Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Parallel and serial interface control Administrator's password Disk configuration lock
Server Power Cords	110V NEMA 12ft. (3.66m) cords included. IEC 10 ft. (3.05m) cords also included with rack models.
Power Supply	775 Watt-CE Mark Compliant Hot Plug Power Supply Optional second Power Supply provides redundant capability
UPS and PDU Power Cord Matrix	Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units: ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf .
System Fans	Three fans standard. Redundant fan kit includes three additional fans.
Required Cabling	For external storage cabling information, refer to the Web site at http://h18000.www1.hp.com/products/servers/ProLiantML370/ .
OS Support	Microsoft Windows 2000 Server Windows Server 2003 Server Novell NetWare SCO OpenServer and OpenUNIX LINUX (Red Hat, SuSE, United Linux) VMware Virtualization Software NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at: http://h18004.www1.hp.com/products/servers/software/OEM.html NOTE: For a more 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 ML370 G4, please see: http://h18023.www1.hp.com/support/files/server/us/index.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 information on HP's Certified and Supported ProLiant Servers, please visit the VMware Server Support Matrix at: http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html

Standard Features

Rack Airflow Requirements

Rack 10000 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- **Front and rear doors:** If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- **Side:** The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: <http://h18000.www1.hp.com/products/servers/ProLiantdl380/index.html>.

Installation of HP ProLiant ML370 G4 servers with Round Hole, Third Party or Telco Racks

ProLiant rack mount servers and tower-to-rack kits include snap-on quick deploy side rails designed to accommodate both round and square hole rack rails. Telco rack solutions for ProLiant servers are available through the following URL: <http://www.racksolutions.com/hp>.

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.

Standard Features

HP ProLiant Smart Buys The HP Smart Buy program offers mainstream business solutions at competitive prices with excellent availability and superior HP quality. It offers a wide range of industry-leading HP products at compelling prices, allowing you to receive richer configurations with additional options.
NOTE: For detailed specification information on ProLiant Smart Buys please click on the following link: <ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf>

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 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>

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3kVA; these items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

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 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 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 ProLiant server 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, 7-Day x 24-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.

- *6-Hour Call to Repair, 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 ProLiant servers – and free customers IT support staff to focus on what they do best, their business.

Standard Features

- *Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays*

NOTE: For a complete listing of service offerings and information visit:

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

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

Serial Models for 2.5-inch SCSI/ATA

NOTE: ProLiant Smart Buys are available in NA only. For detailed specification information on ProLiant Smart Buys please click on the following link: <ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf>.

Ultra320 SCSI Models (Processors with 2MB Level 2 cache)

High Performance
ML370T04 X3.4-
2MB/800, 2GB
379916-001

Processor	Two Intel Xeon 3.4 GHz Processors standard
Cache Memory	2MB level 2 cache
Memory	2 GB (2 x 1024 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Smart Array 6402/128 Controller installed in a PCI-X slot and the Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	2.4TB maximum (with optional Ultra320 hard drives and optional ML3xx Two Bay Hot Plug Ultra320 SCSI Drive Cage)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Tower (5U)

High Performance
ML370R04 X3.4-
2MB/800, 2GB
379917-001

Processor	Two Intel Xeon 3.4 GHz Processors standard
Cache Memory	2MB level 2 cache
Memory	2 GB (2 x 1024 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Smart Array 6402/128 Controller installed in a PCI-X slot and the Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Availability	Hot Plug Redundant Fans and Power Supply included
Internal Storage	2.4TB maximum (with optional Ultra320 hard drives and optional ML3xx Two Bay Hot Plug Ultra320 SCSI Drive Cage)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (5U)

ML370T04 X3.6-
2MB/800, 1GB
379912-001

Processor	One Intel Xeon 3.6 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Tower (5U)

Ultra320 SCSI Models (Processors with 2MB Level 2 cache)

ML370R04 X3.6-
2MB/800, 1GB
379913-001

Processor	One Intel Xeon 3.6 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (5U)

ML370T04 X3.4-
2MB/800, 1GB
379910-001

Processor	One Intel Xeon 3.4 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Tower (5U)

ML370R04 X3.4-
2MB/800, 1GB
379911-001

Processor	One Intel Xeon 3.4 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (5U)

Ultra320 SCSI Models (Processors with 2MB Level 2 cache)

ML370T04 X3.2-
2MB/800, 1GB
379908-001

Processor	One Intel Xeon 3.2 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Tower (5U)

ML370R04 X3.2-
2MB/800, 1GB
379909-001

Processor	One Intel Xeon 3.2 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (5U)

ML370T04 X3.0-
2MB/800, 1GB
379906-001

Processor	One Intel Xeon 3.0 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Tower (5U)

Ultra320 SCSI Models (Processors with 2MB Level 2 cache)

ML370R04 X3.0-
2MB/800, 1GB
379907-001

Processor	One Intel Xeon 3.0 GHz Processor standard (up to 2 supported)
Cache Memory	2MB level 2 cache
Memory	1 GB (2 x 512 MB) of 2-way interleaved capable PC2-3200R DDR2 running at 400MHz, with Advanced ECC capabilities
Network Controller	Integrated NC7781 PCI-X Gigabit Server Adapter
Storage Controller	Integrated Dual Channel Ultra320 SCSI Adapter
Hard Drive	None ship standard
Internal Storage	1.8TB maximum (with optional Ultra320 hard drives)
Optical Drive	48x IDE CD-ROM Drive
Diskette Drive	1.44 MB Diskette Drive
Form Factor	Rack (5U)

Configuration Information - Factory Integrated Models

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

Configure-to-order (CTO) 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 only available as a Factory Installable Option.

