Overview

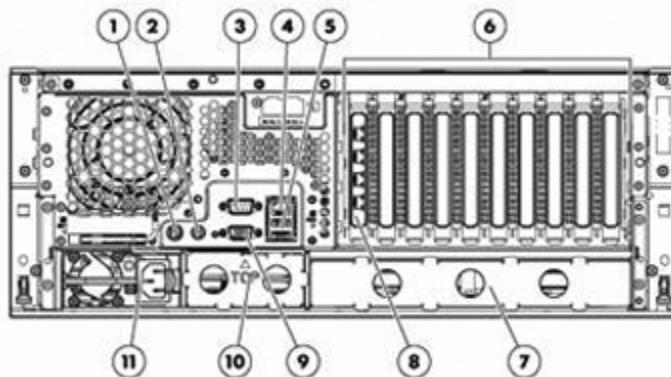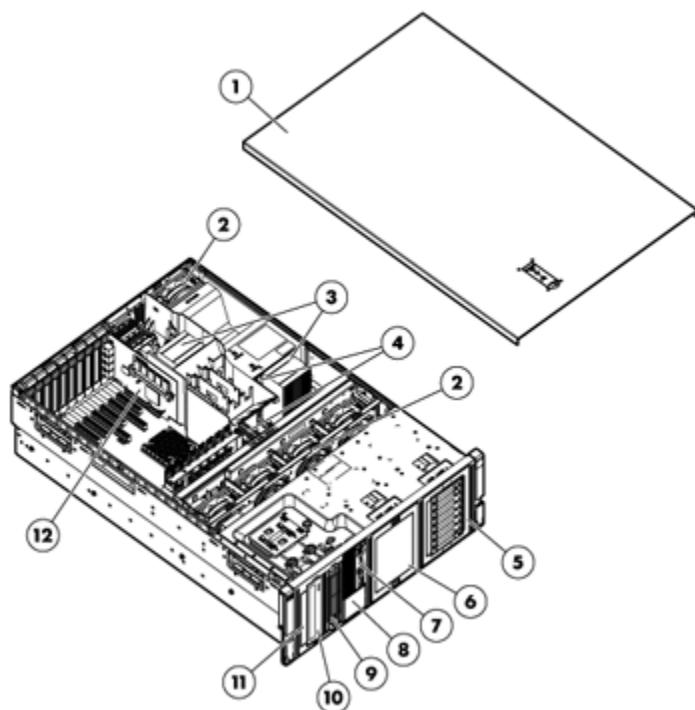**HP ProLiant DL370 G6 (Rack)**
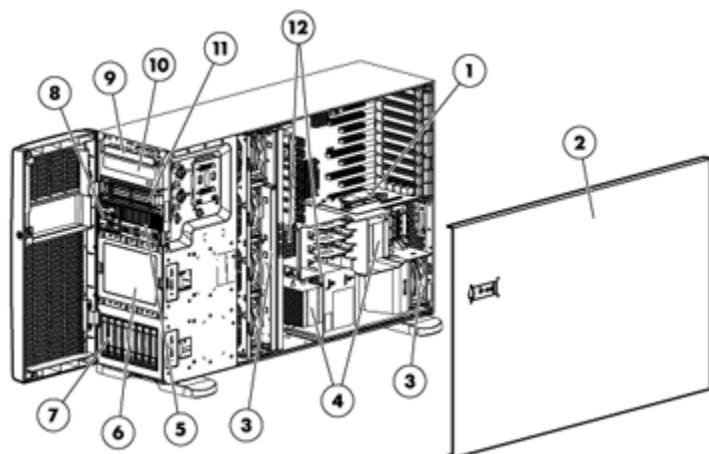

Front View:

1. Quick removal access panel
2. Three Hot-plug fans (standard) Five (optional)
3. Intel Six or Quad-Core Processor (Performance model includes two processors)
4. Eighteen slots for DDR3 Registered or Unbuffered Memory
5. SAS/SATA drive cage
6. Optional drive cage bay
7. Power on/standby button
8. System Insight Display
9. Removal media bay
10. DVD-ROM drive
11. Optional slimline optical drive bay
12. 9 Available PCI-Express Gen2 slots; PCI-X (optional)

Rear View:

1. Mouse connector
2. Keyboard connector
3. Serial connector
4. iLO 2 connector
5. Two USB connectors
6. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)
7. PCI-X Expansion slot riser bay
8. Four NIC connectors
9. Video connector
10. Power supply bay 2
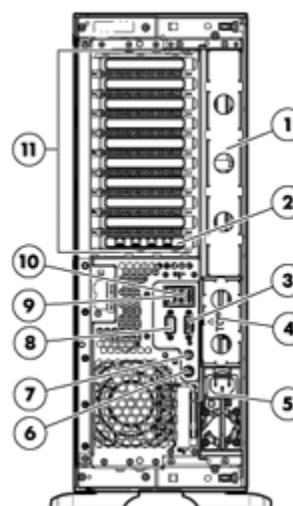11. Power supply bay 1 (populated)

Overview

HP ProLiant ML370 G6 (Tower)

Front View:

1. 9 Available PCI-Express Gen2 slots; PCI-X (optional)
2. Quick removal access panel
3. Three Hot-plug fans (standard) Five (optional)
4. Intel Six or Quad-Core Processor (Performance model includes two processors)
5. Power on/standby button
6. Optional drive cage bay
7. SAS/SATA drive cage
8. System Insight Display
9. Optional slimline optical drive bay
10. DVD-ROM drive
11. Removal media bay
12. Eighteen slots for DDR3 Registered or Unbuffered Memory

Rear View:

1. PCI-X Expansion slot riser bay
2. Four NIC connectors
3. Video connector
4. Power supply bay 2
5. Power supply bay 1 (populated)
6. Mouse connector
7. Keyboard connector
8. Serial connector
9. iLO 2 connector
10. Two USB connectors
11. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)

At A Glance

The next generation of the HP ProLiant ML370 (expandable tower chassis) and the new HP ProLiant DL370 (4U rack optimized chassis) deliver Industry-leading management tools, leading performance, expandability, flexibility and the latest energy efficient technologies. These servers are well-suited for deployment in growing businesses, remote office sites, or datacenters and have been designed to bring you (our customer) the utmost confidence to run your business.

