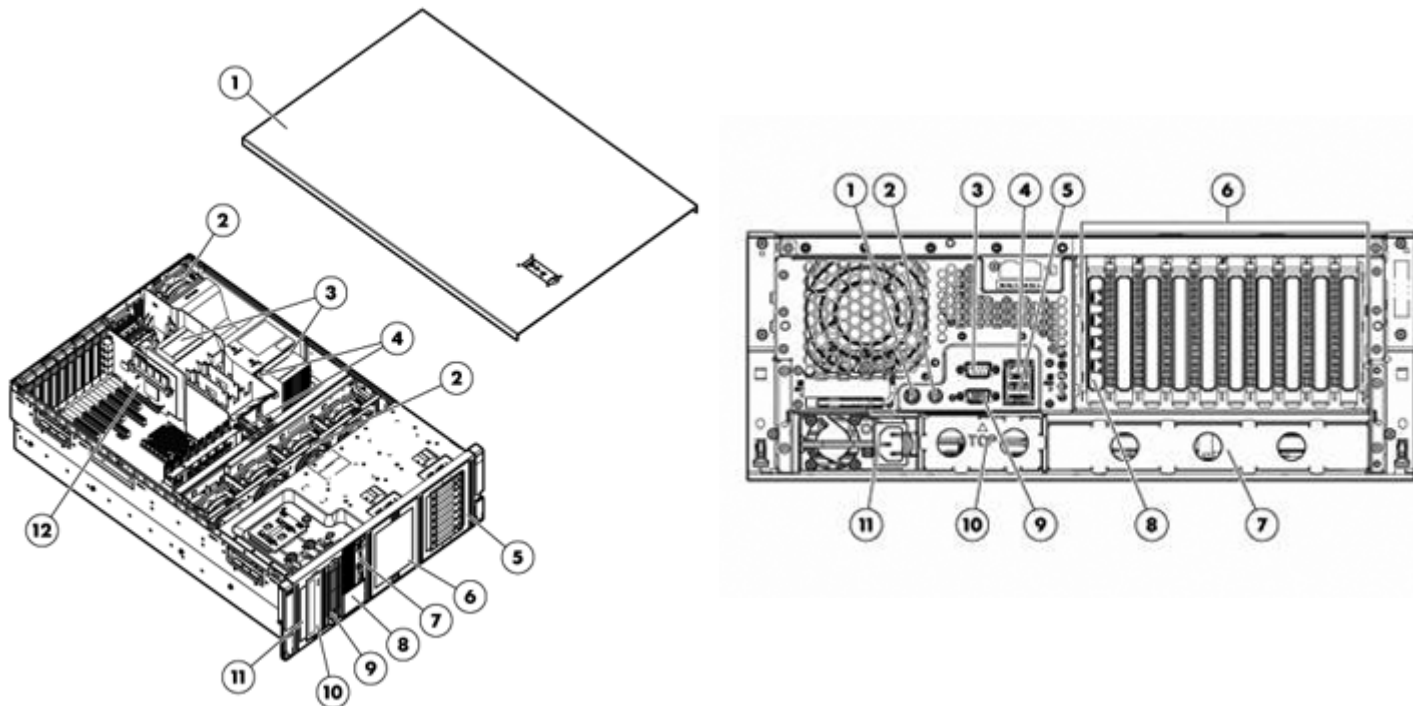


### Overview

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.

### HP ProLiant DL370 G6 (Rack)



#### Front View:

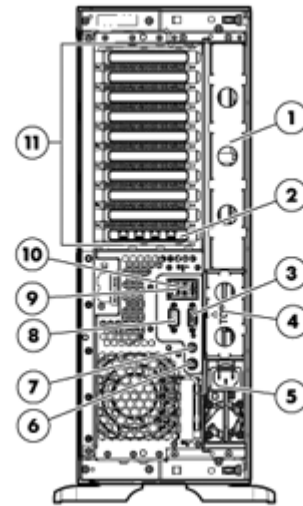
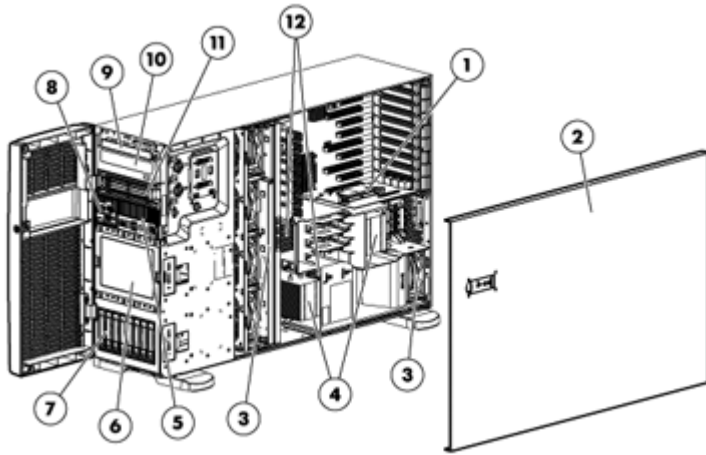
1. Quick removal access panel
2. Three Hot-plug fans (standard) Five (optional)
3. Intel Six or Quad-Core Processor (Performance model includes two processors)
4. Eighteen slots for DDR3 Registered or Unbuffered Memory
5. SAS/SATA drive cage
6. Optional drive cage bay
7. Power on/standby button, video connector and two USB connectors
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 - Tool-less access to all system components for easy in rack serviceability
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 for quick and easy server diagnostics
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)

## What's New

- Support for new HP hard drives, UPS and NIC

## 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

#### Six-Core Processors

Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor  
 Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor  
 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor  
 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor  
 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor  
 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor  
 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor  
 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor

#### Quad-Core Processors

Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® X5677 (3.46GHz/4-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/2/2/3/3) Processor  
 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor  
 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor  
 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® W5580 (3.20GHz/4-core/8MB/130W, DDR3-1333, HT, Turbo 1/1/1/2) Processor  
 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor  
 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor  
 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W, DDR3-1333, HT, Turbo 2/2/3/3) Processor  
 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W, DDR3-1066) Processor  
 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-1066) Processor  
 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W, DDR3-800) Processor  
 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W, DDR3-800) Processor  
 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W, DDR3-1066) Processor  
 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT, Turbo 1/1/2/2) Processor  
 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W, DDR3-1066, HT, Turbo 1/1/2/2) Processor

#### Dual-Core Processors

Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W, DDR3-800) Processor  
 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor

**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 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 5600 and 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.

## Standard Features

**Cache Memory** 12MB (1 x 12MB) Level 3 cache  
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.

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**Chipset** Intel® 5520 chipset  
**NOTE:** For more information regarding Intel chipsets, please see the following URL:  
<http://www.intel.com/products/server/chipsets/>.

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**Upgradeability** Upgradeable to two processors

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**Memory Protection** Advanced ECC  
Mirroring mode  
Lockstep mode  
Online Spare mode

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**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) 384GB (12 x 32GB) for Registered Memory configurations  
Maximum (UDIMM) 48GB (12 x 4GB) for Unbuffered Memory configurations  
**NOTE:** If only one processor is installed, only half the DIMM slots are available.  
**NOTE:** when populating with the 16GB and 32GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.  
**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](http://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](http://www.hp.com/go/proliant-energy-efficient).

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**Network Controller** HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter

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## Standard Features

### Expansion Slots

**NOTE:** Nine (9) available PCI-Express Gen2 expansion slots to provide you with the latest I/O performance; PCI-X (optional).

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	
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

### Standard Features

#### 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) <b>NOTE:</b> Entry Models available for ML370 G6 models only.
Base Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
Performance Models (487790-xx1 and 576411-xx1 Models)	HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0/6)
Performance Model (595166-xx1 Model)	HP Smart Array P410i/1G FBWC 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 the 256MB cache), and Smart Array Advanced Pack (SAAP).

#### Internal Storage Devices

Diskette Drive	None Standard
Optical Drive	SATA DVD ROM (standard in all models)
Hard Drives	None Standard
Hard Drive Bays	(8) SFF SAS/SATA Hard Drive Bays Standard Up to (24) SFF SAS/SATA with optional drive cages (up to three 8 SFF drive cage can be installed)

**NOTE:** Two open half-height media bays available for tape drives, optical media, optional SAS HDD cage.

#### Maximum Internal Storage

Hot Plug SFF SAS	24TB	24 x 1TB
Hot Plug LFF SAS	42TB	14 x 3TB
Hot Plug SFF SAS SSD	19.2TB	24 x 800GB

**NOTE:** 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.

#### Interfaces

Serial	1 (rear)
Video	1 (+1 front video on rack models)
Network RJ-45 (Ethernet)	4 (rear)
ILO 2.0 remote management port	1
Keyboard	1
Pointing Device (Mouse)	1
SD slot	1
USB 2.0 Ports	5 (2 on the rear, 2 on the front, 1 internal) <b>NOTE:</b> Please see the following URL for additional information regarding USB support: <a href="http://h18004.www1.hp.com/products/servers/platforms/usb-support.html">http://h18004.www1.hp.com/products/servers/platforms/usb-support.html</a>
Dedicated USB 2.0 Port	1 (available for DAT USB tape connectivity) <b>NOTE:</b> Internal USB ports are optimal for the attachment of HP DAT USB Internal Tape Drives



