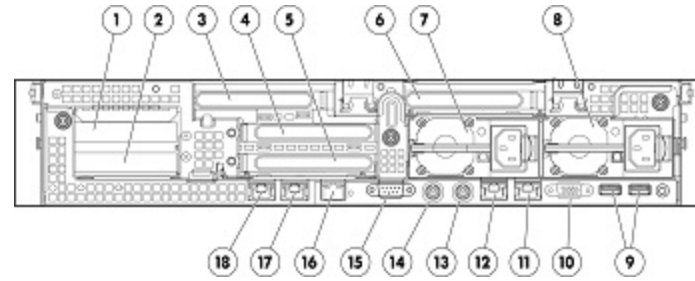
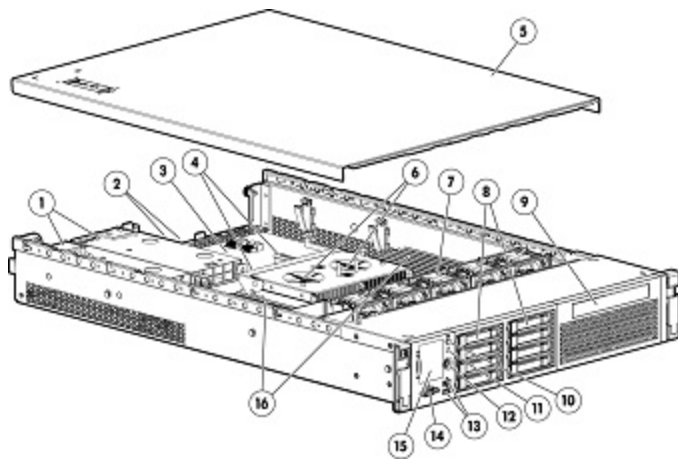


### Overview



#### Front View:

1. Redundant Power Supplies
2. Two HP NC382i Dual Port Multifunction NICs
3. SD Card Reader
4. PCI Riser Slots
5. Quick Removal Access Panel
6. AMD Opteron Processors (up to 2)
7. Hot Plug Redundant Fans
8. Hard Drive Bays
9. Slimline Optical bay
10. UID LED Button
11. Health LED
12. Power On/Standby Button and System Power LED
13. USB Connectors (2)
14. Video Connector
15. System Insight Display
16. Twenty-four sockets for DDR3 Memory

#### Rear View:

1. PCI slot 5
2. PCI slot 6
3. PCI slot 4
4. PCI slot 2
5. PCI slot 3
6. PCI slot 1
7. Power Supply 2
8. Power Supply 1
9. USB Connectors (2)
10. Video Connector
11. NIC 1 Connector
12. NIC 2 Connector
13. Mouse Connector
14. Keyboard Connector
15. Serial Connector
16. iLO3 connector
17. NIC 3 Connector
18. NIC 4 Connector

### What's New

- New High Efficiency model, with AMD Opteron HE processor and new 460W 94% power efficient power supply

### At A Glance

As the leading 2P 2U AMD rack server, the HP ProLiant DL385 G7 is designed with virtualization in mind, yet flexible and expandable to support any business need in many environments from corporate datacenters to sophisticated SMBs.

- **Processors:**
  - AMD Eight- or Twelve-Core, 6100 series processors with 12MB Level 3 cache for blazing performance; systems support up to 2 processors (2 processors standard on all Performance models)
  - Preconfigured Performance models save valuable deployment time at a discounted bundle price
  - AMD SR5690 Northbridge and SP5100 Southbridge
- **Memory:**
  - Total of 24 DIMM slots
  - Up to 256GB using RDIMMs or 64GB using UDIMMs
  - NOTE: if only one processor is installed, only half the DIMM slots are available.
- **Storage Controller:**
  - High Performance Models: HP Smart Array P410i/1G FBWC Controller
  - Base Models: HP Smart Array P410i/256MB Controller
  - Entry Models: HP Smart Array P410i/Zero Memory Controller
  - Available upgrades: 1G FBWC, 512MB FBWC, 256MB, 512MB with BBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)
- **Internal Drive Support:**
  - Standard (8) small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives
    - Optional second drive cage for additional (8) SFF drive bays (total 16)
    - Optional cage for (6) Large Form Factor SAS/SATA hard drive bays
  - Slimline media bay supporting Optical Drive (ships standard on performance models)
  - NOTE: The Optical Drive option is not available when you upgrade with the additional 8 SFF drive cage, or in the LFF Models.
- **Network Controller:**
  - Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)
- **Expansion Slots:**