Features included in both the HP ProLiant ML370 G6 and the HP ProLiant DL370 G6:

- **Processors**:
  - Up to two (2) Intel® Xeon® 5500 series processors series with Intel Turbo Boost technology which now allows customized adaptability for optimizing both power consumption and performance based on your respective requirements
  - Intel® 5520 chipset
- **Memory**:
  - Total of 18 DIMM slots
  - Up to 192GB (16GB kits populating12 DIMM slots), using PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated at 2 DIMMs per Channel in 12 slots
    NOTE: If only one processor is installed, only half the DIMM slots are available.
    NOTE: when populating with the 16GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.
  - Up to 24GB, using PC3-10600E DDR3 Unbuffered (UDIMM) memory, operating at 1066MHz when fully populated at 2 DIMMs per Channel in 12 slots
- **Storage Controller**:

Overview

- o Entry Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
  NOTE: Entry Models available for ML370 G6 models only.
- o Base Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
- o Performance Models: HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
- o Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for BBWC), and Smart Array Advanced Pack (SAAP).
- **Internal Drive Support**:
  - o Up to 24 small form factor (SFF) or 14 large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives
  - o Standard half-height DVD-ROM (all models)
  - o Two open half-height media bays available for tape drives, optical media, optional SAS HDD cage
- **Network Controller**:
  - o HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
- **Expansion Slots**:
  - o Nine (9) available PCI-Express Gen2 expansion slots to provide you with the latest I/O performance (see "Standard Features -Expansion Slots" section below for more details); PCI-X (optional)
- **Graphic Cards**:
  - o Supports up to 3 x 300W Graphic Cards via Graphic Card Power Adapter kit
  NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)
- **Ports**:
  - o USB 2.0 support
  - o 6 total ports: (2) ports in front; (2) ports in rear; (1) port for internal key; (1) port for HP internal tape
  - o 1 internal Secure Digital (SD) slot
- **Redundancy**:
  - o Multiple layers of fault tolerance through critical component redundancy (power supply and fan redundancy), mirrored memory, embedded RAID capability, and full-featured remote Lights-Out management
- **Power Sources**:
  - o Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
    - HP 1200W CS HE Silver Power Supply (optional)
    - HP 750W CS HE Gold Power Supply (standard on some models)
    - HP 460W CS HE Gold Power Supply (standard on some models)
- **Infrastructure Management:**
  - o HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
  - o HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
  - o HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- **Form Factor**:
  - o 4U Tower Chassis and 4U Rack Optimized Chassis
    - Redesigned 4U Tower Chassis and the new 4U Rack Optimized Chassis to better meet our customer's density requirements
- **Operating Systems and Virtualization Software Support for ProLiant Servers:**
  - o Supports Windows, RHEL, SLES, OEL, Solaris, VMware, and Citrix Essentials for XenServer
- **Deployment/Serviceability**:
  - o System Insight Display on the front bezel for quick and easy server diagnostics
  - o Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability
  - o Tool-less access to all system components for easy in rack serviceability
  - o Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement
- **Warranty**:
  - o This product is covered by a global limited warranty and supported by HP Services and a worldwide network of

Overview

HP Authorized Channel Partners resellers. 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. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Standard Features

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

Processor *One of the following depending on Model*	**Quad-Core Processors** Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2) Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) **Dual-Core Processors** Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800) **NOTE:** Up to 2 processors supported. Performance configurations include two processors. Mixing different processor models is not supported. **NOTE:** HT indicates that the processor model supports Intel® Hyper-Threading Technology. **NOTE:** Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 6, 4, 3, 2, and 1 cores active. **NOTE:** DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. **NOTE:** For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.
Cache Memory *One of the following depending on Model*	8MB (1 x 8MB) Level 3 cache 4MB (1 x 4MB) Level 3 cache **NOTE:** Cache size is dependent on processor.
Upgradeability	Upgradeable to two processors
Chipset	Intel® 5520 chipset **NOTE:** For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.
Memory Protection	Advanced ECC Mirroring mode Lockstep mode

Standard Features

Memory	Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
One of the following depending on Model	Standard (Performance Models)	12GB (6 x 2GB) RDIMM
	Standard (Base Models)	6GB (3 x 2GB) RDIMM
	Standard (Entry Model)	4GB (2 x 2GB) RDIMM
	Maximum (RDIMM)	192GB (12 x 16GB) for Registered Memory configurations
	Maximum (UDIMM)	24GB (12 x 2GB) for Unbuffered Memory configurations

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

DDR3 memory options part number decoder
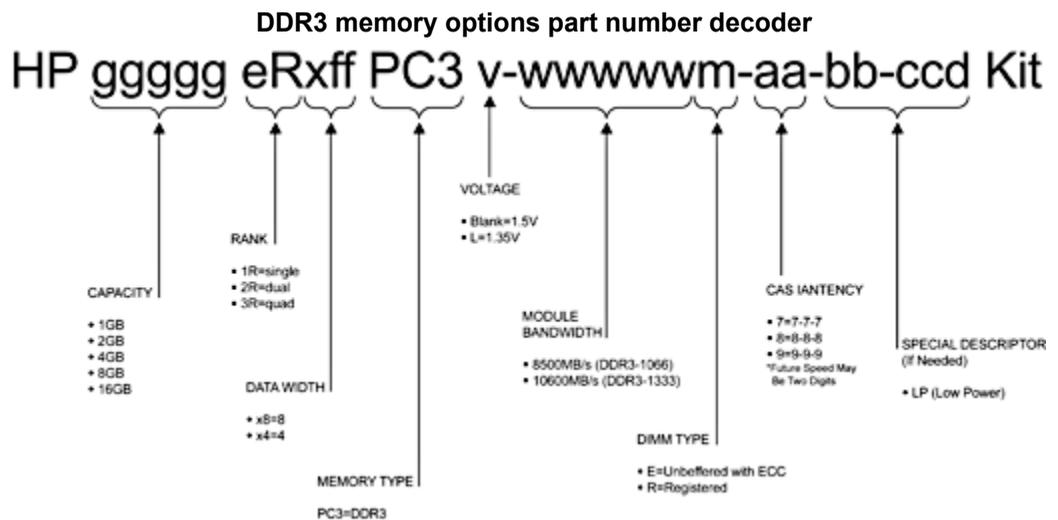
Network Controller — HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter

Expansion Slots	Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
	1	PCIe	x4	x8	Half length, full height	
	2	PCIe2	x4	x8	Full Length/Full Height	
	3	PCIe2	x16	x16	Full Length/Full Height	
	4	PCIe2	x4	x8	Full Length/Full Height	
	5	PCIe2	x4	x8	Full Length/Full Height	
	6	PCIe2	x8	x16	Full Length/Full Height	
	7	PCIe2	x4	x8	Full Length/Full Height	
	8	PCIe2	x16	x16	Full Length/Full Height	
	9	PCIe2	x4	x8	Full Length/Full Height	

Standard Features

10	PCIe2	X8	X8	Half length, full height	Utilized by NIC controller "Use the correct model number for the NIC"
11	PCI-X	See note	See note	Full Length/Full Height	(optional) *Up to 64bits/133Mhz speed when only one device install in slot 11 and 12 *up to 64bits/100Mhz speed when both slot 11 and 12 are utilized.
12	PCI-X	See note	See note	Full Length/Full Height	(optional)

*Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.
*PCI-X support is limited to PCI-X cards only

Storage Controller One of the following depending on Model	Entry Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
	Base Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
	Performance Models	HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0/6)

Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for BBWC), and Smart Array Advanced Pack (SAAP).