### Standard Features

<b>Industry Standard Compliance</b>	ACPI V2.0 Compliant PCI-Express Gen2 PXE Support WOL Support Microsoft® Logo certifications USB 2.0 Support SMBIOS 2.6.1
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<b>Server Power Cords</b>	High voltage power cord ships standard with all part numbers. Localized cables included with geographic specific models in other world regions. <b>NOTE:</b> 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.
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<b>Common Slot Power Supplies</b>	<p>The Common Slot (CS) Power Supply 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 or are compatible with high-efficiency HP CS Power Supplies. These power supplies are designed to provide high-efficiency power without degrading performance of the ProLiant server. All HP Common Slot power supplies are hot-plug and meet the requirements for UL and CE Mark Compliance. It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs.</p> <p>HP's ProLiant Common Slot Power supplies (460W &amp; 750W) meet multiple Energy Efficiency Initiatives including Climate Savers Computing Initiative (CSCI) GOLD and ECOS Consulting/80PLUS GOLD certifications.</p> <p>The HP 1200W CS Power Supply meets multiple Energy Efficiency Initiatives including CSCI Silver and ECOS Consulting/80PLUS Silver certifications.</p> <p>Redundant Power: Optional (1+ 1 redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers).</p>
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<b>System Fans</b>	(3) Hot Plug fans ship standard <b>NOTE:</b> For full redundancy you can purchase the HP ML370 G6 and DL370 G6 Redundant Fan Kit; PN: 508107-B21. Under the redundant fan configuration, only a single hot-pluggable fan can be replaced without having to power down the server.
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<b>Operating Systems and Virtualization Software Support for ProLiant Servers</b>	<p>Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware HP Citrix Essentials for XenServer</p> <p><b>NOTE:</b> 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 including how to purchase from HP, please visit our OS Support Site at: <a href="http://www.hp.com/go/ossupport">http://www.hp.com/go/ossupport</a> and our driver download page <a href="http://www.hp.com/support/ML370G6">http://www.hp.com/support/ML370G6</a>.</p>
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### Standard Features

<b>Required Cabling</b>	For storage device cabling information, refer to the HP ProLiant ML/DL370 G6 Server User Guide: <a href="http://www.hp.com/support/DL_ML370G6_UG_en">http://www.hp.com/support/DL_ML370G6_UG_en</a>	
<b>Graphics</b>	Integrated ATI RN50, 64 MB video standard <ul style="list-style-type: none"><li>• 16 bit color: maximum resolution of 1600 x 1200</li><li>• 32 bit color: maximum resolution of 1280 x 1024</li></ul> <p><b>NOTE:</b> Maximum resolution available via iLO 2 remote console is 1280 x 1024.</p> <p>Graphics Cards: Supports up to 2 x 225W Graphic Cards via HP ML370 G6 and DL370 G6 Graphic Card Cable Kit, 537721-B21</p> <p><b>NOTE:</b> Supports HP Quadro 4000 PCIe Graphics Kit (655933-B21) and HP Quadro 6000 PCIe Graphics Kit (655935-B21), selection of which requires HP 1200W CS Slvr Ht Plg Pwr Supply Kit</p> <p><b>NOTE:</b> HP Quadro 6000 PCIe Graphics Kit (655935-B21) is a dual slot graphics kit and occupies 2 slot</p> <p><b>NOTE:</b> Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a>.</p> <p><b>NOTE:</b> 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)</p>	
<b>Form Factor</b>	4U Tower Chassis and 4U Rack Optimized Chassis (7 in, 17.8 cm) <b>NOTE:</b> Redesigned 4U Tower Chassis and the new 4U Rack Optimized Chassis to better meet our customer's density requirements.	
<b>HP Insight Software</b>	HP Insight Foundation	<p>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.</p> <p>HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: <a href="http://www.hp.com/go/foundation">www.hp.com/go/foundation</a>.</p> <p>The foundation pack includes:</p> <ul style="list-style-type: none"><li>• HP SmartStart</li><li>• HP Management DVD</li><li>• HP ProLiant Smart Update Firmware DVD</li></ul> <p>SmartStart version supported (minimum): SmartStart 8.20 <a href="http://www.hp.com/servers/smartstart">http://www.hp.com/servers/smartstart</a></p> <p><b>NOTE:</b> In an effort to support reducing our environmental impact, the HP Insight Foundation Suite for ProLiant media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.</p>
	HP Integrated Lights-Out (iLO)	<p>HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: <a href="http://www.hp.com/go/iLO">www.hp.com/go/iLO</a></p>



### Standard Features

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#### Security

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

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#### Warranty

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of 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>

### Optional Features

#### HP Insight management software

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](http://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 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>

#### High Performance Clusters

##### HP Cluster Platforms

HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and Novell SLES, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. <http://www.hp.com/go/clusters>.

##### HP HPC Interconnects

High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. <http://www.hp.com/techservers/clusters/ucp/index.html>

##### HP Cluster Management Utility

HP Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used to manage large-scale Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. <http://www.hp.com/go/cmu>

##### HP HPC Linux Value Pack

HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported specially priced software bundle for the development and

### Optional Features

deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform HPC Enterprise Edition suite of tools including the LSF workload scheduler, the HP-MPI parallelization library. Also included are the HP Unified Parallel C compiler and the HP Shmem library, as well as the execution environments for the libraries and compiler. [HP HPC Linux Value Pack](#)

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#### 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>.

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#### 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>

### Service and Support

#### Service and Support **HP Technology Services for Industry Standard Servers and BladeSystem**

Capitalizing on HP ProLiant server and HP BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services.

#### **What HP ProLiant and BladeSystem Services can do for you**

HP ProLiant and BladeSystem Services can help you design, deploy, test, integrate, support, and manage IT and infrastructure solutions. This way, HP proposes services solutions that include more than just uplift of base warranty. You can get the support you need by choosing from one of a number of service packaged solutions we have designed to address wider set of customer support needs:.

HP Technology Services meets business challenges with services offered in three packages - **Optimized Care Package, Standard Care Package, and Basic Care Package** - available for each product group. Such packaged solutions enable customers to optimize technology operations, minimize risk and drive better business outcomes with easy-to-buy, easy-to-use scalable support packages for servers, storage, networking and software.

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#### Optimized Care

#### **Optimized Care Package: Supports maintaining servers at optimum performance availability**

##### **HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

##### **HP Installation and Startup for Insight Control Software**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-9972ENW.pdf>

##### **3-Year HP Critical Advantage**

Provides end-to-end infrastructure support solution for business critical applications running on virtualized/x86 infrastructures, enabling the customers to cost effectively build, operate, and continuously improve their IT environment

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA3-1772ENW>

**Additional Services:** Microsoft or Linux or VMware education courses + Facility & technology environmental assessment services + Energy Efficiency Design, Factory Express

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### Service and Support

#### Standard Care

**Standard Care Package: Package that maintains high level of server availability**

##### **HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

##### **HP Installation and Startup for Insight Control Software**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf>

##### **3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service**

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

##### **3-Year , HP 24x7 Software Support for Insight Control**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEEE.pdf>

**Additional Services:** Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up, and Software Support; Install and Startup Services for Insight Control; Microsoft or Linux or VMware education courses; +30 Proactive Select Credits, Factory Express

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#### Basic Care

**Basic Care Package: delivers minimum recommended support service level**

##### **HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

##### **HP Installation and Startup for Insight Control Software**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf>

##### **3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf>

##### **3-Year , HP 24x7 Software Support for Insight Control**

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEEE.pdf>

**Additional Services:** Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware Installation & Start Up and Software Support); +10 Proactive Select Credits, Factory Express

## *Service and Support*

**Insight Remote Support** The packages include HP Insight Remote Support that uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnoses, and problem resolution. It is available at no additional cost to all warranty, HP Care Pack Service, and service agreement customers.

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**For more information** To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant>



### Pre-configured Models

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

**NOTE:** Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

**NOTE:** HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

**NOTE:** If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

**NOTE:** Not all models are available in all regions. Check with your local country HP offices for availability.

### Base Rack Models

<p><b>HP ProLiant DL370 G6 E5645 1P 6GB-R</b>  <b>P410i/512 BBWC 8 SFF 750W PS Base Server</b>          625590-xx1</p>	<p><b>Processor</b></p> <p><b>Cache Memory</b></p> <p><b>Memory</b></p> <p><b>Network Controller</b></p> <p><b>Storage Controller</b></p> <p><b>Hard Drive</b></p> <p><b>Internal Storage</b></p> <p><b>Optical Drive</b></p> <p><b>Power Supply</b></p> <p><b>Fans</b></p> <p><b>Form Factor</b></p> <p><b>Warranty</b></p>	<p>(1) Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor</p> <p>12MB (1 x 12MB) L3 cache</p> <p>6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs  <b>NOTE: Total of 18 DIMM slots.</b></p> <p>HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</p> <p>HP Smart Array P410i/512MB BBWC Controller</p> <p>None ship standard</p> <p>(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)</p> <p>SATA DVD ROM</p> <p>(1) HP 750W Common Slot High Efficiency Power Supply Kit (hot plug, redundancy optional)</p> <p>(3) Hot Plug Fans</p> <p>4U Rack</p> <p>Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
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### Performance Rack Models