Step 1: Base Configuration (choose one of the following configurable models)

Models	HP ProLiant ML370G4 Ultra320 Rack CTO Chassis	360729-405
	Factory Integrated Model ships with: Integrated NC7781 PCI-X Gigabit Server Adapter Integrated dual channel Ultra320 SCSI adapter Six Hot Plug Ultra320 Drive Bays 6 expansion slots - 2 PCI-Express x4 and 4 PCI-X 64-bit 100 MHz Integrated Lights-Out (iLO) 775 Watt-CE Mark Compliant Hot Plug Power Supply Three fans Rack (5U)	
	HP ProLiant ML370G4 Ultra320 Tower CTO Chassis	360730-405
	Factory Integrated Model ships with: Integrated NC7781 PCI-X Gigabit Server Adapter Integrated dual channel Ultra320 SCSI adapter Six Hot Plug Ultra320 Drive Bays 6 expansion slots - 2 PCI-Express x4 and 4 PCI-X 64-bit 100 MHz Integrated Lights-Out (iLO) 775 Watt-CE Mark Compliant Hot Plug Power Supply Three fans Keyboard 2-button Mouse Tower (5U)	
	HP ProLiant ML370G4 SAS Rack CTO Chassis	394121-405
	Factory Integrated Model ships with: Integrated NC7781 PCI-X Gigabit Server Adapter Eight Hot Plug SFF Serial SCSI/ATA Drive Bays 5 expansion slots available - 2 PCI-Express x4 and 3 PCI-X 64-bit 100 MHz Integrated Lights-Out (iLO) 775 Watt-CE Mark Compliant Hot Plug Power Supply Three fans Rack form factor (5U)	
	HP ProLiant ML370G4 SAS Tower CTO Chassis	394122-405
	Factory Integrated Model ships with: Integrated NC7781 PCI-X Gigabit Server Adapter Eight Hot Plug SFF Serial SCSI/ATA Drive Bays 5 expansion slots available - 2 PCI-Express x4 and 3 PCI-X 64-bit 100 MHz Integrated Lights-Out (iLO) 775 Watt-CE Mark Compliant Hot Plug Power Supply Three fans Tower form factor (5U)	

Configuration Information - Factory Integrated Models

Step 1A: If SAS Model, Choose SAS Starter Kit or Controller (only one of the following)

SAS Controller	HP Smart Array P600/256 BBWC Controller NOTE: This is a required selection if one of the two following SAS Starter Kits is not selected. If choosing this part number, 2.5" SAS hard drives must still be selected under Step 4.	337972-B21
SAS Starter Kit	NOTE: SAS Starter Kits are not compatible with the U320 SCSI models. SAS Starter Kit – 36GB NOTE: Includes Smart Array P600/256 BBWC Controller and (2) 36GB SFF SAS Universal Hard Drives.	396221-B21
	SAS Starter Kit – 72GB NOTE: Includes Smart Array P600/256 BBWC Controller and (2) 72GB SFF SAS Universal Hard Drives.	396220-B21

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

Processors	Intel X3.8GHz/800-2MB 370G4 FIO BASE	378752-L21
	Intel X3.6GHz/800-2MB 370G4 FIO BASE	378751-L21
	Intel X3.4GHz/800-2MB 370G4 FIO BASE	378750-L21
	Intel X3.2GHz/800-2MB 370G4 FIO BASE	378749-L21
	Intel X3.0GHz/800-2MB 370G4 FIO BASE	378748-L21
	Intel X2.8GHz/800-2MB 370G4 FIO BASE	397645-L21
	NOTE: One additional xxxxx-B21 processor for each HP ProLiant ML370 server may be ordered. If selecting a Performance Pack option in Step 3 (380099-001, 383195-001, 384201-001), a second processor (311583-B21, 378750-B21, or 378751-B21) is included and should not be ordered.	
Base Memory	1 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 512 MB)	343055-B21
	2 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB)	343056-B21
	4 GB of Single-Ranked PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB)	343057-B21
Optical Drives	HP ProLiant 48X CD w/o SCREWS	367920-B21
	HP ProLiant 16X DVD-ROM Drive	217053-B21
	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD±R/RW 16X Half Height	383974-B21

Step 3: Choose Additional Factory Integratable Options

Performance Packs	The HP ProLiant ML370 G4 Performance Packs are necessary to configure a HP ProLiant ML370 G4 High Performance Model which includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The Ultra320 Performance Pack includes a 2nd processor, redundant fans and power supplies, extra 2-bay HDD drive cage and Smart Array 6402 controller with 128MB battery-backed write cache (installed in a PCI-X slot).	
	ML370G4 3.4 2M Ultra320 SCSI Perf. Pack	383195-001
	NOTE: The SAS SCSI/ATA Performance Pack includes a 2nd processor, extra 1GB of memory, redundant fans and power supplies.	
	ML370G4 3.6 2M SAS SCSI/ATA Perf. Pack	384201-001

Configuration Information - Factory Integrated Models

Step 4: Choose Additional Options for Factory Integration

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

Options

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

HP ProLiant ML370 Unique Options	ML370 Tower to Rack Conversion Kit	356545-B21
	G4 Hot Plug Redundant Power Supply Option Kit	356544-001
	G4 Hot Plug Redundant Power Supply Option Kit (IEC Cord only)	356544-B21
	Redundant Hot Plug Fan Option Kit	225073-B21
	ML370 G4 SAS (Serial Attached SCSI/ATA) drive cage option	383887-B21
	NOTE: Requires Smart Array P600/256 BBWC Controller installed in PCI-X slot.	
	NOTE: When 3 or more SAS hard drives are installed in the HP ProLiant ML370 G4 SAS-enabled Server, the system becomes an FCC Class A device.	

ProLiant Essentials Value Pack Software	ProLiant Essentials Intelligent Networking Pack	
	ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License	436225-B21
	NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	
	NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at:	
	http://h18000.www1.hp.com/products/quickspecs/12062_na/12062_na.HTML	
	ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License	436229-B21
	NOTE: For additional ProLiant Intelligent Networking Pack - Linux License Kits please see the QuickSpecs at:	
	http://h18000.www1.hp.com/products/quickspecs/12327_na/12327_na.HTML	
	ProLiant Essentials Performance Management Pack	
	ProLiant Essentials Performance Management Pack, Single-Server License	306696-B21
	NOTE: For use with a single server. Contains one license with a unique license activation key, HP Management CD and documentation.	
	NOTE: The most recent version of the software can always be downloaded at	
	http://www.hp.com/products/pmp .	
	NOTE: For additional ProLiant Performance Management Pack License Kits please see the QuickSpecs at:	
	http://h18000.www1.hp.com/products/quickspecs/11925_na/11925_na.HTML	
	ProLiant Essentials Rapid Deployment Pack Windows Edition Release	
	Rapid Deployment Pack, Single-Server License	267196-B21
	NOTE: This license allows 1 server to be deployed and managed via RDP.	
	NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at:	
	http://h18000.www1.hp.com/products/quickspecs/11053_na/11053_na.HTML	
	ProLiant Essentials Workload Management Pack	
	ProLiant Essentials Workload Management Pack, Single Server License	303284-B21
	NOTE: For additional ProLiant Workload Management Pack License Kits please see the QuickSpecs at:	
	http://h18000.www1.hp.com/products/quickspecs/11452_na/11452_na.HTML	
	ProLiant Essentials Virtualization Management Software	
	ProLiant Essentials Virtual Machine Management Pack, Single-Server License	435661-B21
	NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	

Options

ProLiant Essentials Server Migration Pack, Single-Migration License 435663-B21

NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.