Storage	Diskette Drive	None Standard
	Optical Drive	SATA DVD ROM (standard in all models)
	Hard Drives	None Standard

Maximum Internal Storage Type	Hot Plug SFF SAS	14.4TB	24 x 600GB
	Hot Plug LFF SAS	28TB	14 x 2TB

Standard Features

Interfaces	Serial	1 (rear)
	Pointing Device (Mouse)	1
	VGA	1 (+1 front VGA on rack models)
	Keyboard	1
	Network RJ-45 (Ethernet)	4 (rear)
	ILO 2.0 remote management port	1
	SD slot	1
	USB 2.0 Ports	5 (2 on the rear, 2 on the front, 1 internal) **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 (available for DAT USB tape connectivity) **NOTE:** Internal USB ports are optimal for the attachment of HP DAT USB Internal Tape Drives

Graphics	Integrated ATI RN50, 64 MB video standard

- 16 bit color: maximum resolution of 1600 x 1200
- 32 bit color: maximum resolution of 1280 x 1024

NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024.

Form Factor	4U Rack and Tower form factor (7 in, 17.8 cm)

HP Insight Software	HP Insight Foundation	Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.
		HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecylce. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation. The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

SmartStart version supported (minimum): SmartStart 8.20
http://www.hp.com/servers/smartstart

	ProLiant Onboard Administrator	HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to

Standard Features

		the business. See www.hp.com/go/ProLiantOA
	HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console.
		Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol
		HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.
	HP Insight Dynamics for ProLiant	HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.
		NOTE: For more information, visit: http://www.hp.com/go/insightdynamics

Industry Standard Compliance	ACPI V2.0 Compliant PCI-Express Gen2 PXE Support WOL Support Microsoft® Logo certifications USB 2.0 Support SMBIOS 2.6.1

Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Serial interface control Administrator's password

Standard Features

Security Trusted Platform Module	Trusted Platform Module option kit

The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM

NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.
NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

Server Power Cords

High voltage power cord ships standard with all part numbers. Localized cables included with geographic specific models in other world regions.
NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the above NEMA power cord must be ordered separately.

UPS Power Cord Matrix Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

Power Supply

HP has a new design for ProLiant power- the new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. The new HP Common Slot power supplies are designed for the highest power efficiency without degrading performance of the ProLiant server. Power Supplies have efficiency ratings up to 92%. There are three Right Size power options available depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, please use the HP Power Advisor at www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant.

Standard Features

Common Slot ProLiant It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP offers four Power Supply Options:

- HP 460Watts, Common Slot, 92% Efficiency
- HP 750Watts, Common Slot, 92% Efficiency
- HP 1200Watts, Common Slot, 90% Efficiency

HP's ProLiant Common Slot Power supplies (460W & 750W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative GOLD, ECOS Consulting 80PLUS GOLD and plans on offering models that meet the Energy Star for Server requirements when they are published.

HP's ProLiant Common Slot Power supplies (1200W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative Bronze, ECOS Consulting 80PLUS Bronze Power Supply requirements.

Redundant Power: Optional (1+ 1 redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers).

System Fans (3) Hot Plug fans ship standard
NOTE: For full redundancy you can purchase the HP ML370 G6 and DL370 G6 Redundant Fan Kit; PN: 508107-B21.

Required Cabling For external storage cabling information, refer to the Web site at: www.hp.com/servers/dl370 or www.hp.com/servers/ml370.

Operating Systems and Virtualization Software Support for ProLiant Servers
Microsoft Windows Server
Microsoft Windows Server 2008 Hyper-V
Red Hat Enterprise Linux (RHEL)
SUSE Linux Enterprise Server (SLES)
Oracle Enterprise Linux (OEL)
Solaris
VMware
HP Citrix Essentials for XenServer

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page http://www.hp.com/support/ML370G6.

Standard Features

Rack Airflow Requirements	**Rack 10000 G2 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: www.hp.com/servers/ml370-g6.
Rack Kit	Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.
Telco Rack Support	Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions at: www.hp.com/go/rackandpower.
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 MSAxxxx, 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 eConfigure 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. http://www.hp.com/products/configurator

Standard Features

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand or Gigabit Ethernet Interconnects:
http://www.hp.com/techservers/clusters/ucp/index.html

InfiniBand	PCI-Express adapters
Gigabit Ethernet	Use embedded ports

Service and Support

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

HP Care Pack services include coverage for the HP branded hardware options qualified for the server and purchased at the same time or afterward that are internal to the enclosure. This also includes the 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, and 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.

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 your business. Whether an SMB, or large global corporation, HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

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

- **Support** - 3-Year 4-Hour response 24x7 Same Business Day Coverage only
- **Service** - Installation and Start up only

Enhanced Service - optimize service level to increase IT performance and availability.

- **Support** - 3-Year Support Plus 24 only

Refer to the information on "Installation & Start-Up" for service on 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, excluding 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

Models

Base Rack Models

HP ProLiant DL370 G6 E5530 2.40GHz Quad-Core SFF Base Rack Server
487794-xx1

Processor	(1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
Cache Memory	8MB (1 x 8MB) L3 cache
Memory	6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs
Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/256MB Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
PCI-Express Slots	10 slots - (9) available PCI-e Gen2 slots (**NOTE:** 10 slots available, one is taken by the NIC riser card)
Power Supply	(1) 750W Hot Plug Power Supply
Fans	(3) Hot Plug Fans
Form Factor	4U Rack

Performance Rack Models

HP ProLiant DL370 G6 X5550 2.66GHz Quad-Core SFF High Performance Rack Server
487790-xx1

Processor	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
Cache Memory	8MB (1 x 8MB) L3 cache
Memory	12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs
Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/512MB with BBWC
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
PCI-Express Slots	10 slots - (9) available PCI-e Gen2 slots (**NOTE:** 10 slots available, one is taken by the NIC riser card)
Power Supply	(2) 750W Redundant Hot Plug Power Supplies
Fans	(5) Fully Redundant Hot Plug Fans
Form Factor	4U Rack

HP ProLiant DL370 G6 X5550 2.66GHz Quad-Core SFF Performance ICE Rack Server
576411-xx1

Processor	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
Cache Memory	8MB (1 x 8MB) L3 cache
Memory	12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs
Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/512MB with BBWC
Manageability	HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM

Models

	PCI-Express Slots	10 slots - (9) available PCI-e Gen2 slots (**NOTE:** 10 slots available, one is taken by the NIC riser card)
	Power Supply	(2) 750W Redundant Hot Plug Power Supplies
	Insight Control Environment (ICE)	HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates
	Fans	(5) Fully Redundant Hot Plug Fans
	Form Factor	4U Rack
		NOTE: Must also select 447326-B21 to achieve parity to DL370 G6 High Performance Models.