<p><b>HP ProLiant DL370 G6 X5650 2P 12GB-R</b>  <b>P410i/1GB FBWC 8 SFF 750W RPS Perf IC Svr</b>          595166-xx1</p>	<p><b>Processor</b></p> <p><b>Cache Memory</b></p> <p><b>Memory</b></p> <p><b>Network Controller</b></p> <p><b>Storage Controller</b></p> <p><b>Hard Drive</b></p> <p><b>Internal Storage</b></p> <p><b>Optical Drive</b></p> <p><b>Power Supply</b></p> <p><b>Insight Control</b></p> <p><b>Fans</b></p> <p><b>Form Factor</b></p> <p><b>Warranty</b></p>	<p>(2) Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processors</p> <p>12MB L3 cache</p> <p>12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs  <b>NOTE: Total of 18 DIMM slots.</b></p> <p>HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</p> <p>HP Smart Array P410i/1GB FBWC Controller</p> <p>None ship standard</p> <p>(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)</p> <p>SATA DVD ROM</p> <p>(2) HP 750W Common Slot High Efficiency Power Supply Kits (hot plug, redundant)</p> <p>HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates</p> <p>(5) Fully Redundant Hot Plug Fans</p> <p>4U Rack</p> <p>Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p>
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### Pre-configured Models

#### Base Tower Models

<b>HP ProLiant ML370 G6 E5649 1P 6GB-R P410i/512 BBWC 8 SFF 750W PS Base Server</b> 625589-xx1	<b>Processor</b> <b>Cache Memory</b> <b>Memory</b>  <b>Network Controller</b> <b>Storage Controller</b> <b>Hard Drive</b> <b>Internal Storage</b>  <b>Optical Drive</b> <b>Power Supply</b>  <b>Fans</b> <b>Form Factor</b> <b>Warranty</b>	(1) Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor 12MB (1 x 12MB) L3 cache 6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs <b>NOTE: Total of 18 DIMM slots.</b> HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter HP Smart Array P410i/512MB BBWC Controller None ship standard (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) SATA DVD ROM (1) HP 750W Common Slot High Efficiency Power Supply Kit (hot plug, redundancy optional) (3) Hot Plug Fans 4U Tower Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response
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#### Entry Tower Models

<b>HP ProLiant ML370 G6 E5620 1P 4GB-R P410i/256 8 SFF 460W PS Entry Server</b> 625591-xx1	<b>Processor</b> <b>Cache Memory</b> <b>Memory</b>  <b>Network Controller</b> <b>Storage Controller</b> <b>Hard Drive</b> <b>Internal Storage</b>  <b>Optical Drive</b> <b>Power Supply</b>  <b>Fans</b> <b>Form Factor</b> <b>Warranty</b>	(1) Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor 12MB (1 x 12MB) L3 cache 4 GB (2 x 2 GB) PC3-10600 (DDR3-1333) Registered DIMMs <b>NOTE: Total of 18 DIMM slots.</b> HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter HP Smart Array P410i/256MB Controller None ship standard (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) SATA DVD ROM (1) HP 460W HE 12V Hot Plug AC Power Supply Kit (hot plug, redundancy optional) (3) Hot Plug Fans 4U Tower Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response
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#### Country Code Key

xx=00  
 xx=01  
 xx=03  
 xx=04  
 xx=05  
 xx=20  
 xx=29  
 xx=37  
 xx=42  
 xx=AA

#### Tower Code Key

U.S.  
 Australia  
 UK  
 Germany  
 France  
 Brazil  
 Japan  
 A/P  
 Europe  
 PRC

#### Rack Code Key

U.S.  
 N/A  
 N/A  
 N/A  
 N/A  
 Brazil  
 Japan  
 A/P  
 Europe  
 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 configurable product offerings and requirements.

**NOTE:** Configure-to-order (CTO) servers must start with a CTO Chassis.

**NOTE:** FIO indicates that this option is only available as a factory installable option.

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

<b>HP Models</b>	<p><b>HP ProLiant ML370 G6 Tower Models</b></p> <p>HP ProLiant ML370 G6 SFF Configure-to-order Tower Server <span style="float: right;">483880-B21</span>  <b>NOTE:</b> Supports Small Form Factor (SFF) - 2.5" Drives</p> <p><b>Factory Integrated Model ships with:</b></p> <p>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</p> <p><b>HP ProLiant ML370 G6 Tower CTO Chassis</b></p> <p>HP ProLiant ML370 G6 LFF Configure-to-order Tower Server <span style="float: right;">483879-B21</span>  <b>NOTE:</b> Supports Large Form Factor (LFF) - 3.5" Drives</p> <p><b>Factory Integrated Model ships with:</b></p> <p>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</p> <p><b>HP ProLiant DL370 G6 Rack Models</b></p> <p>HP ProLiant DL370 G6 SFF Configure-to-order Rack Server <span style="float: right;">483874-B21</span>  <b>NOTE:</b> Supports Small Form Factor (SFF) - 2.5" Drives</p> <p><b>Factory Integrated Model ships with:</b></p> <p>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</p> <p>HP ProLiant DL370 G6 LFF Configure-to-order Rack Server <span style="float: right;">483873-B21</span>  <b>NOTE:</b> Supports Large Form Factor (LFF) - 3.5" Drives</p> <p><b>Factory Integrated Model ships with:</b></p> <p>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            4U Rack Form Factor</p>
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## Configuration Information - Factory Integrated Models

### 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.

##### Six-Core Processors

HP ML/DL370 G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) FIO Processor Kit	625071-L21
HP ML/DL370 G6 Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W) FIO Processor Kit	601320-L21
HP ML/DL370 G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) FIO Processor Kit	625073-L21
HP ML/DL370 G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) FIO Processor Kit	601321-L21
HP ML/DL370 G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit	601322-L21
HP ML/DL370 G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit	601323-L21
HP ML/DL370 G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	625075-L21
HP ML/DL370 G6 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) FIO Processor Kit	625077-L21

##### Quad-Core Processors

HP ML/DL370 G6 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) FIO Processor Kit	625072-L21
HP ML/DL370 G6 Intel® Xeon® X5677 (3.46GHz/4-core/12MB/130W) FIO Processor Kit	626957-L21
HP ML/DL370 G6 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) FIO Processor Kit	625074-L21
HP ML/DL370 G6 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) FIO Processor Kit	631740-L21
HP ML/DL370 G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) FIO Processor Kit	601324-L21
HP ML/DL370 G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) FIO Processor Kit	601325-L21
HP ML/DL370 G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) FIO Processor Kit	601326-L21
HP ML/DL370 G6 Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W) FIO Processor Kit	625078-L21
HP ML/DL370 G6 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) FIO Processor Kit	625079-L21
HP ML/DL370 G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) FIO Processor Kit	601328-L21
HP ML/DL370 G6 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) FIO Processor Kit	625080-L21

#### HP Memory

##### Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21

### Configuration Information - Factory Integrated Models

HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
<b>Unbuffered with ECC DIMMs (UDIMMs)</b>	
HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
<b>NOTE:</b> 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: <a href="http://www.hp.com/go/ddr3memory-configurator">www.hp.com/go/ddr3memory-configurator</a> .	
<b>NOTE:</b> Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <a href="http://www.hp.com/go/proliant-energy-efficient">www.hp.com/go/proliant-energy-efficient</a>	
<b>NOTE:</b> PC3L is a low voltage memory.	
<b>HP Power Supplies</b>	
<b>NOTE:</b> 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: <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a> .	
HP 460W Common Slot Gold Hot Plug Power Supply Kit	503296-B21
HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21
HP 1200W Common Slot Silver Hot Plug Power Supply Kit	500172-B21
<b>NOTE:</b> Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

## Configuration Information - Factory Integrated Models

### 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 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller	491191-B21
HP Smart Array P410/256 BBWC 2-ports Int PCIe x8 FIO SAS Controller	491195-B21
HP Smart Array P411/256 BBWC 2-ports Ext PCIe x8 FIO SAS Controller	491193-B21
HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller	487204-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 X5650 HPM FIO Perf Kit	605555-B21
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<b>HP Insight Software</b>	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	582765-B21
	HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License	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 integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

<b>HP Unique Options</b>	HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit	507803-B21
	HP ML/DL370G6 6 Large Form Factor Backplane Kit	507810-B21
	HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit	487936-B21
	HP ML370 G6 Tower to Rack Conversion Kit	515031-B21
	HP ML370 G6 and DL370 G6 Redundant Fan Kit	508107-B21
	<b>NOTE:</b> Under the redundant fan configuration, only a single hot-pluggable fan can be replaced without having to power down the server	
	HP 350/370G6 Graphic Card Cable Kit	537721-B21
	<b>NOTE:</b> An option kit will be required per Graphic Card	
	<b>NOTE:</b> Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a> .	
	<b>NOTE:</b> 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)	
	HP ML/DL370 G6 2 Slot PCI-X Riser Kit	516434-B21
	<b>NOTE:</b> Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21)	
	<b>NOTE:</b> PCI-X support is limited to PCI-X cards only	

### HP Processors

#### Six-Core Processors

HP ML/DL370 G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) Processor Kit	625071-B21
HP ML/DL370 G6 Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W) Processor Kit	601320-B21
HP ML/DL370 G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) Processor Kit	625073-B21
HP ML/DL370 G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	601321-B21
HP ML/DL370 G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	601322-B21
HP ML/DL370 G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	601323-B21
HP ML/DL370 G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) Processor Kit	625075-B21
HP ML/DL370 G6 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) Processor Kit	625077-B21

#### Quad-Core Processors

HP ML/DL370 G6 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) Processor Kit	625072-B21
HP ML/DL370 G6 Intel® Xeon® X5677 (3.46GHz/4-core/12MB/130W/) Processor Kit	626957-B21
HP ML/DL370 G6 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) Processor Kit	625074-B21
HP ML/DL370 G6 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) Processor Kit	631740-B21
HP ML/DL370 G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	601324-B21
HP ML/DL370 G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	601325-B21