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.

NOTE: For additional ProLiant Essentials Virtualization Management Software License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12328_na/12328_na.HTML

ProLiant Essentials Vulnerability and Patch Management Pack

ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License 371645-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

NOTE: For additional ProLiant Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12111_na/12111_na.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

Integrated Lights-Out Advanced Pack

Integrated Lights-Out Advanced Pack, 1 server 263825-B21

Featuring: Sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites.

NOTE: For additional Integrated Light-Out Advanced Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11052_na/11052_na.HTML

ProLiant Software

ProLiant Software Maintenance Subscription 355060-B21

Maintenance Subscription

ProLiant Software Maintenance Single Release 356573-B21

ProLiant Foundation Pack Single Release 356604-B21

NOTE: Please see the SmartStart QuickSpecs for additional information regarding the subscription purchase:

http://h18000.www1.hp.com/products/quickspecs/North_America/11073.html

Options

Processor	Dual-core Intel Xeon X2.8-2x2MB/800MHz Processor Option Kit	399129-B21
	NOTE: This kit is not backwards compatible, existing systems cannot be upgraded.	
	Intel Xeon X3.8-2MB/800MHz Processor Option Kit	378752-B21
	Intel Xeon X3.6-2MB/800MHz Processor Option Kit	378751-B21
	Intel Xeon X3.4-2MB/800MHz Processor Option Kit	378750-B21
	Intel Xeon X3.2-2MB/800MHz Processor Option Kit	378749-B21
	Intel Xeon X3.0-2MB/800MHz Processor Option Kit	378748-B21
	Intel Xeon X2.8-2MB/800MHz Processor Option Kit	397645-B21
	Intel Xeon X3.6-1MB/800MHz Processor Option Kit	311584-B21
Intel Xeon X3.4-1MB/800MHz Processor Option Kit	311583-B21	
Intel Xeon X3.2-1MB/800MHz Processor Option Kit	374492-B21	
Memory	1 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 512 MB)	343055-B21
	2 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB)	343056-B21
	4 GB of Single-Ranked PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB)	343057-B21
	NOTE: The HP ProLiant ML370 G4 does not support dual ranked memory.	
Internal Storage	ML3xx Two Bay Hot Plug Ultra320 SCSI Drive Cage	244059-B21
	NOTE: The drive cage option kit (PN 244059-B21) has one 1" drive bay and one 1.6" drive bay, installed in two available removable media bays.	
	Duplex Ultra320 SCSI Backplane Option Kit	339323-B21
	ML370 G4 SAS (Serial Attached SCSI/ATA) drive cage option	383887-B21
	NOTE: Requires Smart Array P600 Controller installed in PCI-X slot. NOTE: When 3 or more SAS hard drives are installed in the HP ProLiant ML370 G4 SAS-enabled Server, the system becomes an FCC Class A device.	
Optical Drives	16X DVD-ROM Drive Option Kit (Carbon)	217053-B21
	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD±R/RW 16X Half Height	383974-B21
	HP ProLiant 48X CD w/o SCREWS	367920-B21

Options

Hard Drives

Ultra320 SCSI - Universal Hot Plug

HP 300GB U320 10K Universal HDD	350964-B22
HP 146GB U320 10K Universal HDD	286716-B22
HP 72GB U320 10K Universal HDD	286714-B22
HP 300GB U320 15K Universal HDD	411089-B22
HP 146GB U320 15K Universal HDD	347708-B22
HP 72GB U320 15K Universal HDD	286778-B22
HP 36GB U320 15K Universal HDD	286776-B22

NOTE: All Ultra320 Universal Hard Drives are backward compatible to Ultra2 or Ultra3 speeds.

NOTE: Please see the 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/11531_na/11531_na.HTML

SFF SATA Hot Plug

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/12091_na/12091_na.HTML

SFF SAS – Universal Hot Plug

HP 146GB 3G SAS 10K SFF SP HDD	431958-B21
HP 72GB 3G SAS 10K SFF SP HDD	375861-B21
HP 36GB 3G SAS 10K SFF SP HDD	375859-B21

NOTE: All SAS Universal Hard Drives are supported ONLY by SAS models.

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

Storage Controllers

SAS Controllers

Smart Array P600 Controller

Smart Array P600/256 BBWC Controller	337972-B21
--------------------------------------	------------

NOTE: Serial SCSI/ATA.

512MB DDR BBWC Upgrade	372538-B21
------------------------	------------

NOTE: Please see the following QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/12247_na/12247_na.HTML
(Smart Array P600 Controller)

SCSI Controllers

Smart Array 6402/128 Controller	273915-B21
---------------------------------	------------

NOTE: Ultra320 SCSI.

Smart Array 6404/256 Controller	273914-B21
---------------------------------	------------

NOTE: Ultra320 SCSI.

Smart Array 641 Controller	291966-B21
----------------------------	------------

NOTE: Ultra320 SCSI.

Options

Smart Array 642 Controller	291967-B21
NOTE: Ultra320 SCSI.	
128-MB BBWC (Battery-Backed Write Cache) Enabler	351580-B21
NOTE: This 128MB BBWC supports the Smart Array 641 Controller and Smart Array 642 Controller.	
64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
NOTE: Please see the following QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11587_na/11587_na.HTML (Smart Array 6400 Series) http://h18000.www1.hp.com/products/quickspecs/12067_na/12067_na.HTML (Smart Array 641) http://h18000.www1.hp.com/products/quickspecs/12069_na/12069_na.HTML (Smart Array 642) http://h18000.www1.hp.com/products/quickspecs/10429_na/10429_na.HTML (SCSI Adapter) http://h18000.www1.hp.com/products/quickspecs/11943_na/11943_na.HTML (Single Channel Ultra320 SCSI HBA)	
SAS HBA	
HP 8 Internal Port SAS HBA with RAID	347786-B21
NOTE: Please see the HBA QuickSpecs for additional information: http://h18004.www1.hp.com/products/quickspecs/12332_na/12332_na.html (8 Internal Port SAS HBA)	

Communications

HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21
HP NC340T PCI-X 4-port 1000T Gigabit Server Adapter	391661-B21
HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21
HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
NOTE: Any NIC (except the NC1020 and the NC150T) on the option list can be used for redundancy with the embedded NC7781 Network Controller. When teaming with other NICs or with the embedded NIC, the lack of Jumbo Frames and LSO features on the NC1020 and NC150T will cause high end NICs to have those features disabled. (e.g. incompatibility issues with the other option NICs for that platform).	