Base Tower Models

HP ProLiant ML370 G6 E5540 2.53GHz Quad-Core SFF Base Tower Server
487791-xx1

Processor	(1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
Cache Memory	8MB (1 x 8MB) L3 cache
Memory	6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs
Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/256MB Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
PCI-Express Slots	10 slots - (9) available PCI-e Gen2 slots (**NOTE:** 10 slots available, one is taken by the NIC riser card)
Power Supply	(1) 750W Hot Plug Power Supply
Fans	(3) Hot Plug Fans
Form Factor	4U Tower

Entry Tower Models

HP ProLiant ML370 G6 E5520 2.26GHz Quad-Core SFF Entry Tower Server
487795-xx1

Processor	(1) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
Cache Memory	8MB (1 x 8MB) L3 cache
Memory	4 GB (2 x 2 GB) PC3-10600 (DDR3-1333) Registered DIMMs
Network Controller	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/256MB Controller
Hard Drive	None ship standard
Internal Storage	(8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed)
Optical Drive	SATA DVD ROM
PCI-Express Slots	10 slots - (9) available PCI-e Gen2 slots (**NOTE:** 10 slots available, one is taken by the NIC riser card)
Power Supply	(1) 460W Hot Plug Power Supply
Fans	(3) Hot Plug Fans
Form Factor	4U Tower

Models

Country Code Key

	Tower Code Key	**Rack Code Key**
xx=00	U.S.	U.S.
xx=01	Australia	N/A
xx=03	UK	N/A
xx=04	Germany	N/A
xx=05	France	N/A
xx=20	Brazil	Brazil
xx=29	Japan	Japan
xx=37	A/P	A/P
xx=42	Europe	Europe
xx=AA	PRC	PRC

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.
NOTE: FIO indicates that this option only available as a Factory Installable Option.

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

HP Models

HP ProLiant ML370 G6 Tower Models

HP ProLiant ML370 G6 SFF CTO Chassis   483880-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

HP ProLiant ML370 G6 Tower CTO Chassis

HP ProLiant ML370 G6 LFF CTO Chassis   483879-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

HP ProLiant DL370 G6 Rack Models

HP ProLiant DL370 G6 SFF CTO Chassis   483874-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
4U Rack Form Factor

HP ProLiant DL370 G6 LFF CTO Chassis   483873-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans

Configuration Information - Factory Integrated Models

4U Rack Form Factor

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

HP Processors
NOTE: If High Performance Model features are desired, 2nd processor is included in the Performance Pack part numbers in Step 3 below.

Quad-Core Processors

Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2), FIO	495928-L21
Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO	495930-L21
Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO	495932-L21
Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO	495934-L21
Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO	495936-L21
Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO	495938-L21
Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO	495940-L21
Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO	495942-L21
Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO	495944-L21
Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2), FIO	505511-L21

Dual-Core Processors

Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO	495946-L21

HP Memory

Registered DIMMs (RDIMMs)

HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
HP 4GB 1Rx4 PC3-10600R-9 Kit	593339-B21
HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21

Unbuffered with ECC DIMMs (UDIMMs)

HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
HP 4GB 2Rx8 PC3-10600E-9 Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient
NOTE: PC3L is a low voltage memory.

HP Power Supplies
NOTE: Refer to HP Power Advisor when selecting a power supply for your configuration, www.hp.com/go/hppoweradvisor. Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power

Configuration Information - Factory Integrated Models

supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

HP 460W CS HE Gold Power Supply	503296-B21
HP 750W CS HE Gold Power Supply	512327-B21
HP 1200W CS HE Silver Power Supply	500172-B21

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers **NOTE:** If Additional Memory Cache Module or Controller is Required please pick one of the following:

HP Smart Array P212/256 MB w/ Battery FIO	491191-B21
HP Smart Array P410/256 MB w/ Battery FIO	491195-B21
HP Smart Array P411/256 MB w/ Battery FIO	491193-B21
HP Smart Array P812/1G Flash Backed Cache Controller	487204-B21

Optional Upgrades
NOTE: These Optional Upgrades are Supported on the Smart Array P410i Controller only.

256MB Cache Module FIO	534108-B21
512MB BBWC	462967-B21
512MB Flash Backed Write Cache	534916-B21
1G Flash Backed Write Cache	534562-B21

HP Performance Packs Performance Packs are necessary to configure a HP ProLiant DL370 G6 or a HP ProLiant ML370 G6 to a High Performance Model which includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The Performance Pack includes a 2nd processor, redundant fans, power supply, and memory expansion board.
NOTE: Must also select 447326-B21 to achieve parity to DL370 G6 or ML370 G6 High Performance Models (Including the DL370 G6 Performance Model with ICE).

HP ML370 G6 and DL370 G6 X5550 HPM FIO Perf Kit	516727-B21

HP Insight Software HP Insight Control for Linux, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates — TC203A

Step 4: Choose Additional Options for Factory Integration
NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section below.

Core Options

NOTE: Some options may not be available for factory integration. Please contact an HP sales representative for additional information.

HP Unique Options	(8) Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	(6) Large Form Factor (LFF) Backplane Kit	507810-B21
	(2) Large Form Factor (LFF) Drive Cage Kit	487936-B21
	HP ML370 G6 Tower to Rack Conversion Kit	515031-B21
	HP ML370 G6 and DL370 G6 Redundant Fan Kit	508107-B21
	HP ML370 G6 and DL 370 G6 Graphic Card Adapter Kit	537721-B21
	NOTE: An option kit will be required per Graphic Card)	
	NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)	
	HP ML370 G6 and DL370 G6 Smart-mini DIMM Module	519808-B21
	NOTE: By plugging the Smart-mini DIMM Module to the HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter, TCP/IP Offload Engine (TOE) for Windows is enabled/supported.	
	HP ML370 G6 and DL370 G6 PCI-X Riser Kit	516434-B21
	NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21)	
	NOTE: PCI-X support is limited to PCI-X cards only	

HP Processors	**Quad-Core Processors**	
	Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2)	495928-B21
	Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)	495930-B21
	Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)	495932-B21
	Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)	495934-B21
	Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)	495936-B21
	Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)	495938-B21
	Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)	495940-B21
	Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800)	495942-B21
	Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)	495944-B21
	Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)	505511-B21
	Dual-Core Processors	
	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)	495946-B21