### Core Options

HP ML/DL370 G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	601326-B21
HP ML/DL370 G6 Intel® Xeon® W5580 (3.20GHz/4-core/8MB/130W) Processor Kit	495928-B21
HP ML/DL370 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) Processor Kit	495930-B21
HP ML/DL370 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) Processor Kit	495932-B21
HP ML/DL370 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) Processor Kit	495934-B21
HP ML/DL370 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) Processor Kit	495936-B21
HP ML/DL370 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) Processor Kit	495938-B21
HP ML/DL370 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) Processor Kit	495940-B21
HP ML/DL370 G6 Intel® Xeon® E5607 (2.26GHz/4-core/8MB/80W) Processor Kit	625078-B21
HP ML/DL370 G6 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) Processor Kit	625079-B21
HP ML/DL370 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	495942-B21
HP ML/DL370 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) Processor Kit	495944-B21
HP ML/DL370 G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	601328-B21
HP ML/DL370 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) Processor Kit	505511-B21
<b>Dual-Core Processors</b>	
HP ML/DL370 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) Processor Kit	495946-B21
HP ML/DL370 G6 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor Kit	625080-B21

### HP Memory

#### Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
<b>Unbuffered with ECC DIMMs (UDIMMs)</b>	
HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21

### Core Options

HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 500672-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit 619488-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](http://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](http://www.hp.com/go/proliant-energy-efficient)

**HP Drive Cage Options** HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit 507803-B21

HP ML/DL370G6 6 Large Form Factor Backplane Kit 507810-B21

HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit 487936-B21

**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 12.7mm SATA DVD-ROM Optical Drive 481041-B21

HP Slim 12.7mm 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 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive 619291-B21

HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 581286-B21

HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 581284-B21

HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 507127-B21

HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 512547-B21

HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 507125-B21

HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 512545-B21

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

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

HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 516816-B21

HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 516814-B21

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

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive 605835-B21

HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive 507610-B21

## Core Options

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

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive 625031-B21

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

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

[http://h18000.www1.hp.com/products/quickspecs/12244\\_div/12244\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html)  
(Worldwide)

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

HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive 625609-B21

HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive 507750-B21

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

HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive 628059-B21

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 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive 458928-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](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 SFF (2.5-inch) Midline 1yr Warranty Solid State Drive 572071-B21

HP 120GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive 572073-B21

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

HP 60GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive 570761-B21

HP 120GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive 570763-B21

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

[http://h18000.www1.hp.com/products/quickspecs/13415\\_div/13415\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html)  
(Worldwide)

### 6G SAS Hot Plug Enterprise Performance Solid State Drives

HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive 632494-B21

HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive 632492-B21

### 6G SAS Hot Plug Enterprise Mainstream Solid State Drives

HP 800GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive 632506-B21

HP 400GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive 632504-B21

HP 200GB 6G SAS MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive 632502-B21

### Core Options

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

[http://h18000.www1.hp.com/products/quickspecs/14038\\_div/14038\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html)  
(Worldwide)

#### HP Networking

##### Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter 503746-B21

HP NC360T PCI-E Dual Port Gigabit Server Adapter 412648-B21

HP NC364T PCI-E 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 NC365T 4-port Ethernet Server Adapter 593722-B21

HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter 394793-B21

HP NC373T PCI-E 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

**NOTE:** No more than two 10GbE I/O devices are supported in a single ProLiant server.

**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.

**NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

HP NC522SFP Dual Port 10GbE Gigabit Server Adapter 468332-B21

HP NC523SFP 10Gb 2-port Server Adapter 593717-B21

HP NC524SFP Dual Port 10GbE Module 489892-B21

HP NC550SFP Dual Port 10GbE Server Adapter 581201-B21

HP NC552SFP 10Gb 2-port Ethernet Server Adapter 614203-B21

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information: [www.hp.com/go/ProLiantNICs](http://www.hp.com/go/ProLiantNICs).

##### Smart-mini DIMM Module

HP 512MB DDR2 244P Mini DIMM Module Kit 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 InfiniBand

HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA 483513-B21

QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA 583211-B21

HP InfiniBand 4X DDR ConnectX-2 PCIe G2 Dual Port HCA 592521-B21

HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA 592520-B21

#### HP I/O Expansion Options

HP ML/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

**NOTE:** 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/hppoweradvisor](http://www.hp.com/go/hppoweradvisor).

HP 460W Common Slot Gold Hot Plug Power Supply Kit

503296-B21

HP 750W Common Slot Gold Hot Plug Power Supply Kit

512327-B21

HP 1200W Common Slot Silver Hot Plug Power Supply Kit

500172-B21

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

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#### HP Cooling Options

HP ML/DL370G6 Redundant Fan Kit

508107-B21



### Additional Options

**NOTE:** Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

<b>HP Insight Software</b>	<b>HP Insight Control</b>	
	HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	T9074BAE
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License	TC278AAE
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	452148-B22
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License	TC275A
	HP Insight Software Media Kit	436222-B21
	<b>NOTE:</b> Insight Software DVD media without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Insight Dynamics, HP Insight Control for Microsoft System Center, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates.	
	<b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.	
	<b>NOTE:</b> Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.	
	<b>NOTE:</b> 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.	
	<b>NOTE:</b> Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <a href="http://www.hp.com/go/insightupdates">http://www.hp.com/go/insightupdates</a> .	
	<b>NOTE:</b> For additional license options please see the Insight Control QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html">http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html</a>	
	<b>HP Insight Control for Linux</b>	
	HP Insight Control for Linux including 1yr 24x7 Support Electronic License	TC213AAE
	HP Insight Control for Linux including 1yr 24x7 Support Single Server License	TC209A
	HP Insight Control for Linux Media Kit	TC208A
	<b>NOTE:</b> 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.	
	<b>NOTE:</b> Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: <a href="http://www.hp.com/go/ic-linux">http://www.hp.com/go/ic-linux</a> (click on Download button).	
	<b>NOTE:</b> Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.	
	<b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.	
	<b>NOTE:</b> For additional License Kits, including electronic licensing options, please see the QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html">http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html</a>	
	<b>HP Integrated Lights-Out (iLO) Advanced</b>	
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License	TA850AAE
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
	<b>NOTE:</b> This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via	

### Additional Options

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:** Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

**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](http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html)

#### HP Insight Control server deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License

T9082AAE

HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License

452151-B21

**NOTE:** Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>.

**NOTE:** Electronic licenses can be used to purchase multiple licenses with a single activation key, and 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, which 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 please see the Insight Control QuickSpecs at: [http://h18004.www1.hp.com/products/quickspecs/12631\\_div/12631\\_div.html](http://h18004.www1.hp.com/products/quickspecs/12631_div/12631_div.html)

### High Performance Clusters

#### HP Cluster Management Utility

HP Cluster Management Utility Compute Node Flexible License

QL803A

**NOTE:** This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.

HP Cluster Management Utility License and Media

433257-B21

**NOTE:** Order a minimum of one license per cluster to purchase media including software and documentation, which will be delivered to the customer, and also licenses CMU management. No license key is delivered or required.

**NOTE:** For additional license kits please see the QuickSpecs at:

[http://h18004.www1.hp.com/products/quickspecs/12612\\_div/12612\\_div.html](http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html)

#### HP HPC Linux Value Pack

HP High Performance Computing Linux Value Pack 1 Processor Flexible License

TC293B

**NOTE:** This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one socket (a.k.a. processor). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.

HP High Performance Computing Linux Value Pack Media Kit

TC294A

**NOTE:** This part number can be used to purchase media including software and documentation, which will be delivered to the customer.

**NOTE:** For additional license kits please see the QuickSpecs at:

[http://h18004.www1.hp.com/products/quickspecs/13485\\_div/13485\\_div.html](http://h18004.www1.hp.com/products/quickspecs/13485_div/13485_div.html)