Redundant Options

Hot Plug Redundant Power Supply Option Kit (NEMA cord)	356544-001
Hot Plug Redundant Power Supply Option Kit (IEC cord only)	356544-B21
Redundant Hot Plug Fan Option Kit	225073-B21

Options

Management Options	Remote Insight Lights-Out Edition II	227251-001
--------------------	--------------------------------------	------------

Tape Drives

NOTE: For the complete listing of Tape Drive offerings, please see:
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>
 For recommended tape drive offerings for this ProLiant server see the following:

Hot Plug Tape Drives

HP StorageWorks DAT 72 SCSI Hot-plug Tape Drive (Carbon)	Q1529A
--	--------

NOTE: Not RoHS-compliant.

USB Tape Drives

HP StorageWorks DAT 72 USB Internal Tape Drive (Carbonite)	DW026A
--	--------

SAS Tape Drives

NOTE: Connecting hard drive cage and SAS tape to the same SAS Controller using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

HP StorageWorks Ultrium 920 SAS Internal Tape Drive	EH847A
---	--------

HP StorageWorks Ultrium 920 SAS External Tape Drive	EH848A
---	--------

Ultrium Tape Drives

HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite)	DW064A
---	--------

HP StorageWorks Ultrium 460 Internal Tape Drive (Carbon)	Q1518A
--	--------

HP StorageWorks Ultrium 448 Internal Tape Drive (Carbonite)	DW016A
---	--------

HP StorageWorks Ultrium 960 Internal Tape Drive (Carbonite)	Q1538A
---	--------

NOTE: Please see the HP StorageWorks Ultrium Tape Drive QuickSpecs for additional options such as controllers, media, and other related items:

http://h18006.www1.hp.com/products/quickspecs/11739_na/11739_na.html

http://h18006.www1.hp.com/products/quickspecs/12128_na/12128_na.html

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: <http://www.hp.com/go/connect>.

DAT Drives

HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon)	Q1522B
--	--------

NOTE: Please see the DAT Tape Drive QuickSpecs for controllers, media, and other options:

http://h18000.www1.hp.com/products/quickspecs/11883_na/11883_na.HTML

For an up-to-date listing of the latest O/S and software support details for HP DAT drives, please visit: <http://www.hp.com/go/connect>

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U SCSI Rack-Mount kit	A7445B
--	--------

NOTE: The 1U Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, Ultrium 215, Ultrium 232, Ultrium 448 and Ultrium 920 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit	A8007A
---------------------------------------	--------

NOTE: The 1U USB Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the DAT 24 USB, DAT 40 USB and DAT 72 USB tape drives.

Options

HP StorageWorks 3U Rack-mount kit	274338-B22
<p>NOTE: The 3U Rack-mount Kit can support up to (2) full-height or (4) half-height tape drives and compatible with multiple LVD SCSI tape drives including DAT 40, DAT 72, DLT VS160, SDLT 320, SDLT 600, Ultrium 232, Ultrium 460, Ultrium 448, Ultrium 920 and Ultrium 960 tape drives.</p> <p>NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits: http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML</p>	

Tape Autoloaders

HP StorageWorks DAT Autoloader	
HP StorageWorks DAT 72x10 tape autoloader	AE313A
HP StorageWorks 1/8 Tape Autoloader	
HP StorageWorks 1/8 Ultrium 960 Tape Autoloader	AF204A
HP StorageWorks 1/8 Ultrium 448 Tape Autoloader	AF203A
HP StorageWorks 1/8 Ultrium 232 Tape Autoloader	AF202A
1/8 Tape Autoloader Rackmount Kit	C9268R
<p>NOTE: Required to install the 1/8 tape autoloader in a standard 19-inch rack</p> <p>NOTE: Please reference the Tape Autoloader QuickSpecs at 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</p>	

Tape Libraries

HP StorageWorks MSL2024 Tape Library	
HP StorageWorks MSL2024 1 Ultrium 960 Drive Library	AG115A
HP StorageWorks MSL2024 1 Ultrium 960 4GB FC Drive Library	AG326B
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 Drive Library	AG324B
HP StorageWorks MSL4048 2 Ultrium 960 Drive Library	AG323A
HP StorageWorks MSL4048 2 Ultrium 960 4GB FC Drive Library	AG325B
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

Options

NOTE: Please reference the MSL2024, MSL4048 and MSL6000 Tape Library QuickSpecs at <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 Data Protector Express Software	HP DP Express Backup Server Upgrade for ProLiant Software	BB117AP
	HP DP Express Package for Microsoft Small Business Server	BB118AA

NOTE: Please see the HP Data Protector Express QuickSpecs for additional information regarding the purchase of HP Data Protector Express software: http://h18000.www1.hp.com/products/quickspecs/12337_na/12337_na.html

NOTE: To obtain a free licensed copy of HP Data Protector Express for ProLiant edition software, please visit the "Protect Your Data" link accessible from your ProLiant server's System Management Homepage (SMH) software (SmartStart 7.5 or later).

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

	HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (2 node license cluster kit)	305199-B26
--	---	------------

	HP Serviceguard for Linux A.11.16 for SUSE SLES 9 & 10 and Red Hat EL 3 & 4 (single license version)	307754-B26
--	--	------------

	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

HP StorageWorks Modular Smart Array 20	HP StorageWorks Modular Smart Array 20	335921-B21
--	--	------------

NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.

	HP StorageWorks Modular Smart Array 20 Starter Kit	366172-B21
--	--	------------

NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.

NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.