Core Options

HP Memory	**Registered DIMMs (RDIMMs)**	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 4GB 1Rx4 PC3-10600R-9 Kit	593339-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
	HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
	HP 4GB 2Rx8 PC3-10600E-9 Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient

HP Optical Drives	HP Half-Height SATA DVD-ROM Optical Drive	447326-B21
	HP Half-Height SATA DVD-RW Optical Drive	447328-B21
	HP Slim SATA DVD-ROM Optical Drive	481041-B21
	HP Slim SATA DVD RW Optical Drive	481043-B21

HP Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

HP 300GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
HP 300GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	492620-B21
HP 146GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
HP 146GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	504062-B21
HP 146GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
HP 146GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	418367-B21
HP 72GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
HP 72GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	418371-B21

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

HP 600GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21

Core Options

HP 450GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
HP 450GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	454232-B21
HP 300GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21
HP 300GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	416127-B21
HP 146GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	384854-B21
SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 500GB 6G SAS 7.2K rpm SFF (2.5inch) Midline 1yr Warranty Hard Drive	507610-B21
SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21
HP 1TB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	461137-B21
HP 750GB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	461135-B21
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)	
SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	530888-B21
SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP 750GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458930-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21
HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458926-B21
SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives	
HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	460355-B21
HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	458924-B21
SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives	
HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	571230-B21
HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	458945-B21
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)	
SATA Hot Plug Midline (MDL) Solid State Drives	
HP 60GB 3G SATA 2.5in MDL 1y Wty SSD	572071-B21
HP 120GB 3G SATA 2.5in MDL 1y Wty SSD	572073-B21
SATA Hot Plug 3.5" Midline (MDL) Solid State Drives	
HP 60GB 3G SATA 3.5in MDL 1y Wty SSD	570761-B21
HP 120GB 3G SATA 3.5in MDL 1y Wty SSD	570763-B21

Core Options

HP Networking	**Gigabit Ethernet adapters**	
	HP NC112T PCIe Gigabit Server Adapter	503746-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	NOTE: There is a maximum of five NC364T PCI Express Quad Port Gigabit Server Adapters allowed in this server.	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	10 Gigabit Ethernet adapters	
	HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
	NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each NC522SFP adapter. **NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	HP NC524SFP Dual Port 10GbE Server Adapter	489892-B21
	NOTE: One NC524SFP allowed per system; a minimum of two gigabytes (2 GB) of server memory is required for the NC524SFP module. **NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each NC550SFP adapter. **NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs.	
	Smart-mini DIMM Module	
	HP ML370 G6 and DL370 G6 Smart-mini DIMM Module	519808-B21
	NOTE: By plugging the Smart-mini DIMM Module to the HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter, TCP/IP Offload Engine (TOE) for Windows is enabled/supported.	
HP I/O Expansion Options	HP DL370 G6 2 Slot PCI-X Riser Kit	516434-B21
	NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21) **NOTE:** PCI-X support is limited to PCI-X cards only	

Core Options

HP Power Supplies

CAUTION: Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor. In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail.

HP 460W CS HE Gold Power Supply	503296-B21
HP 750W CS HE Gold Power Supply	512327-B21
HP 1200W CS HE Silver Power Supply	500172-B21

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

HP Cooling Options HP ML370 G6 and DL370 G6 Redundant Fan Kit   508107-B21

Additional Options

HP Insight Software	**HP Insight Control server deployment**	
	HP Insight Control server deployment, Electronic License including 1 year of 24x7 Technical Support and Updates	T9082AAE
	HP Insight Control server deployment, Single-Server License including 1 year of 24x7 Technical Support and Updates	452151-B21

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.
NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.
NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.
NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.
NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html

HP Insight Control for Linux

	HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic	TC213AAE
	HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates	TC209A
	HP Insight Control for Linux, Media pack (DVD) - No licenses included	TC208A

NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.

NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button).
NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.
NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.
NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html

HP Integrated Lights-Out Advanced

	HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates	512485-B21

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service
NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html

Additional Options

HP Drive Cage Options	(8) Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	(6) Large Form Factor (LFF) Backplane Kit	507810-B21
	(2) Large Form Factor (LFF) Drive Cage Kit	487936-B21

HP Graphic Options	HP ML370 G6 and DL370 G6 Graphic Card Cable Kit	537721-B21
	NOTE: An option kit will be required per Graphic Card.	
	NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)	

HP Security - TPM	HP Trusted Platform Module Option Kit	488069-B21

HP Storage Controllers **SAS Controllers**

HP Smart Array P212 Controller

HP Smart Array P212/Zero Memory Controller	462828-B21
HP Smart Array P212/256 MB Controller	462834-B21

HP Smart Array P410 Controller

HP Smart Array P410/256 MB Controller	462862-B21
HP Smart Array P410/512 MB with BBWC Controller	462864-B21
HP Smart Array P410/512MB with FBWC	578230-B21
HP Smart Array P410/1G with FBWC	572532-B21

HP Smart Array P411 Controller

HP Smart Array P411/256 MB Controller	462830-B21
HP Smart Array P411/512 MB with BBWC Controller	462832-B21
HP Smart Array P411/512MB Flash Backed Write Cache	578229-B21
HP Smart Array P411/1G Flash Backed Write Cache	572531-B21

Smart Array P812 Controller

HP Smart Array P812/1G Flash Backed Cache Controller	487204-B21

Optional Upgrades
NOTE: These Optional Upgrades are Supported on the Smart Array P410i Controller only.

256 MB Cache Module	462968-B21
512MB BBWC	462967-B21
512MB Flash Backed Write Cache	534916-B21
1G Flash Backed Write Cache	534562-B21
HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support	516471-B21

NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller)
http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html (Smart Array P410 Controller)
http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html (Smart Array P411 Controller)

Additional Options

http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html (Smart Array P812 Controller)

SAS Controller Options

HP SAS Expander Card	468406-B21

NOTE: For use with the additional 8 SFF drive cage (507803-B21).

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

http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html (SAS Expander Card)

SAS HBA

HP SC08Ge Host Bus Adapter	488765-B21

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

http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html (SC08Ge HBA)

HP Power Cords

NOTE: HP ProLiant servers ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).