### HP Drive Cage Options

HP ML350/370 G6 8 Small Form Factor (SFF) 2nd Drive Cage Kit

507803-B21

HP ML/DL370G6 6 Large Form Factor Backplane Kit

507810-B21

HP ML350/ML/DL370G6 2 Large Form Factor Drive Kit

487936-B21

### Additional Options

<b>HP Graphic Options</b>	<p>HP 350/370G6 Graphic Card Cable Kit <span style="float: right;">537721-B21</span></p> <p><b>NOTE:</b> An option kit will be required per Graphic Card.</p> <p><b>NOTE:</b> Please see the HP Power Advisor for estimated power consumption of your individual system configuration prior to installing GPUs. The HP Power Advisor is located at: <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a>.</p> <p><b>NOTE:</b> 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)</p> <p>NVIDIA Quadro 4000 2GB PCI-E Adapter <span style="float: right;">655933-B21</span></p> <p>NVIDIA Quadro 6000 6GB PCI-E Adapter <span style="float: right;">655935-B21</span></p>
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<b>HP I/O Accelerator Options</b>	<p>HP 160GB Single Level Cell PCIe ioDrive for ProLiant Servers <span style="float: right;">600278-B21</span></p> <p><b>NOTE:</b> A low-profile PCI bracket is included for use in low-profile slots.</p> <p>HP 320GB Multi Level Cell PCIe ioDrive for ProLiant Servers <span style="float: right;">600279-B21</span></p> <p><b>NOTE:</b> A low-profile PCI bracket is included for use in low-profile slots.</p> <p>HP 320GB Single Level Cell PCIe ioDrive Duo for ProLiant Servers <span style="float: right;">600281-B21</span></p> <p>HP 640GB Multi Level Cell PCIe ioDrive Duo for ProLiant Servers <span style="float: right;">600282-B21</span></p> <p>HP 1.28TB Multi Level Cell PCIe IO Accelerator <span style="float: right;">641027-B21</span></p> <p><b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:  <a href="http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html">http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html</a>          (Worldwide)</p>
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<b>HP Security - TPM</b>	<p>HP Trusted Platform Module Option <span style="float: right;">488069-B21</span></p> <p><b>NOTE:</b> 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: <a href="http://www.hp.com/go/TPM">www.hp.com/go/TPM</a>.</p> <p><b>NOTE:</b> ProLiant OS pre-installed units will come with the partition required for TPM deployment.</p> <p><b>NOTE:</b> The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.</p>
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<b>HP Storage Controllers SAS Controllers</b>	
	<b>Smart Array P800 Controller</b>
	HP Smart Array P800/512 BBWC 2-ports Int/2-ports Ext PCIe x8 SAS Controller <span style="float: right;">381513-B21</span>
	<b>HP Smart Array P212 Controller</b>
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller <span style="float: right;">462828-B21</span>
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller <span style="float: right;">462834-B21</span>
	<b>HP Smart Array P410 Controller</b>
	HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller <span style="float: right;">462862-B21</span>
	HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller <span style="float: right;">462864-B21</span>
	HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller <span style="float: right;">578230-B21</span>
	HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller <span style="float: right;">572532-B21</span>
	<b>HP Smart Array P411 Controller</b>
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller <span style="float: right;">462830-B21</span>
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller <span style="float: right;">462832-B21</span>

### Additional Options

HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21

#### Smart Array P812 Controller

HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller	487204-B21
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#### Optional Upgrades

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

HP 256MB P-series Cache Upgrade	462968-B21
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HP 512MB P-Series Battery Backed Write Cache Upgrade	462967-B21
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HP 512MB Flash Backed Write Cache	534916-B21
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HP 1GB Flash Backed Cache	534562-B21
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HP 8484 to Mini SAS 33in Cable Assembly	591734-B21
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**NOTE:** Cable for use connecting the Smart Array P800 Controller to internal hard disk drives on select HP ProLiant G6 Servers.

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License	516471-B21
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**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/12616\\_div/12616\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html)  
(Smart Array P800 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13203\\_div/13203\\_div.html](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](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](http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html)  
(Smart Array P411 Controller)

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

#### SAS Controller Options

HP 24 Bay 3Gb SAS Expander Card	468406-B21
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**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](http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html)  
(SAS Expander Card)

#### SAS HBA

HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter	488765-B21
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HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter	614988-B21
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**NOTE:** This is a 2 x4 External Port HBA

**NOTE:** This is only approved for the HP P2000 G3 SAS Modular Smart Array.

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

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

[http://h18004.www1.hp.com/products/quickspecs/13651\\_div/13651\\_div.html](http://h18004.www1.hp.com/products/quickspecs/13651_div/13651_div.html)  
(SC08e 6Gb HBA)

#### SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
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**NOTE:** Recommended HBA for SCSI tape drive connect.

### Additional Options

**NOTE:** Please see the following QuickSpecs for additional information:  
[http://h18000.www1.hp.com/products/quickspecs/12566\\_div/12566\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html)  
 (SC11Xe HBA)

#### HP Power Cords

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

HP 1.83m 10A C13 Power Cord	AF556A
HP 1.83m 10A C13 EU Power Cord	AF568A
HP 1.83m 10A C13 UK Power Cord	AF570A
HP 1.83m 10A C13 DK Power Cord	AF566A
HP 1.83m 10A C13 CZ Power Cord	AF565A
HP 1.83m 10A C13 IT/CL Power Cord	AF571A
HP 2.5m 10A C13 ZA Power Cord	AF567A

#### HP Backup & Recovery Software HP Data Protector Express

HP Data Protector Express V5.0 for 1 Server E-LTU	TC330AAE
HP Data Protector Express V5.0 for 3 Servers E-LTU	TC331AAE
HP Data Protector Express V5.0 for 10 Servers E-LTU	TC332AAE
HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU	TC333AAE

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

#### HP Tape Backup

**NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP tape backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks DAT 160 USB Internal Tape Drive	Q1580A
HP StorageWorks DAT 160 SAS Internal Tape Drive	Q1587A
<b>NOTE:</b> For installation into 1U SAS Rack-Mount Kit (AE459B) or 3U SAS Rack-Mount Kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks LTO-5 Ultrium 3000 SAS External Tape Drive	EH958A
<b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader	AK377A
<b>NOTE:</b> Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks DAT 320 USB Internal Tape Drive	AJ825A
HP StorageWorks DAT 320 SAS Internal Tape Drive	AJ830A
<b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks Ultrium 448 SAS Internal Drive	DW085A
HP StorageWorks Ultrium 920 SAS Internal Tape Drive	EH847A
<b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks LTO-4 Ultrium 1760 SAS Internal WW Tape Drive	EH919A
<b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	
HP StorageWorks LTO-4 Ultrium 1840 SAS External WW Drive	EH861A
<b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	



### Additional Options

HP StorageWorks LTO-5 Ultrium 3280 SAS Internal Tape Drive <b>NOTE:</b> For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH899A
HP StorageWorks LTO-5 Ultrium 3000 SAS Internal Tape Drive <b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	EH957A
HP StorageWorks 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader <b>NOTE:</b> Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL536A
HP StorageWorks MSL2024 1 LTO-5 Ultrium 3000 SAS Tape Library <b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL537A
HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library	AK378A
HP StorageWorks MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library <b>NOTE:</b> Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	BL538A
HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Tape Library	AK380A

### HP Disk Backup

**NOTE:** For the complete range of D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP disk backup products see: <http://www.hp.com/go/connect>.

#### HP D2D Backup Systems with Backup Data Deduplication

HP StorageWorks D2D2502i Backup System EJ001B  
**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.

HP StorageWorks D2D2504i Backup System EJ002B  
**NOTE:** 3.0TB 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 D2D4112 Backup System EH993B  
**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 RDX Removable Disk Backup Systems USB

HP StorageWorks RDX160 Internal Removable Disk Backup System AJ765A

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 RDX1000 Internal Removable Disk Backup System BV847A  
**NOTE:** For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 1 TB of disk capacity per data cartridge.



## Additional Options

### HP Storage Options

#### 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 PCIe 8Gb Fibre Channel Single Port Host Bus Adapter AP769A

HP StorageWorks 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter AP770A

HP StorageWorks 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter AP767A

HP StorageWorks 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter AP768A

#### Emulex Fibre Channel HBAs

HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter AJ762A

HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter AJ763A

HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter A8002A

HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter A8003A

#### QLogic Fibre Channel HBAs

HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter AK344A

HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter AJ764A

HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter AE311A

HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter AE312A

#### Converged Network Adapter

HP StorageWorks CN1000E Dual Port Converged Network Adapter AW520A

HP CN1000Q Dual Port Converged Network Adapter BS668A

### HP Disk Storage Systems

#### MSA SAN Storage Arrays

HP StorageWorks MSA60 Array 418408-B21

**NOTE:** Supports 12 SFF drives, and SAS 3 Gb/s and SATA 3 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](http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html) (Worldwide)

HP StorageWorks MSA70 Array 418800-B21

**NOTE:** Supports 25 SFF drives, and SAS 3 Gb/s and SATA 3 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](http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html) (Worldwide)

#### Disk Enclosures

HP StorageWorks D2600 Disk Enclosure AJ940A

HP StorageWorks D2700 Disk Enclosure AJ941A

**NOTE:** Please see the QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/13404\\_div/13404\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html) (Worldwide)

## Additional Options

### HP Uninterruptible Power Systems

#### HP Tower UPS

##### HP T1000 G3 UPS Models

HP T1000 G3 1000VA NA Tower Uninterruptible Power System AF448A

HP T1000 G3 1000VA INTL Tower Uninterruptible Power System AF449A

HP T1000J JP Uninterruptible Power System AF457A

##### HP T1500 G3 UPS Models

HP T1500 G3 1400VA NA Tower Uninterruptible Power System AF450A

HP T1500 G3 1400VA INTL Tower Uninterruptible Power System AF451A

HP T1500J JP Uninterruptible Power System AF458A

**NOTE:** Please see the [QuickSpecs](#) for additional information:

[http://h18000.www1.hp.com/products/quickspecs/13160\\_div/13160\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13160_div/13160_div.html)  
(Worldwide)

#### HP Rack-mountable UPS

##### HP R1500 G2 UPS

HP R1500 G2 1440VA Low Voltage NA 1U Rackmount Uninterruptible Power System AF419A

HP R1500 G2 1440VA INTL 1U Rackmount Uninterruptible Power System AF418A

HP R1500 G2 1200kVA Low Voltage JP 1U Rackmount Uninterruptible Power System AF421A

**NOTE:** Please see the [QuickSpecs](#) for additional information:

[http://h18000.www1.hp.com/products/quickspecs/12507\\_div/12507\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html)  
(Worldwide)

##### HP R1500 G3 Uninterruptible Power Supply (UPS)

HP R1.5kVA G3 1U NA Uninterruptible Power System AF469A

HP R1.5kVA G3 1U JP/TW Uninterruptible Power System AF470A

HP R1.5kVA G3 1U INTL Uninterruptible Power System AF471A

**NOTE:** Please see the [QuickSpecs](#) for additional information:

[http://h18000.www1.hp.com/products/quickspecs/14059\\_div/14059\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14059_div/14059_div.html)  
(Worldwide)

##### HP R/T3000 G2 Uninterruptible Power System (UPS)

HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System AF466A

HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System AF467A

HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System AF468A

**NOTE:** Please see the [QuickSpecs](#) for additional information:

[http://h18000.www1.hp.com/products/quickspecs/14058\\_div/14058\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14058_div/14058_div.html)  
(Worldwide)

**NOTE:** For additional information on HP Uninterruptible Power Systems please go to: [www.hp.com/servers/rackups](http://www.hp.com/servers/rackups).