### Overview

- Up to 6 PCI slots (PCIe slots are Gen 2)
- Standard BTO riser with PCIe (1) x8 FL/FH, (2) x4 HL/FH
- Optional second risers with PCIe (1) x8, (2) x4; or a PCIe/PCI-X mixed riser with (2) PCI-X, (1) x8; or a x16 225w PCIe riser with (1) x16; or a (2) x8 Dual Port 10GbE riser
- **USB 2.0 Ports:**
  - 6 total ports: (2) ports in front; (2) ports in back; (1) port internal; (1) port internal for USB tape drive
- **Redundancy:**
  - Fully redundant hot plug fans (Entry/Base/HE models: four fans; Performance models: six fans)
  - Hot plug power supply with optional redundancy (Included in Performance models)
- **HP Unique Technology:**
  - Built-In HP Thermal Logic Technologies
    - Sea of Sensors, Intelligent automated management of power and cooling systems to save cost
    - Dynamic Power Capping, customer set limits for reduced power usage within performance requirements
- **Power Supply:**
  - Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
    - HP 1200W CS HE Platinum Power Supply
    - HP 750W CS HE Gold Power Supply
    - HP 750W CS HE Platinum Power Supply
    - HP 460W CS HE Gold Power Supply
    - HP 460W CS HE Platinum Power Supply
    - HP 1200W -48V DC CS Power Supply
- **Infrastructure Management:**
  - Convenient Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
  - HP Integrated Lights-Out (iLO) management processor simplifies server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
  - HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
  - HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- **Operating Systems and Virtualization Software Support for ProLiant Servers:**
  - Supports Windows, RHEL, SLES, OEL, Vmware, Citrix XenServer
- **Form Factor:**
  - Rack (2U), (3.5-inch)
- **Deployment/Serviceability:**
  - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability
  - Tool-less access to all system components for easy in rack serviceability
  - Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement
- **Warranty:**
  - 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>

### 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

#### Twelve-Core Processors

AMD Opteron™ Processor Model 6176SE (2.3 GHz, 12MB Level 3 Cache, 105W)

AMD Opteron™ Processor Model 6174 (2.2 GHz, 12MB Level 3 Cache, 80W)

AMD Opteron™ Processor Model 6172 (2.1 GHz, 12MB Level 3 Cache, 80W)

#### Eight-Core Processors

AMD Opteron™ Processor Model 6136 (2.4 GHz, 12MB Level 3 Cache, 80W)

AMD Opteron™ Processor Model 6134 (2.3 GHz, 12MB Level 3 Cache, 80W)

AMD Opteron™ Processor Model 6128 (2.0 GHz, 12MB Level 3 Cache, 80W)

AMD Opteron™ Processor Model 6128HE (2.0 GHz, 12MB Level 3 Cache, 65W)

**NOTE:** Processor wattage references reflect Average CPU Power (ACP). For more information on ACP visit: <http://www.amd.com/powernow>.

**NOTE:** Up to 2 processors supported. High Performance Model configurations include two processors, 16GB system memory, 1G storage controller memory, FBWC, DVDRW, ICE license, Redundant 750W Power Supplies, and 6 hot plug redundant fans.

**Cache Memory** 12MB Level 3 cache memory

**Upgradeability** Upgradeable to two processors

**Chipset** AMD SR5690 Northbridge and SP5100 Southbridge

**Memory Protection** Advanced ECC

#### Memory

One of the following depending on Model

Type DDR3 Registered (RDIMM) and Unbuffered (UDIMM)  
**NOTE:** If only one processor is installed, only half of the DIMM slots are available.

Standard (Entry Models) 4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs

Standard (Base Models) 8GB (4 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs

Standard (Performance Models) 16GB (8 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs

Maximum (RDIMM) 256GB

Maximum (UDIMM) 64GB

**NOTE:** If only one processor is installed, only half the DIMM slots are available

**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).

**Network Controller** Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)

**NOTE:** 1GB of memory is sufficient to support up to eight Total Ports. 2GB of memory is required if nine or more Total Ports have been selected.