Options

HP StorageWorks Modular Smart Array 30	HP StorageWorks Modular Smart Array 30 SB	302969-B21
	NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies	
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 30 DB	302970-B21
	NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies	
	NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.	
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 Enclosure	364430-B21
	NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional options and configuration information at http://h18000.www1.hp.com/products/quickspecs/12245_na/12245_na.HTML	
HP StorageWorks Modular Smart Array 500	HP StorageWorks Modular Smart Array 500 Generation 2	335880-B21
	NOTE: Please see the Modular Smart Array 500 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11050_na/11050_na.HTML	
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000	201723-B22
	NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML	
HP StorageWorks Modular Smart Array 1500 cs	Modular Smart Array 1500 Controller Shelf	AA986A
	NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs	
StorageWorks Options	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	HP StorageWorks FC2142SR 4Gb PCI-e HBA	A8002A
	HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-e HBA	A8003A
	HP StorageWorks FC1142SR 4Gb PCI-e HBA	AE311A
	HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-e HBA	AE312A
	HP StorageWorks FC2143 4Gb PCI-X 2.0 -to-Fibre Channel HBA	AD167A
	HP StorageWorks FC2243 Dual Channel 4Gb PCI-X 2.0 HBA	AD168A
	HP StorageWorks FC1143 4Gb PCI-X 2.0 HBA	AB429A
	HP StorageWorks FC1243 Dual Channel 4Gb PCI-X 2.0 HBA	AE369A
	Uninterruptible Power Supply - Tower	HP, T1500 UPS
HP, R/T 2200 UPS		AF409A

Options

Uninterruptible Power Systems - Rack UPS	HP, R1.5kVA UPS, 1U	AF419A
	HP R3000 VA UPS, 2U, L5-30	AF422A
	NOTE: Replaces non-RoHs compliant part number 192186-001.	
	HP R3000 VA UPS, 2U, L6-20	AF423A
	NOTE: Replaces non-RoHs compliant part number 192186-002.	

HP Monitored Power Distribution Unit (PDU)	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3U, 24A	AF503A
	NOTE: Replaces non-RoHs compliant part number 370959-D71.	
	HP 8.3 kVA S1324 Monitored PDU- single input, 3U, 24A	AF504A
	NOTE: Replaces non-RoHs compliant part number 370960-D71.	
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1U, 40A	AF505A
	NOTE: Replaces non-RoHs compliant part number 37061-D71.	
	HP 8.6 S1140 Monitored PDU- single input, 1U, 40A	AF506A
	NOTE: Replaces non-RoHs compliant part number 370962-D71.	

Modular Power Distribution Units 1U/0U (up to 32 outlets) NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	HP Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC)	252663-D71
	NOTE: The above mPDU may also be used to connect to the low volt model of the UPS R3000 XR.	
	HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC)	252663-D72
	NOTE: L6-30 input.	
	HP Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC)	252663-B21
	NOTE: The 40A model has a hardwired input.	
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC)	252663-B24
	HP Modular Power Distribution Units (mPDU), High Volt Model, 40A, Attached Cord	252663-D73
	NOTE: This PDU has a detachable input power cord and allows for adaptability to country specific power requirements. This model may also be used with the high volt UPSs R3000 XR.	
	NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords: http://h18000.www1.hp.com/products/quickspecs/11041_na/11041_na.HTML	

USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	USB 2.0 4-port HUB	DG954A
	HP 1GB Drive Key II- USB 2.0 Flash Drive	AG382AA
	HP 512MB DriveKey II- USB Flash Drive	ED516AA

Other	ProLiant ML3xx Internal to External SCSI Cable Option Kit (VHDCI)	333370-B21
	ProLiant ML3xx Internal to External SCSI Cable Option Kit (HD68)	159547-B22

Options

Rack Conversion Kit	ML370 Tower to Rack Conversion Kit	356545-B21
	Shipping Kit for Round Hole Racks NOTE: Required when shipping server pre-installed in round hole rack. Square hole pre-configured rack shipping hardware included with server mounting rails.	371482-B21
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 .	
HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10636 G2 (36U) Rack Cabinet - Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet - Crated	AF013A
	10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet	AF014A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed. NOTE: Please see the Rack 10000 G2 QuickSpecs for 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)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	HP S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	HP Rack 10842 (42U, 800mm wide) - Pallet	257415-B21
	HP Rack 10842 (42U, 800mm wide) - Shock Pallet	257415-B22
	HP Rack 10647 (47U) - Pallet	245160-B21
	HP Rack 10647 (47U) - Crated	245160-B23
	HP Rack 10622 (22U) - Pallet	245163-B21
	HP Rack 10622 (22U) - Shock Pallet	245163-B22
HP Rack 10622 (22U) - Crated	245163-B23	
NOTE: xxxxx-B21 (pallet) used to ship empty racks shipped on a truck. -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. Not all HP equipment is qualified to be shipped in the Rack 10000 series.		

Options

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

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

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

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	
	NOTE: For a complete list of Monitors please view the following URL: http://www.hp.com/go/kvm .	
	TFT7600 Rackmount Keyboard Monitor	AG052A
	1U Rackmount Keyboard with USB	AG072A
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	

HP KVM Switch Options	2x1x16 IP Console Switch with Virtual Media	AF601A
	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x16 Server Console Switch with Virtual Media	AF600A
	PS/2 Virtual Media Interface Adapter, 1 pack	AF604A
	NOTE: Requires PS/2 and one USB port on server.	
	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm .	
	HP 1x 4 USB/PS2 KVM Switch, TT	371301-D71
	HP 1x 4 USB/PS2 KVM Switch, RM	371302-B21
HP PS2 KVM Cable with audio, 6', 2-pack	371730-B21	
HP USB KVM Cable with audio, 6', 2-pack	371729-B21	
NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm .		

Options

HP Serial Console Server	HP 16 Port Serial Console Server	AF101A
Options	HP 48 Port Serial Console Server	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A

NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: <http://www.hp.com/go/kvm>.

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: <http://www.hp.com/go/kvm>.

Service and Support

Offerings (HP Care Pack Services)

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic U4528E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4529E

Hardware Services 6-Hour Call to Repair On-site Service

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4530E

Installation & Start-up Services

Hardware Installation, Electronic U4538E

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic U4539E

Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4540E

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, Electronic U4541E

Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U6311E

Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U8333E

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

Memory

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

HP ProLiant ML370 G4 Models

Standard Memory

1 GB PC2-3200R Single-ranked Memory comes installed (2 x 512 MB SDRAM)

NOTE: HP ProLiant ML370 G4 does not support dual-ranked memory.