**NOTE:** For additional information on sizing your server, please reference: <http://www.upssizer.com>.

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](http://www.hp.com/products/powercords).

### Additional Options

<b>HP Power Distribution Units</b>	<b>HP Monitored Power Distribution Unit: Half Rack Version</b>	
	HP Single Input 1 Phase 24A Monitored Power Distribution Unit	AF914A
	HP Single Input 1 Phase 32A Monitored Power Distribution Unit	AF915A
	<b>NOTE:</b> Please see the following QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html">http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html</a> (Worldwide)	
	<b>Modular Power Distribution Units 1U/0U (Up to 32 outlets)</b>	
	<b>NOTE:</b> 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	
	HP 24A High Voltage Modular Power Distribution Unit	252663-D72
	HP 40A High Voltage NA/JP Modular Power Distribution Unit	252663-D73
	HP 32A High Voltage Modular Power Distribution Unit	252663-B31
	HP 16A High Voltage Modular Power Distribution Unit	252663-B24
	<b>NOTE:</b> This PDU has a detachable input power cord and allows for adaptability to country specific power requirements.	
	<b>NOTE:</b> Please see the following QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html">http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html</a> (Worldwide)	
	<b>NOTE:</b> For additional information on HP Power Distribution Units including accessories please go to: <a href="http://www.hp.com/go/pdu">www.hp.com/go/pdu</a> .	
	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: <a href="http://www.hp.com/products/powercords">www.hp.com/products/powercords</a> .	

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<b>HP Rack Series</b>	<b>HP Rack 10000 G2 Series (Carbon/Graphite Metallic)</b>	
	HP 10642 G2 Pallet Universal Rack	AF001A
	HP 10642 G2 Shock Universal Rack	AF002A
	HP 10642 G2 1200mm deep Shock Rack	AF092A
	HP 10647 G2 1200mm deep Shock Rack	AF094A
	<b>NOTE:</b> It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	<b>NOTE:</b> Please see the QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html">http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html</a> (Worldwide)	
	<b>NOTE:</b> For additional information regarding Rack Cabinets and Telco Rack support, please see the following URL: <a href="http://www.hp.com/go/rackandpower">http://www.hp.com/go/rackandpower</a> .	
	<b>NOTE:</b> 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.	
	<b>CAUTION:</b> 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).	
	<b>CAUTION:</b> 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.	

## Additional Options

**NOTE:** 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.

### HP Rack Options

#### Keyboards and Monitors

HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor	AZ870A
HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor	AZ871A
HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor	AZ872A
HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor	AZ873A
HP TFT7600 G2 KVM Console Rackmount Keyboard IT Monitor	AZ874A
HP TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor	AZ875A
HP TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor	AZ876A
HP TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor	AZ877A
HP TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor	AZ878A
HP TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor	AZ879A
HP TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor	AZ880A
HP TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor	AZ881A
HP TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor	AZ882A
HP TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor	AZ883A
HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor	AZ884A
HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor	AZ885A

**NOTE:** Please see the QuickSpecs for additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13731\\_div/13731\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13731_div/13731_div.html)  
 (Worldwide)

HP TFT7600 Rackmount Keyboard 17in US Monitor	AG052A
HP TFT7600 Rackmount Keyboard 17in UK Monitor	AG053A
HP TFT7600 Rackmount Keyboard 17in DE Monitor	AG054A
HP TFT7600 Rackmount Keyboard 17in ES Monitor	AG057A
HP TFT7600 Rackmount Keyboard 17in DK Monitor	AG058A
HP TFT7600 Rackmount Keyboard 17in CH Monitor	AG061A
HP TFT7600 Rackmount Keyboard 17in PT Monitor	AG062A
HP TFT7600 Rackmount Keyboard 17in BE Monitor	AG063A
HP TFT7600 Rackmount Keyboard 17in JP Monitor	AG064A
HP TFT7600 Rackmount Keyboard 17in RU Monitor	AG065A
HP TAA TFT7600 Rackmount Keyboard 17in US Monitor	AG067A

**NOTE:** Please see the QuickSpecs for additional information:  
[http://h18000.www1.hp.com/products/quickspecs/12417\\_div/12417\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12417_div/12417_div.html)  
 (Worldwide)

HP 1U US Rackmount Keyboard with USB	AG072A
HP 1U UK Rackmount Keyboard with USB	AG073A
HP 1U DE Rackmount Keyboard with USB	AG074A
HP 1U FR Rackmount Keyboard with USB	AG075A
HP 1U IT Rackmount Keyboard with USB	AG076A
HP 1U ES Rackmount Keyboard with USB	AG077A
HP 1U NO Rackmount Keyboard with USB	AG079A
HP 1U SE/FI Rackmount Keyboard with USB	AG080A
HP 1U Rackmount Keyboard with USB	AG081A

### Additional Options

HP 1U PT Rackmount Keyboard with USB	AG082A
HP 1U BE Rackmount Keyboard with USB	AG083A
HP 1U JP Rackmount Keyboard with USB	AG084A
HP 1U RU Rackmount Keyboard with USB	AG085A
HP 1U INT Rackmount Keyboard with USB	AG086A

**NOTE:** Please see the QuickSpecs for additional information:

[http://h18000.www1.hp.com/products/quickspecs/12465\\_div/12465\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12465_div/12465_div.html)  
(Worldwide)

#### HP Server Console Switches

HP Server Console 0x2x8 Port Analog Switch	AF616A
HP Server Console 0x2x16 Port Analog Switch	AF617A

**NOTE:** Please see the QuickSpecs for additional information:

[http://h18000.www1.hp.com/products/quickspecs/11834\\_div/11834\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html)  
(Worldwide)

#### HP Server Console Switch G2 with Virtual Media & CAC

HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software	AF618A
HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software	AF619A

**NOTE:** Please see the QuickSpecs for additional information:

[http://h18000.www1.hp.com/products/quickspecs/13475\\_div/13475\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html)  
(Worldwide)

#### HP IP Console Switch G2 with Virtual Media & CAC

HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software	AF620A
HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software	AF621A
HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software	AF622A

**NOTE:** Please see the QuickSpecs for additional information:

[http://h18000.www1.hp.com/products/quickspecs/13474\\_div/13474\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html)  
(Worldwide)

#### Rack Kits

HP ML370G6 Tower to Rack Conversion Kit	515031-B21
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#### HP USB and SD Options

HP USB 2-Button Optical Scroll Mouse	DC172B
HP Standard USB Keyboard US	DT528A#ABA
HP 4GB Secure Digital High Capacity 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 Kit	608447-B21
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**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

HP 3 year 4 hour 13x5 ProLiant ML370/DL370 Hardware Support U4528E

HP 3 year 4 hour 24x7 ProLiant ML370/DL370 Hardware Support U4529E

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

HP 3 year 6 hour 24x7 Call to Repair ProLiant ML370/DL370 Hardware Support U4530E

#### Installation & Start-up Services

HP Install ProLiant ML370/DL370 Service U4538E

HP Startup ProLiant ML370/DL370 Service U4539E

#### Support Plus

HP 3 year Support Plus Microsoft ProLiant ML370/DL370 Service U4540E

#### Support Plus 24

HP 3 year Support Plus 24 Microsoft ProLiant ML370/DL370 Service U4541E

HP 3 year Support Plus 24 SuSE ProLiant ML370/DL370 Service U6311E

### HP ProLiant DL370 G6 Service & Support Offerings

#### Hardware Services On-site Service

HP 3 year 4 hour 13x5 ProLiant DL370 Hardware Support UM752E

HP 3 year 4 hour 24x7 ProLiant DL370 Hardware Support UM753E

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

HP 3 year 6 hour 24x7 Call to Repair ProLiant DL370 Hardware Support UM754E

#### Installation & Start-up Services

#### Support Plus 24

HP 3 year SupportPlus24 Microsoft ProLiant DL370 Service UM763E

HP 3 year SupportPlus24 SuSE ProLiant DL370 Service 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](http://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
- Low Voltage DIMMs can only be used with the Intel® Xeon® processors 5600 series
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

DIMM slot/capacity/populated speed table												
DIMM Type	Registered DIMMS (RDIMMs)									Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank	Single Rank (1R)	Dual Rank (2R)					Quad Rank (4R)			Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity	4G	2GB	4GB	8GB	8GB	16GB	4GB	16GB	32GB	1GB	2GB	4GB
DIMM Native Speed (MHz)	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
Voltage	LV/Std	Std	Std	Std	LV/Std	LV/Std	Std	Std	LV/Std	Std	Std	Std
<b>SLOTS THAT CAN BE POPULATED</b>												
18 slot servers	18	18	18	18	18	18	12	12	12	12	12	12
<b>MAXIMUM CAPACITY (GB)</b>												
	72	36	72	144	144	288	48	192	384	12	24	48
<b>POPULATED DIMM SPEED (MHz)</b>												
1 DIMM Per Channel	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	1333*	1066/1033**	800	800	800	1066	1066	1066
3 DIMM Per Channel	800	800	800	800	800	800***	n/a	n/a	n/a	n/a	n/a	n/a