Nema 5-15P to IEC320-C13, North America low voltage (6 ft/2 m)	AF556A
Power Cord, Euro, 10A 250 V Straight (6 ft/1.83 m)	AF568A
Power Cord, UK, 10A 250 V Straight (6 ft/1.83 m)	AF570A
Power Cord, Danish, 10A 250 V Straight (6 ft/1.83 m)	AF566A
Power Cord, Swiss, 10A 250 V Straight (6 ft/1.83 m)	AF565A
Power Cord, Italian, 10A 250 V Straight (6 ft/1.83 m)	AF571A
Power Cord, South Africa, 10A 250 V Straight (8.2 ft/2.5 m)	AF567A

HP Backup & Recovery Software

HP Data Protector Express

HP Data Protector Express 4.0 SP1 Backup Server	BB117BA
HP Data Protector Express 4.0 SP1 for Microsoft Small Business Server	BB118BA
HP Data Protector Express Backup Server 4.0 SP1Upgrade from Data Protector Express Single Server Edition	BB117BT

NOTE: One of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress

Additional Options

HP Tape Backup	**NOTE:** For the complete range of StorageWorks tape drives, autoloaders, libraries and media see: http://www.hp.com/go/tape. For hardware and software compatibility of HP StorageWorks tape backup products see: http://www.hp.com/go/connect.	
	Rack-Mount Tape Solutions	
	HP StorageWorks DAT 320 USB Internal Tape Drive	AJ825A
	HP StorageWorks DAT 320 SAS Internal Tape Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	AJ830A
	HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	EH847A
	HP StorageWorks LTO-4 Ultrium 1760 SAS Internal Tape Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	EH919A
	HP StorageWorks LTO-4 Ultrium 1840 SAS Internal Tape Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	EH861A
	HP StorageWorks LTO-5 Ultrium 3000 SAS Internal Tape Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	EH958A
	HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader **NOTE:** Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	AK377A
	HP StorageWorks MSL2024 Tape Library with one LTO-4 Ultrium 1760 SAS Drive **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	AK378A
	HP StorageWorks MSL4048 Tape Library with two LTO-4 Ultrium 1760 SAS Drives **NOTE:** Connection using HP SC44Ge SAS Host Bus Adapter (416096-B21) recommended.	AK380A

HP Disk Backup	**NOTE:** For the complete range of StorageWorks D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of StorageWorks RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP StorageWorks disk backup products see: http://www.hp.com/go/connect.	
	HP StorageWorks D2D Backup Systems with Backup Data Deduplication	
	HP StorageWorks D2D2502i Backup System **NOTE:** 1.5TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ001A
	HP StorageWorks D2D2503i Backup System **NOTE:** 2.25TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EH954A

Additional Options

	HP StorageWorks D2D4004i Backup System	EH938A
	NOTE: 3.0TB (expandable to 7.5TB) of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
	HP StorageWorks D2D4112fc Backup System	EH993A
	NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric.	
	HP StorageWorks RDX Removable Disk Backup Systems USB	
	HP StorageWorks RDX320 Internal Removable Disk Backup System	AJ767A
	NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 320GB of disk capacity per data cartridge.	
	HP StorageWorks RDX500 Internal Removable Disk Backup System	AJ934A
	NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.	
	HP StorageWorks RDX750 Internal Removable Disk Backup System	AW577A
	NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 750GB of disk capacity per data cartridge.	
HP StorageWorks Options	**StorageWorks Fibre Channel HBA** **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	
	Brocade Fibre Channel HBAs	
	HP StorageWorks 81B PCI-e FC HBA Single Port	AP769A
	HP StorageWorks 82B PCI-e FC HBA Dual Port	AP770A
	HP StorageWorks 41B 4Gb PCI-e FC HBA	AP767A
	HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA	AP768A
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E PCI-e FC HBA Single Port	AJ762A
	HP StorageWorks 82E PCI-e FC HBA Dual Port	AJ763A
	HP StorageWorks FC2142 4Gb PCI-e HBA	A8002A
	HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e FC HBA Single Port	AK344A
	HP StorageWorks 82Q PCI-e FC HBA Dual Port	AJ764A
	HP StorageWorks FC1142 4Gb PCI-e HBA	AE311A
	HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA	AE312A
	StorageWorks Converged Network Adapter	
	HP CN1000E 2P Converged Network Adapter	AW520A

Additional Options

HP Disk Storage Systems	**MSA SAN Storage Arrays**	
	HP StorageWorks 60 Modular Smart Array	418408-B21
	NOTE: Supports 12 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. **NOTE:** Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html (Worldwide)	
	HP StorageWorks 70 Modular Smart Array	418800-B21
	NOTE: Supports 25 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. **NOTE:** Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html (Worldwide)	

HP Uninterruptible Power Systems	**HP Tower UPS**	
	HP T1000 G3 UPS Models	
	HP T1000 G3 UPS, NA	AF448A
	HP T1000 G3 UPS, INTL	AF449A
	HP T1000J UPS, Japan	AF457A
	HP T1500 G3 UPS Models	
	HP T1500 G3 UPS, NA	AF450A
	HP T1500 G3 UPS, INTL	AF451A
	HP T1500J UPS, Japan	AF458A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13160_div/13160_div.html (Worldwide)	
	HP Rack-mountable UPS	
	HP R1500 G2 UPS	
	HP, R1.5kVA UPS, 1U, NA	AF419A
	HP, R1.5kVA UPS, 1U, INTL	AF418A
	HP, R1.5kVA UPS, 1U, JPN/TW	AF421A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide) **NOTE:** For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups. **NOTE:** For additional information on sizing your server, please reference: http://www.upssizer.com.	

Additional Options

HP Power Distribution Units	**HP Monitored Power Distribution Unit: Half Rack Version**	
	HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN)	AF914A
	HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF915A
	NOTE: Please see the following QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html (Worldwide)	
	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), High Volt Model, 24A (200-240 VAC) (NA, Japan)	252663-D72
	8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN)	252663-D73
	HP Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW)	252663-B24
	NOTE: This PDU has a detachable input power cord and allows for adaptability to country specific power requirements.	
	NOTE: Please see the following QuickSpecs for additional options including shorter jumper cables and country specific power cords: http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html (Worldwide)	
	NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu.	

HP Rack Series	**HP Rack 10000 G2 Series** (Carbon/Graphite Metallic)	
	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed. **NOTE:** Please see the QuickSpecs for Technical Specifications and additional information: 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.	

Additional Options

HP Rack Options	**HP Server Console Switches**	
	HP Server console switch 0x2x8	AF616A
	HP Server console switch 0x2x16	AF617A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html (Worldwide)	
	HP Server Console Switch G2 with Virtual Media & CAC	
	0x2x16 KVM Server Console G2 Switch with Virtual Media and CAC	AF618A
	0x2x32 KVM Server Console G2 Switch with Virtual Media and CAC	AF619A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html (Worldwide)	
	HP IP Console Switch G2 with Virtual Media & CAC	
	1x1Ex8 KVM IP Console Switch G2 with Virtual Media and CAC	AF620A
	2x1Ex16 KVM IP Console Switch G2 with Virtual Media and CAC	AF621A
	4x1Ex32 KVM IP Console Switch G2 with Virtual Media and CAC	AF622A
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html (Worldwide)	
	Rack Kits	
	HP ML370G6 Tower to Rack Conversion Kit	515031-B21
HP USB and SD Options	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP Standard USB Keyboard US	DT528A#ABA
	HP 4GB SD Flash Media Kit	580387-B21
	NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization.	
	HP 2GB USB Flash Media Drive Key	608447-B21
	NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software like SmartStart. HP recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to **HP VMware Getting Started Guide** for installation instructions.	