Standard Memory Replaced with Optional Memory

Up to 16 GB of memory is available with the removal of the standard 1 GB of memory and the optional installation of 16 GB PC2-3200R Memory Option Kit (8 x 2 GB)

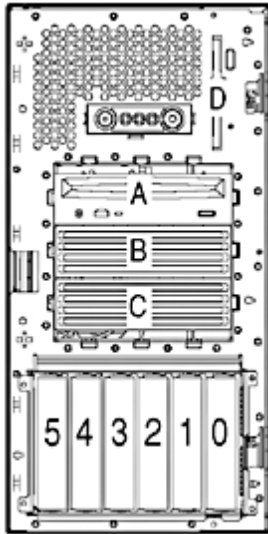
NOTE: This chart does not represent all possible memory configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Standard	1 GB	512 MB	512 MB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	7 GB	512 MB	512 MB	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB
Maximum	16 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB

Following are memory options available from HP:

- 1 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 512 MB) 343055-B21
- 2 GB of Advanced PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 1024 MB) 343056-B21
- 4 GB of Single-Ranked PC2 PC3200R DDR2 SDRAM DIMM Memory Kit (2 x 2048 MB) 343057-B21

Storage

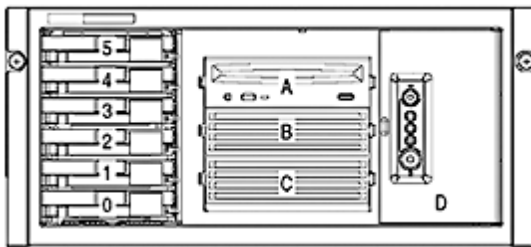


0 - 5 6 Hot Pluggable Hard Drive Bays

A 48x IDE CD-ROM Drive

B, C Two available half height bays

D 1.44 MB Diskette Drive

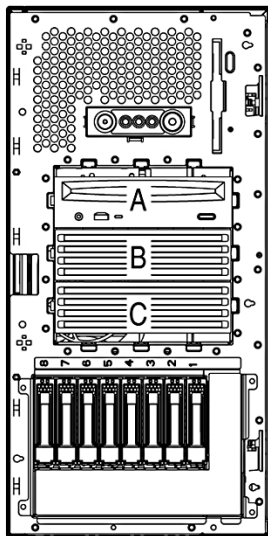


0 - 5 6 x Hot Pluggable Hard Drive Bays

A 48x IDE CD-ROM Drive

B, C Two available half height bays

D 1.44 Diskette Drive

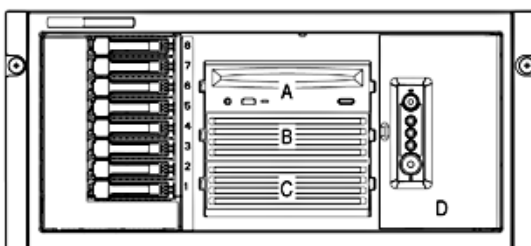


0 - 7 8 x Hot Pluggable Hard Drive Bays

A 48x IDE CD-ROM Drive

B, C Two available half height bays

D 1.44 Diskette Drive



0 - 7 8 x Hot Pluggable Hard Drive Bays

A 48x IDE CD-ROM Drive

B, C Two available half height bays

D 1.44 Diskette Drive

Storage

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	D	Integrated
IDE CD-ROM Drive	Up to 2	A, B	Integrated IDE
DVD-ROM Drive Option Kit (optional)	Up to 2	A, B	Integrated IDE
ML3xx Two Bay Hot Plug Wide SCSI Drive Cage(optional)	Up to 1	B, C	Integrated SCSI or optional array controller

Hard Drives

Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
300GB U320 10K	Up to 8	0-7	Integrated Dual Channel Ultra320 SCSI Adapter
146GB U320 10K	Up to 8 (With optional ML3xx Two Bay Hot Plug SCSI Drive Cage)	0-7	Smart Array 6402/128 Controller
72GB U320 10K			Smart Array 6404/256 Controller
300GB U320 15K			Smart Array 641 Controller
146GB U320 15K			Smart Array 642 Controller
72GB U320 15K			
36GB U320 15K			

Serial-ATA (SATA) – Hot Plug Drives

	Quantity Supported	Position Supported	Controller
60GB 1.5G SATA 5.4K	Up to 8	0-7	Smart Array P600/256 BBWC Controller

SFF SAS – Hot Plug Drives

	Quantity Supported	Position Supported	Controller
146GB 3G SAS 10K SP	Up to 8	0-7	Smart Array P600/256 BBWC Controller
72GB 3G SAS 10K SP			
36GB 3G SAS 10K SP			

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 20 Family	1 per external VHDCI SCSI connector	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller
Modular Smart Array 30 Family	1 per external VHDCI SCSI connector	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
Modular Smart Array 50 Enclosure	1 per external VHDCI SCSI connector	External	Smart Array P600/256 BBWC Controller
Modular Smart Array 500 G2 System	1	External	Smart Array 642 Controller (used as Host Bus Adapter) Please see the Modular Smart Array 500 G2 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs link below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs link below to determine configuration requirements	External	Please see the Modular Smart Array 1500 cs QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1000: http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML			
Modular Smart Array 1500 cs: http://www.hp.com/go/MSA1500cs			

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/North_America/10233.html

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

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

NOTE: SAS Tape Drives: Connecting hard drive cage and SAS tape to the same SAS Controller using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

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



Storage

	Position Supported	Controller	Controller Part Numbers		
HP StorageWorks Tape Drives, Hot Plug DAT 40 Hot Plug DAT 72 Hot Plug	0-5	Integrated Dual Channel Ultra320 SCSI Adapter	N/A		
	NOTE: SCSI Models only.	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21		
HP StorageWorks Tape Drives, Internal DAT 24 USB DAT 40 USB DAT 72 USB	B or C	USB 2.0 Port	N/A		
	HP StorageWorks Tape Drives, External DAT 24 USB DAT 40 USB DAT 72 USB	External	USB 2.0 Port	N/A	
		HP StorageWorks Tape Drives, Internal Ultrium 232 Ultrium 448 DAT 40 DAT 72 DLT VS160	B or C	USB 2.0 Port	N/A
			HP StorageWorks Tape Drives, Internal Ultrium 460 Ultrium 960 SDLT 320 SDLT 600	B and C	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 Ultrium 960 DAT 40 DAT 72 DLT VS160 SDLT 600	External			64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
	HP StorageWorks Autoloaders, External DAT 72x10 Autoloader 1/8 Tape Autoloader	External		64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21