\* Supported with ROM update via ROM Based Setup Utility (RBSU)  
 \*\*2DPC: LV runs at 1066, Std voltage runs at 1333  
 \*\*\*3DPC: LV/Std voltage runs at 800



## Memory

### NOTES:

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

- 24GB, consisting of six (6) 4GB 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; 4GB DIMM	2	D; empty	
	3	A; 4GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; empty	
	6	B; 4GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; empty	
	9	C; 4GB DIMM	9	C; empty	

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

- 384GB, consisting of twelve (12) 32GB Quad-Rank PC3-8500 RDIMMs

## Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 32GB DIMM	2	D; 32GB DIMM	
	3	A; 32GB DIMM	3	A; 32GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 32GB DIMM	5	E; 32GB DIMM	
	6	B; 32GB DIMM	6	B; 32GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 32GB DIMM	8	F; 32GB DIMM	
	9	C; 32GB DIMM	9	C; 32GB DIMM	

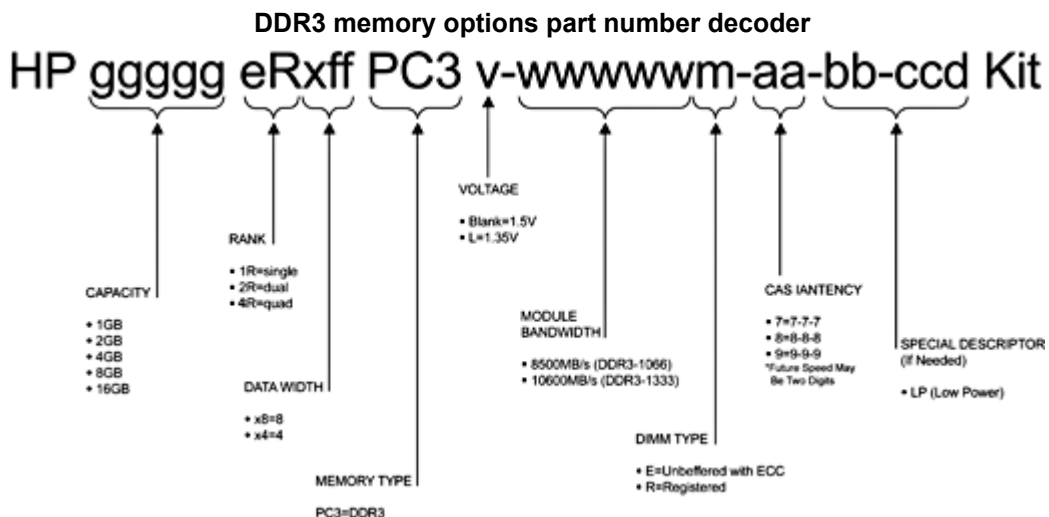
### UDIMM maximum configuration (2 CPU model)

- 48GB, consisting of twelve (12) 4GB 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; 4GB DIMM	2	D; 4GB DIMM	
	3	A; 4GB DIMM	3	A; 4GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	B; 4GB DIMM	6	B; 4GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; 4GB DIMM	
	9	C; 4GB DIMM	9	C; 4GB 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 (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
<b>NOTE:</b> Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21

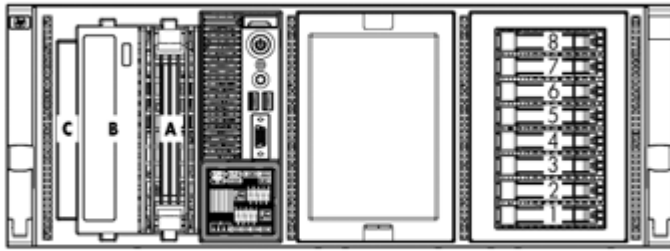
#### Unbuffered with ECC DIMMs (UDIMMs)

HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21

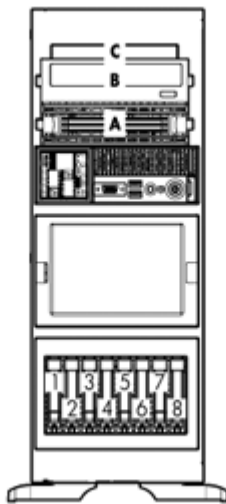
**NOTE:** All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

**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](http://www.hp.com/go/proliant-energy-efficient).

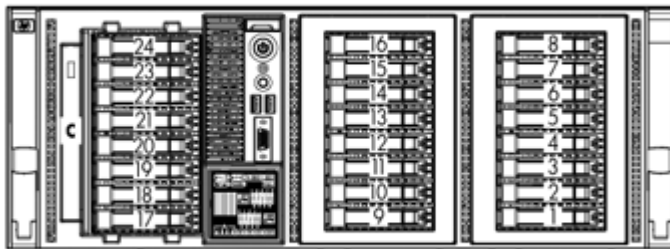
## Storage



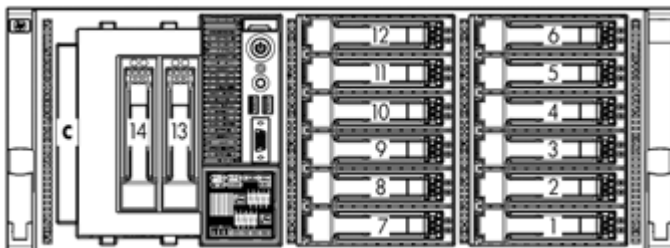
- A Removable media bay
- B SATA DVD-ROM Drive (Standard in all BTO Models)
- C Optical Drive (blank)
- 1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)



- 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
<b>Removable Media</b>			
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 12.7mm SATA DVD-ROM Optical Drive	1 <b>NOTE:</b> Also please use if the 3 drive cage is populated	C	Integrated IDE
HP Slim 12.7mm SATA DVD-RW Optical Drive	1 <b>NOTE:</b> 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
900GB 6G SAS 10K	Up to 24	1-8	HP Smart Array P800/512 BBWC Controller
600GB 6G SAS 10K		1-24	HP Smart Array P212/Zero Memory Controller
450GB 6G SAS 10K			HP Smart Array P212/ 256 MB Controller
300GB 6G SAS 10K			HP Smart Array P410/256 MB Controller
146GB 6G SAS 15K			HP Smart Array P410/512 MB BBWC Controller
146GB 6G SAS 10K			HP Smart Array P410/512 MB FBWC Controller
72GB 6G SAS 15K			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
450GB 6G SAS 15K			HP Smart Array P212/Zero Memory Controller
300GB 6G SAS 15K			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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller

## Storage

HP Smart Array P411/512 MB FBWC Controller  
 HP Smart Array P411/1G FBWC Controller  
 HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
1TB 6G SAS 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
500GB 6G SAS 7.2K			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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
3TB 6G SAS 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
2TB 6G SAS 7.2K			HP Smart Array P212/Zero Memory Controller
1TB 6G SAS 7.2K			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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
1TB 3G SATA 7.2K	Up to 24	1-8	HP Smart Array P800/512 BBWC Controller
500GB 3G SATA 7.2K		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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
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### Storage

3TB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
2TB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
1TB 3G SATA 7.2K			HP Smart Array P212/ 256 MB Controller
500GB 3G SATA 7.2K			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 7.2K	Up to 14	1-14	HP Smart Array P800/512 BBWC Controller
160GB 3G SATA 7.2K			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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

### SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
120GB 3.0G SATA SSD		1-24	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 P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

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

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

## Storage

HP Smart Array P411/1G FBWC Controller  
 HP Smart Array P812/1G FBWC Controller

### 6G SAS Hot Plug Enterprise Performance Solid State Drives

	Quantity Supported	Position Supported	Controller
200GB 6G SAS SLC SFF	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
		1-24	HP Smart Array P212/ 256 MB Controller
400GB 6G SAS SLC SFF	Up to 24		HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC Controller

### 6G SAS Hot Plug Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
800GB 6G SAS MLC SFF	Up to 24	1-8	HP Smart Array P212/Zero Memory Controller
		1-24	HP Smart Array P212/ 256 MB Controller
400GB 6G SAS MLC SFF	Up to 24		HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P410/512 MB FBWC Controller
			HP Smart Array P410/1G FBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G FBWC 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
			HP Smart Array P800/512 BBWC Controller
	Up to 8		HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC 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
			HP Smart Array P800/512 BBWC Controller
	Up to 4		HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/512 MB FBWC Controller
			HP Smart Array P411/1G FBWC Controller
			HP Smart Array P812/1G Flash Backed Cache Controller
D2600 Disk Enclosure	Up to 4	External	HP Smart Array P212/256 MB Controller

### Storage

	Up to 8		HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 2 Up to 4	External	HP Smart Array P212/256 MB Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

### Tape and Disk Backup

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

	Position Supported	Controller	Part Number
<b>HP SCSI Tape Drives</b> LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160	Internal or External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter	AH627A
		<b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	
<b>HP USB Tape Drives</b> DAT 40 DAT 72 DAT 160 DAT 320	Internal or External	USB 2.0 Port	N/A
<b>HP USB Rack Mount Kits</b> 1U USB Rack-Mount Kit	External	USB 2.0 Port	USB 2.0 Port
<b>HP SAS Tape Drives</b> 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 Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
		<b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	