Additional Options

HP Care Pack Services **HP ProLiant ML370 G6 Service & Support Offerings**

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

HP ProLiant DL370 G6 Service & Support Offerings

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UM752E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UM753E

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	UM754E

Installation & Start-up 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, Electronic	UM763E
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	UM764E

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 DL370 G6 Models
HP ProLiant ML370 G6 Models
DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:
www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- If any Quad rank DIMMs are installed, all channels are limited to only 2 DIMMs per channel.
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system

DIMM slot/capacity/populated speed table								
DIMM Type	Registered DIMMS (RDIMMs)						Unbuffered with ECC DIMMs (UDIMMs)	
DIMM Rank	Dual Rank (2R)				Quad Rank (4R)		Single Rank (1R)	Dual Rank (2R)
DIMM Capacity	2GB	4GB	8GB	8GB	4GB	16GB	1GB	2GB
DIMM Native Speed (MHz)	1333	1333	1066	1333	1066	1066	1333	1333
SLOTS THAT CAN BE POPULATED								
18 slot servers	18	18	18	18	12	12	12	12
MAXIMUM CAPACITY (GB)								
	36	72	144	144	48	192	12	24
POPULATED DIMM SPEED (MHz)								
1 DIMM Per Channel	1333	1333	1066	1333	1066	1066	1333	1333
2 DIMM Per Channel	1333*	1333*	1066	1333*	800	800	1066	1066
3 DIMM Per Channel	800	800	800	800	n/a	n/a	n/a	n/a
* Supported with ROM update via ROM Based Setup Utility (RBSU)								

NOTES:

- PC3-10600 DIMMs have a maximum speed of 1333MHz. PC3-8500 DIMMs have a maximum speed of 1066MHz

Memory

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, the maximum speed will be 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, the maximum speed will be 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- Maximum memory speed will also depend on the processor
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams
Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

18 DIMM SLOTS (9 per CPU node)					
	CPU1		**CPU2**		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs

	CPU1		**CPU2**		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  - 3x 2GB dual-rank PC3-10600 RDIMMs
  - 6x 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 72GB, consisting of nine (9) 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 8GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 8GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C:8GB DIMM	9	C:empty	

UDIMM maximum configuration (1 CPU model)

- 12GB, consisting of six (6) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Memory

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 192GB, consisting of twelve (12) 16GB Quad-Rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 16GB DIMM	2	D; 16GB DIMM	
	3	A; 16GB DIMM	3	A; 16GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 16GB DIMM	5	E; 16GB DIMM	
	6	B; 16GB DIMM	6	B; 16GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 16GB DIMM	8	F; 16GB DIMM	
	9	C; 16GB DIMM	9	C; 16GB DIMM	

UDIMM maximum configuration (2 CPU model)

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; 2GB DIMM	
	3	A; 2GB DIMM	3	A; 2GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; 2GB DIMM	
	6	B; 2GB DIMM	6	B; 2GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; 2GB DIMM	
	9	C; 2GB DIMM	9	C; 2GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

Memory

Following are memory options available from HP:

| HP Memory		
	Registered DIMMs (RDIMMs)	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 4GB 1Rx4 PC3-10600R-9 Kit	593339-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
	HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
	HP 4GB 2Rx8 PC3-10600E-9 Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.
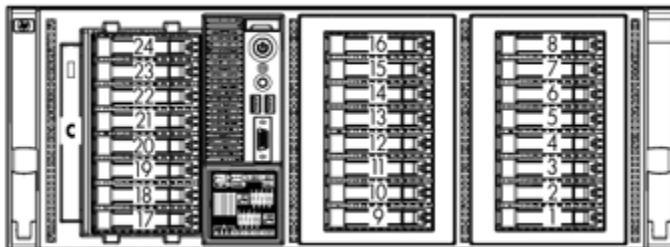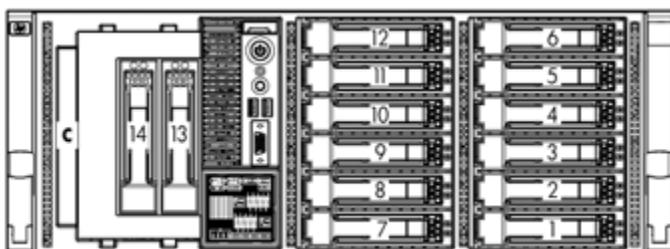
Storage

A Removable media bay

B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)
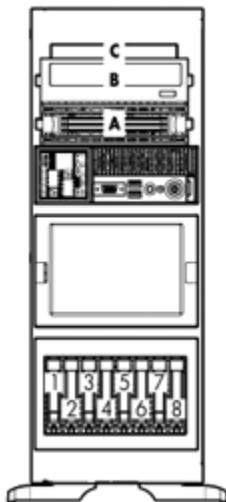
A Removable media bay

B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)

1-24 Twenty-four small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages (up to three 8 SFF drive cage can be installed)

1-14 Fourteen large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages

Storage

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
Half-Height SATA DVD-ROM Optical Drive	Up to 2	A, B	Integrated IDE
Half-Height SATA DVD RW Optical Drive	Up to 2	A, B	Integrated IDE
HP Slim SATA DVD-ROM Optical Drive	1 **NOTE:** Also please use if the 3 drive cage is populated	C	Integrated IDE
HP Slim SATA DVD RW Optical Drive	1 **NOTE:** Also please use if the 3 drive cage is populated	C	Integrated IDE

Hard Drives
NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
300GB 6G SAS 10K DP	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
300GB 3G SAS 10K DP		1-24	HP Smart Array P212/256 MB Controller
146GB 6G SAS 15K DP			HP Smart Array P410/256 MB Controller
146GB 3G SAS 15K DP			HP Smart Array P410/512 MB BBWC Controller
146GB 6G SAS 10K DP			HP Smart Array P411/256 MB Controller
146GB 3G SAS 10K DP			HP Smart Array P411/512 MB BBWC Controller
72GB 6G SAS 15K DP			
72GB 3G SAS 15K DP			