Storage

HP StorageWorks SCSI Rack-Mount Tape Drive Enclosures 1U Rack-Mount Kit 3U Rack-Mount Kit	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
HP StorageWorks USB Rack-Mount Tape Drive Enclosures 1U Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks Tape Libraries, External MSL2024 (Ultrium 448 and 960-based) MSL4048 (Ultrium 448 and 960-based) MSL6000 (Ultrium 960 and 460-based) MSL6000 (SDLT 600-based)	External	Please consult the EBS connectivity matrix at http://www.hp.com/go/ebs for detailed connectivity information.	N/A

Power Specifications

Part Number	367242-001
Spare Kit	360623-B21
Operational Input Voltage Range (V rms)	90 to 264
Frequency Range (Nominal) (Hz)	47 to 63 (50/60)

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	775	775	775	775	775	775
Nominal Input Current (A rms)	10.0	8.6	4.7	4.4	4.1	4.0
Max Rated Input Wattage Rating (Watts)	981	969	957	945	934	934
Max. Rated VA (Volt-Amp)	1001	989	976	964	963	953
Efficiency (%)	79	80	81	82	83	83
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.43	0.50	0.65	0.96	1.00	1.04
Maximum Inrush Current (A peak)	30	30	30	30	30	30
Maximum Inrush Current duration (mS)	3	3	3	3	3	3

NOTES:

* - To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: <http://h30099.www3.hp.com/configurator/powercalcs.asp>.

To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: ML370 G4
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Power Cords	Power Cord Part Number
Country	
US	163719-002

Technical Specifications

System Unit - Tower	Dimensions	18.46 x 8.69 x 28 in (46.88 x 22.07 x 71.12 cm)										
	Weight	70 lb (31.75 kg) (without hard drives, no RPS)										
	Input Requirements	<table border="0"> <tr> <td>Range Line Voltage</td> <td>100-132 VAC, 200-240 VAC</td> </tr> <tr> <td>Rated Input Voltage</td> <td>7.5A (100VAC), 3.8A (200VAC)</td> </tr> <tr> <td>Rated Input Frequency</td> <td>50 to 60 Hz</td> </tr> <tr> <td>Rated Input Current</td> <td>735W</td> </tr> <tr> <td>Rated Input Power</td> <td>1001W (100VAC)</td> </tr> </table>	Range Line Voltage	100-132 VAC, 200-240 VAC	Rated Input Voltage	7.5A (100VAC), 3.8A (200VAC)	Rated Input Frequency	50 to 60 Hz	Rated Input Current	735W	Rated Input Power	1001W (100VAC)
Range Line Voltage	100-132 VAC, 200-240 VAC											
Rated Input Voltage	7.5A (100VAC), 3.8A (200VAC)											
Rated Input Frequency	50 to 60 Hz											
Rated Input Current	735W											
Rated Input Power	1001W (100VAC)											
	BTU Rating	3,420 BTU/HR										
	Power Specifications	<p>To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: http://h30099.www3.hp.com/configurator/powercalcs.asp.</p> <p>To drill down to calculators:</p> <ul style="list-style-type: none"> - Click on: "ProLiant Servers" - Click on the Server of interest. Example: ML370 G4 - Click on: "Power Calculator" link. (You may need to scroll down to see it) 										
	SCSI Connectors	Two Internal HD68 connectors (Option kits available for HD68 or VHDCI external connectors)										
	Power Supply Output Power	<table border="0"> <tr> <td>Steady State Power</td> <td>775W</td> </tr> <tr> <td>Maximum Peak Power</td> <td>775W</td> </tr> </table>	Steady State Power	775W	Maximum Peak Power	775W						
Steady State Power	775W											
Maximum Peak Power	775W											
	Temperature Range	<table border="0"> <tr> <td>Operating</td> <td>41° to 95° F (5° to 35° C)</td> </tr> <tr> <td>Shipping</td> <td>-40° to 185° F (-40° to 85° C)</td> </tr> </table>	Operating	41° to 95° F (5° to 35° C)	Shipping	-40° to 185° F (-40° to 85° C)						
Operating	41° to 95° F (5° to 35° C)											
Shipping	-40° to 185° F (-40° to 85° C)											
	Relative Humidity (non-condensing)	<table border="0"> <tr> <td>Operating</td> <td>5% to 95%</td> </tr> <tr> <td>Shipping</td> <td>5% to 95%</td> </tr> </table>	Operating	5% to 95%	Shipping	5% to 95%						
Operating	5% to 95%											
Shipping	5% to 95%											
	Acoustic Noise	<p>Idle (Fixed Disk Drives Spinning)</p> <table border="0"> <tr> <td>L WAd (BELS)</td> <td>5.9</td> </tr> <tr> <td>L pAm (dBA)</td> <td>41</td> </tr> </table> <p>Operating (Random Seeks to Fixed Disks)</p> <table border="0"> <tr> <td>L WAd (BELS)</td> <td>6.0</td> </tr> <tr> <td>L pAm (dBA)</td> <td>42</td> </tr> </table>	L WAd (BELS)	5.9	L pAm (dBA)	41	L WAd (BELS)	6.0	L pAm (dBA)	42		
L WAd (BELS)	5.9											
L pAm (dBA)	41											
L WAd (BELS)	6.0											
L pAm (dBA)	42											

Technical Specifications

System Unit - Rack	Dimensions	8.69 x 19.0 x 25.75 in (22.07 x 48.26 x 65.43 cm)		
	Weight	65 lb (29.48) (without hard drives, no RPS)		
	Input Requirements	Range Line Voltage	90 to 264 VAC	
		Rated Input Voltage	100 to 240 VAC	
		Rated Input Frequency	47 to 63 Hz	
		Rated Input Current	10A (110 V) to 4.8A (220 V)	
		Rated Input Power	1001W (100VAC)	
	BTU Rating	3,420 BTU/HR		
	SCSI Connectors	Two Internal HD68 connectors (Option kits available for HD68 or VHDCI external connectors)		
	Power Supply Output Power	Steady State Power	775W	
		Maximum Peak Power	775W	
	Temperature Range	Operating	41° to 95° F (5° to 35° C)	
		Shipping	-40° to 185° F (-40° to 85° C)	
	Relative Humidity (non-condensing)	Operating	5% to 95%	
		Shipping	5% to 95%	
Maximum Wet Bulb Temperature	101.7° F (38.7° C)			
Acoustic Noise	Idle (Fixed Disk Drives Spinning)	L WAd (BELS)	5.9	
		L pAm (dBA)	41	
	Operating (Random Seeks to Fixed Disks)	L WAd (BELS)	6.0	
		L pAm (dBA)	42	