### Storage

<b>HP SAS Rack Mount Kits</b> 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller  <b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	462828-B21
<b>HP SCSI Tape Autoloaders</b> DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter  <b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	AH627A
<b>HP SCSI Tape Libraries</b> MSL2024 MSL4048 MSL8096 MSL6000	External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter  <b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	AH627A
<b>HP SAS Tape Autoloaders and Libraries</b> 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller  <b>NOTE:</b> Please check the full compatibility information at: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	462828-B21
<b>HP Fibre Channel Tape Libraries</b> MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: <a href="http://www.hp.com/go/ebs">http://www.hp.com/go/ebs</a> for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.	N/A
<b>HP USB RDX Removable Disk Backup System</b> RDX160 RDX320 RDX500 RDX750 RDX1TB	Internal or External	USB 2.0 port	N/A
<b>HP D2D Backup Systems, iSCSI</b> D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	N/A
<b>HP D2D Backup Systems, Fibre Channel</b> D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>	N/A



### Power Specifications

<b>HP 460W Common Slot Gold Hot Plug Power Supply Kit</b>							
Part Number	503296-B21						
Input Voltage Range ( V rms )	100 to 240						
Frequency Range (Nominal) ( Hz )	50/60						
Nominal Input Voltage ( Vrms )	<b>100</b>	<b>120</b>	<b>200</b>	<b>208</b>	<b>220</b>	<b>230</b>	<b>240</b>
Maximum Rated Output Wattage Rating	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
Maximum Rated Input Wattage Rating ( Watts )	526	520	505	505	503	503	503
Maximum Rated VA ( Volt-Amp )	548	542	527	527	524	524	524
Efficiency ( % )	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current ( mA )	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current ( A peak )	30						
Maximum Inrush Current duration ( mS )	20						
Maximum British Thermal Unit Rating ( BTU-Hr )	1794	1773	1725	1725	1715	1715	1715

<b>HP 750W Common Slot Gold Hot Plug Power Supply Kit</b>							
Part Number	512327-B21						
Input Voltage Range ( V rms )	100 to 240						
Frequency Range (Nominal) ( Hz )	50/60						
Nominal Input Voltage ( Vrms )	<b>100</b>	<b>120</b>	<b>200</b>	<b>208</b>	<b>220</b>	<b>230</b>	<b>240</b>
Maximum Rated Output Wattage Rating	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
Maximum Rated Input Wattage Rating ( Watts )	857	847	824	824	820	820	820
Maximum Rated VA ( Volt-Amp )	894	884	859	854	854	854	
Efficiency ( % )	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current ( mA )	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current ( A peak )	30						
Maximum Inrush Current duration ( mS )	20						
Maximum British Thermal Unit Rating ( BTU-Hr )	2925	2892	2812	2812	2797	2797	2797

<b>HP 1200W Common Slot Silver Hot Plug Power Supply Kit</b>							
Part Number	500172-B21						
Input Voltage Range ( V rms )	100 to 240						
Frequency Range (Nominal) ( Hz )	50/60						
Nominal Input Voltage ( Vrms )	<b>100</b>	<b>120</b>	<b>200</b>	<b>208</b>	<b>220</b>	<b>230</b>	<b>240</b>
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current ( A rms )	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating ( Watts )	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA ( Volt-Amp )	970	1079	1406	1406	1406	1406	1406
Efficiency ( % )	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current ( mA )	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current ( A peak )	30						
Maximum Inrush Current duration ( mS )	20						
Maximum British Thermal Unit Rating ( BTU-Hr )	3174	3530	4600	4600	4600	4600	4600

## *Power Specifications*

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](http://www.hp.com/go/proliant-energy-efficient) or [www.hp.com/go/hppoweradvisor](http://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

<b>System Unit</b>	<b>Tower Dimensions</b> (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)	
	<b>Rack Dimensions</b> (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)	
	<b>Tower Weight</b> (approximate)	Maximum	96.34 lb (43.70 kg)
		(All hard drives, power supply, and processor installed)	
		Minimum	66.14 lb (30.00 kg)
		(one hard drive, power supply, and processor installed)	
	<b>Rack Weight</b> (approximate)	Maximum	85.69 lb (38.87 kg)
		(All hard drives, power supply, and processor installed)	
		Minimum	55.12 lb (25.00 kg)
		(one hard drive, power supply, and processor installed)	
	<b>Input Requirements</b> (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)
	<b>BTU Rating</b>	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)
	<b>Power Specifications</b>	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: <a href="http://www.hp.com/go/proliant-energy-efficient">www.hp.com/go/proliant-energy-efficient</a>	
		<ul style="list-style-type: none"> <li>- Click on the system of interest. Example: DL370 G6 or ML370 G6</li> <li>- Follow the instructions of the next screens.</li> </ul>	
	<b>Power Supply Output</b> (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)
		<b>NOTE:</b> See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.	
	<b>System Inlet Temperature</b>	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 is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options

### Technical Specifications

		installed.
		System performance may be reduced if operating with a fan fault or above 30°C (86°F).
<b>Relative Humidity</b> (non-condensing)	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
<b>Altitude</b>	Non-operating	10 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	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).
<b>Acoustic Noise</b>	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		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).
	<b>Idle</b>	
	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
	<b>Operating</b>	
	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
	<b>NOTE:</b> The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.	
<b>Emissions Classification</b> (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
	<b>NOTE:</b> 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

<b>Smart Array P410i Controller</b>	<b>Dimensions</b>	Embedded		
	<b>Disk Drive and Enclosure Interface - Transfer rate</b>	6Gb/s SAS (Serial Attached SCSI)		
		3Gb/s SATA (Serial ATA)		
	<b>SAS Connectors</b>	2 internal 4X connectors		
	<b>Cache Memory Speed</b>	DDR2-800MHz with 40 or 72-bit wide bus		
	<b>Server Interface</b>	x4 PCIe 2.0 provides 2GB/s maximum bandwidth		
	<b>SAS Speed</b>	8 6Gb/s SAS links provide 4.8GB/s maximum bandwidth		
	<b>Cache Memory</b>	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC Zero Memory, Up to 2 logical volumes (8 physical drives)		
	<b>Logical Drives Supported</b>	Up to 64 logical drives with cache		
	<b>Host Memory Addressing</b>	64-bit, supporting greater than 4GB server memory space		
	<b>RAID Support</b>	RAID 6, 6+0 (Advanced Data Guarding) <b>NOTE:</b> RAID 6, 6+0 can be enabled with one of the following combinations: <ul style="list-style-type: none"> <li>• 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades</li> <li>• 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades</li> <li>• 1G FBWC and Smart Array Advanced Pack License key option upgrades</li> </ul> RAID 5, 5+0 (Distributed Data Guarding) <b>NOTE:</b> A minimum of 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)		
	<b>NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</b>	<b>Network Interface Compatibility</b>	10Base-T/100Base-TX/1000Base-TX 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	
		<b>Data Transfer Method</b>	PCI Express, four lanes (x4)	
<b>Controller</b>		Qlogic/NetXen NX3031		
<b>Network Transfer Rate</b>		10Base-T (Full-Duplex)	20 Mb/s	
		100Base-TX (Full-Duplex)	200 Mb/s	
		1000Base-TX (Full-Duplex)	2000 Mb/s	
<b>Connector</b>		RJ-45		
<b>Cable Support</b>		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

<b>HP Integrated Lights-Out 2 (iLO 2) integrated on system board</b>	<b>Architecture</b>	32-bit PCI-based health and remote management ASIC	
	<b>Processor</b>	32-bit RISC processor core running at 66MHz	
	<b>Upgradeability</b>	Option firmware upgradeable via Flash ROM	
	<b>Operating System Support</b>		Microsoft Windows Server 2008 Standard Edition (32bit and 64bit)
			Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit)
			Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Extended Systems Standard Edition, Enterprise Edition
			Red Hat Enterprise Linux 5.4 (32bit and 64bit)
			SUSE Linux Enterprise Server 11 (32bit and 64bit)
			SUSE Linux Enterprise Server 10 (32bit and 64bit)
			VMware ESX 4.0
			VMware ESX 3.5.0
			Microsoft Windows XP Professional Edition
			Microsoft Windows Vista Business and Ultimate Editions
	Red Hat Enterprise Linux Desktop 5.00		
	SUSE Linux Enterprise Desktop 11		
	SUSE Linux Enterprise Desktop 10		
<b>Client Browser Support</b>		Microsoft Internet Explorer 7	
		Microsoft Internet Explorer 6	
		Firefox 3.5 (on supported Windows and Linux systems)	
		Firefox 3.0 (on supported Windows and Linux systems)	
<b>Command Line Support</b>		Telnet, Secure Shell and serial port access	
		Secure Socket Layer	
<b>Security</b>		Secure Shell version 2 (Password and certificate)	
		Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface RC4 encryption of video	
<b>Directory Support Services</b>		Active Directory v1.0 (Windows 2003)	
<b>Driver Support</b>		Health Driver (HP ProLiant iLO 2 Management Controller Driver) iLO Management Channel Interface Driver	
<b>Management protocols supported</b>		SNMP 2, IPMI 2.0 (KCS interface), DMTF Server Management Command Line Protocol Specification	
		(SM CLP), DMTF Web Services Management Specification (WS Management)	



### 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.

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