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K DP	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller
450GB 6G SAS 15K DP			HP Smart Array P212/256 MB Controller
450GB 3G SAS 15K DP			HP Smart Array P410/256 MB Controller
300GB 6G SAS 15K DP			HP Smart Array P410/512 MB BBWC Controller
300GB 3G SAS 15K DP			HP Smart Array P411/256 MB Controller
146GB 3G SAS 15K DP			HP Smart Array P411/512 MB BBWC Controller

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller

Storage

500GB 6G SAS 7.2K DP	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
HP 2TB 6G SAS 7.2K HP 1TB 6G SAS 7.2K 1TB 3G SAS 7.2K DP 750GB 3G SAS 7.2K DP	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K 160GB 3G SATA 7.2K	Up to 24	1-8 1-24	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
2TB 3G SATA 7.2K 1TB 3G SATA 7.2K 750GB 3G SATA 7.2K 500GB 3G SATA 7.2K 250GB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K 120GB 1.5G SATA 5.4K	Up to 24	1-8 1-24	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller

Storage

250GB 3G SATA 7.2K 160GB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	Up to 24	1-8 1-24	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug 3.5" Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	Up to 14	1-14	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8		HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4		HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

Tape and Disk Backup

NOTE: For the complete range of StorageWorks tape drives, autoloaders, libraries and media, including the internal fitting models, see: http://www.hp.com/go/tape. For the complete range of StorageWorks D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of StorageWorks RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP StorageWorks disk and tape backup products see: http://www.hp.com/go/connect.

	Position Supported	Controller	Part Number
HP StorageWorks SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448	Internal or External	HP U320e SCSI Dual Channel Controller	AH627A

Storage

LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160		**NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	
HP StorageWorks USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320	Internal or External	USB 2.0 Port	N/A
HP StorageWorks USB Rack Mount Kits 1U USB Rack-Mount Kit	External	USB 2.0 Port	USB 2.0 Port
HP StorageWorks SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280	Internal or External	HP SC44Ge SAS Host Bus Adapter **NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21
HP StorageWorks SAS Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC44Ge SAS Host Bus Adapter **NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21
HP StorageWorks SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP U320e SCSI Dual Channel Controller **NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP StorageWorks SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	HP U320e SCSI Dual Channel Controller **NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP StorageWorks SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP SC44Ge SAS Host Bus Adapter **NOTE:** Please check the full compatibility information at: http://www.hp.com/go/connect	416096-B21

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HP StorageWorks Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.	N/A
HP StorageWorks USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750	Internal or External	USB 2.0 port	N/A
HP StorageWorks D2D Backup Systems, iSCSI D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	N/A
HP StorageWorks D2D Backup Systems, Fibre Channel D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect	N/A

Power Specifications

HP 460W Power Supply Part Number - AC 460W PSU	503296-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**200**	**208**	**220**	**230**	**240**
Maximum Rated Output Wattage	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Max Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Max. Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

HP 750W Power Supply Part Number - AC 750W PSU	512327-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**200**	**208**	**220**	**230**	**240**
Maximum Rated Output Wattage	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Max Rated Input Wattage Rating (Watts)	857	847	824	825	820	820	820
Max. Rated VA (Volt-Amp)	894	884	859	859	854	854	854
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

Power Specifications

HP 1200W Power Supply Part Number - AC	500172-B21						
Operational Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**200**	**208**	**220**	**230**	**240**
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	9.1	5.9
Max Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Max. Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%) at Max. Rated Output Wattage	86	87	89	89	89	89	89
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

To drill down to calculators:
- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL370 G6 or ML370 G6
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Technical Specifications

System Unit			
	Tower Dimensions (H x W x D) (with bezel)	18.52 x 9.75 x 29.12 in (47.04 x 24.77 x 73..96 cm)	
	Rack Dimensions (H x W x D) (with bezel)	6.88 x 19.03 x 27.53 in (17.48 x 48.34 x 69.93 cm)	
	Tower Weight (approximate)	Maximum (All hard drives, power supply, and processor installed)	99.2 lbs (45.00 kg)
		Minimum (one hard drive, power supply, and processor installed)	66.14 lbs (30.00 kg)
	Rack Weight (approximate)	Maximum (All hard drives, power supply, and processor installed)	85.91 lbs (38.97 kg)
		Minimum (one hard drive, power supply, and processor installed)	52.90 lbs (24.00 kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 - 132 VAC, 180 - 264 VAC
		Rated Input Current	7.5A (at 100 VAC), 3.8A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	980W (at 100 VAC) 1035W (at 120 VAC) 1170W (at 240 VAC)
	BTU Rating	Maximum	460W - 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC) 750W - 2892 BTU / hr (at 120 VAC), 2797 (at 240 VAC) 1200W - 3530 BTU / hr (at 120 VAC), 4600 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient - Click on the system of interest. Example: DL370 G6 or ML370 G6 - Follow the instructions of the next screens.	
	Power Supply Output (per power supply)	Rated Steady-State Power	460 W (at 100 VAC)
		Maximum Peak Power	460 W (at 200 VAC) 460 W (at 100 VAC) 460 W (at 200 VAC) **NOTE:** See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.
	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change

Technical Specifications

		is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating	10 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle

	L WAd	4.6 B for 1P Non-Redundant; 4.9 B for 2P Redundant
	L pAm	28 dB for 1P Non-Redundant; 31 dB for 2P Redundant

Operating

	L WAd	4.7 B for 1P Non-Redundant; 5.0 B for 2P Redundant
	L pAm	29 dB for 1P Non-Redundant; 32 dB for 2P Redundant

NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC)	FCC Rating	Class B
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Technical Specifications

Smart Array P410i Controller	Dimensions (not including bracket)	Low Profile PCIe Form Factor 7.5 in x 9.5 in x 2.25 in (19.05 cm x 24.13 cm x 5.72 cm)	
	Disk Drive and Enclosure Interface - Transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)	
	SAS Connectors	2 internal (Mini-SAS) x8 wide port connectors	
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.	
	Server Interface	x8 5G PCIe 2.0 provides 4GB/s maximum bandwidth	
	SAS Speed	x8 3G SAS provides 2.4GB/s maximum bandwidth	
	Cache Memory	40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade	
	Logical Drives Supported	Up to 64 logical drives	
	Maximum Logical Drive Capacity	Greater than 2TB	
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space	
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) **NOTE:** The minimum of 256 MB cache, battery kit, and Smart Array Advanced Pack License Key upgrade is required to enable RAID 6, 6+0 RAID 5, 5+0 (Distributed Data Guarding) **NOTE:** The 256MB upgrade is required to enable RAID 5 support on the Smart Array P410i. RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)	
	Upgradeable Firmware	Upgradeable Firmware with recovery ROM feature	

NC375i Integrated Quad Port Multifunction Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Controller	Qlogic/NetXen NX3031	
	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
		1000Base-TX (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)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)

Technical Specifications

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

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