Optional Redundant Power Supply	Input Requirements	Rated Input Voltage	100 to 240 VAC	
		Rated Input Frequency	47 to 63 Hz	
		Rated Input Current	10A (110 V) to 4.8A (220 V)	
		Rated Input Power	1001W (100VAC)	
	BTU Rating	3,420 BTU/HR		
	Power Supply Output Power	Steady State Power	775W	
		Maximum Peak Power	775W	
	Temperature Range	Operating	41° to 95° F (5° to 35° C)	
		Shipping	-40° to 185° F (-40° to 85° C)	
	Relative Humidity (non-condensing)	Operating	5% to 95%	
		Shipping	5% to 95%	
	Maximum Wet Bulb Temperature	101.7° F (38.7° C)		

Technical Specifications

Integrated Dual Channel Ultra320 SCSI Adapter	Drives Supported	Up to 28 SCSI devices (14 per channel)
	Data Transfer Method	64-bit PCI bus-master
	SCSI Channel Transfer Rate	320 MB/s per channel
	Maximum Transfer Rate per PCI Bus (peak)	400 MB/s per channel
	SCSI Protocols	Wide Ultra2 SCSI Wide-Ultra SCSI-3 Ultra320 SCSI
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Termination	Active Termination
	External SCSI Connectors	Optional VHDCI and HD68 internal-to-external connectors
	Internal SCSI Connectors	Two 68-Pin Wide-Ultra SCSI-3 connectors
	<hr/>	
Smart Array P600 Controller (SAS models only)	Disk Drive and Enclosure Protocol Support	3 Gbps SAS (Serial Attached SCSI) 1.5 Gbps Serial Advanced Technology Attachment (SATA)
	Architecture	1.5 Gb SATA
	SAS Connectors	1 internal SFF8484 & 1 external SFF8470 / internal SFF8484 shared x4 Wide SAS Ports 12 Gbps per x4 Wide SAS Port (4 x 3 Gbps)
	Data Transfer Method	64-bit wide, PCIX 133 MHz (1 GB/s maximum bandwidth)
	PCI Bus Speed	PCIX-133 and 3.3 volt PCI compatibility only
	Memory Bus Speed	DDR-266 and 72 bit wide bus
	PCI	64-bit, 133-MHz PCI-X (1 GB/s maximum bandwidth)
	Simultaneous Drive Transfer Ports	PCI-X and 3.3 volt PCI compatibility only
	Port Transfer Rate	2 x4 Wide SAS Ports
	Software upgradeable Firmware	12 Gb/s per x4 Wide SAS Port (4 x 3 Gb/s)
	Cache Memory	Yes
	Logical Drives Supported	256 MB Read/Write (512-MB module upgrade available); ECC protection, battery-backed, and removable
	Maximum Capacity	Up to 32 logical drives Up to 2.2 TB per logical drive
	Memory Addressing	2.7 TB (38 x 72 GB) 64-bit, supporting servers memory greater than 4 GB
	RAID Support	RAID 6 (Advanced Data Guarding) RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)
	Upgradeable Firmware	4-MB flashable ROM
	Disk Drive and Enclosure Protocol Support	3 Gb SAS and 1.5 Gb SATA

Technical Specifications

Integrated NC7781 PCI-X Gigabit Server Adapter	Network Interface	10/100/1000-T	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	64-bit/133MHz PCI-X	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000BaseTX (Half and Full-Duplex)	2000 Mb/s
Connector	RJ-45		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)	
<hr/>			
Integrated Lights-Out (integrated on system board)	Architecture	32-bit PCI-based health and remote management ASIC (Application Specific Integrated Circuit)	
	Processor	32-bit RISC processor core running at 66MHz	
	Upgradeability	Option firmware upgradeable via flash ROM.	
	Video Support	Utilizes the host server's embedded video chip. Supports VGA/SVGA, 640 x 480 (256 to 16.7M colors), 800 x 600 (256 to 16.7M colors), 1024 x 768 (256 to 65K colors), 1280 x 1024 (256 colors)	
	Interfaces	One dedicated Ethernet network connection (10/100 Mb/s)	
		One shared Ethernet network connection via one of the embedded 1Gb/s system network interfaces	
	Memory	2-MB Flash ROM	
		8-MB SDRAM	
	Operating System Support	Microsoft Windows 2000 Server and Advanced Server, Microsoft Windows Server 2003, Standard Edition, Web Edition, Enterprise Edition, SBS Edition	
		Red Hat AS 2.1	
		Red Hat Enterprise Linux L 3.0 (10/03) - WS, ES, AS SuSE Linux Enterprise Server 7, United Linux 1.0 SP2 & SP3 (11/03) Novell NetWare 6.0, 6.5	
	Client System Support	Windows 2000 and 2000 Professional	
		Windows 2003	
Windows 2000 XP Professional Edition			
Red Hat Advanced Server 2.1, Red Hat Linux V7.2, V7.3, V8.0			
SuSE Linux Enterprise Server V7, V8 United Linux 1.0			
Client Browser Support	Microsoft Internet Explorer 6.0 or later.		
	Netscape Navigator 7.1 (on supported Linux client systems)		
	Mozilla 1.5 (for supported Linux client systems)		
Command Line support	Telnet, Secure Shell and serial port access		
Security	Secure Socket Layer		
	Secure Shell version 2		
Directory Support Services	Active Directory V1.0 (Windows 2000, 2003)		

Technical Specifications

Directory Support Services	Novell eDirectory V8.6.2, V8.7 (Novell NetWare 5.X, 6.X, Red Hat 7.1, Windows 2000, Windows Server 2003)
Driver Support	Health Driver (iLO Advanced Server Management Controller Driver) iLO Management Interface Driver
iLO Standard Management	Virtual Text Remote Console Virtual Power Button Control Dedicated & shared LAN Connectivity Browser and command line access Automatic IP Configuration via DHCP/DNS/WINS Industry Standard 128-bit Secure Sockets Layer (SSL) Secure Shell Security IML and iLO Event Logging Support for up to 12 user accounts with customizable access privileges
iLO Advanced Features	Virtual Graphical Remote Console Virtual Floppy Drive

© Copyright 2006 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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