#### Expansion Slots

**Primary Riser**  
(Standard)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCI-e Gen2	x8	x16	6	Full Length/Full Height	
2	PCIe Gen2	x4	x8	12	Half length, full height	
3	PCIe Gen 2	x4	x8	15	Half length, full height	

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

PCIe Riser

Expansion	Technology	Bus	Connector	Bus Number	Form Factor	Notes
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### Standard Features

(Optional Secondary)

Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor
4	PCIe Gen2	x8	x16	18	Full Length/Full Height
5	PCIe Gen2	x4	x8	24	Low Profile
6	PCIe Gen2	x4	x8	27	Low Profile

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**PCIe/PCI-X Riser**  
(Optional Primary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCI-X	64-bit	N/A	7	Full length, Full height	
2	PCI-X	64-bit	N/A	7	Half Length, Full Height	
3	PCIe Gen 2	x8	x8	11	Half Length, Full Height	

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**NOTE:** PCI-X support is limited to PCI-X cards only

**PCIe/PCI-X**  
(Optional Secondary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
4	PCI-X	64-bit	N/A	19	Full Length/Full Height	
5	PCI-X	64-bit	N/A	19	Low Profile	
6	PCIe Gen2	x8	x8	23	Low Profile	

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**NOTE:** PCI-X support is limited to PCI-X cards only

**x16 PCIe Riser**  
(Optional Primary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe Gen2	x16	x16	6	Full Length/Full Height	Supports up to 225W

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**x16 PCIe Riser**  
(Optional Secondary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe Gen2	x16	x16	18	Full Length/Full Height	Supports up to 225W

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**Dual Port 10GbE Riser**  
(Optional Primary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
1	PCIe Gen2	x8	x16	6	Full Length/Full Height	
2	PCIe Gen2	x8	x16	9	Half length, full height	

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**NOTE:** The shared network port is only supported in the secondary riser connector

**Dual Port 10GbE Riser**  
(Optional Secondary)

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
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### Standard Features

4	PCIe Gen2	x8	x16	18	Full Length/Full Height
5	PCIe Gen2	x8	x16	21	Low Profile

**NOTE:** Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

**NOTE:** Bus width - Indicates the number of physical electrical lanes running to the connector

**NOTE:** Only single wide cards are supported

**NOTE:** The shared network port is only supported in the secondary riser connector

### Storage Controller

One of the following depending on Model

Entry Models:	HP Smart Array P410i/Zero Memory Controller
Base Models:	HP Smart Array P410i/256 MB Controller
High Performance Models:	HP Smart Array P410i/1G FBWC Controller
Available upgrades: 1G FBWC, 512MB FBWC, 256MB, 512MB with BBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)	
<b>NOTE:</b> RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).	

### Storage

One of the following depending on Model

Optical Drive	None Standard
	HP Slim SATA DVD RW Optical Drive Standard on Performance Models
Hard Drives	None Standard

### Maximum Internal Storage

Hot Plug SFF SAS	8.0TB	16 x 500GB (with optional SFF drive cage)
Hot Plug LFF SAS	12TB	6 x 2TB (with optional LFF drive cage)

### Interfaces

Serial	1
Pointing Device (Mouse)	1
Graphics	1
Keyboard	1
VGA	2 (1 front, 1 back)
Network RJ-45 (Ethernet)	4
iLO3 remote management port	1
USB 2.0 Ports	6 (2 front, 2 back, 2 inside - one for internal tape)
<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> .	

### Graphics

Integrated ATI ES1000
<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>
<b>NOTE:</b> Maximum resolution available via iLO3 remote console is 1280 x 1024 (for 32 bit color) and 1600 x 1200 (DVR max resolution).

### Form Factor

Rack (2U), (3.5-inch)
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### Standard Features

#### HP Insight management software

##### HP Insight Foundation

Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.

HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems:

<http://www.hp.com/go/foundation>.

The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

SmartStart version supported (minimum): SmartStart 8.40.

<http://www.hp.com/servers/smartstart>

##### HP Integrated Lights-Out (iLO) for ProLiant

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, 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:

[www.hp.com/go/iLO](http://www.hp.com/go/iLO)

##### HP Insight Control

HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console.

Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See [www.hp.com/go/insightcontrol](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 StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

**NOTE:** For more information, visit:

<http://www.hp.com/go/insightdynamics>

### Standard Features

#### 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. <a href="http://www.hp.com/go/clusters">http://www.hp.com/go/clusters</a> .
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. <a href="http://www.hp.com/techservers/clusters/ucp/index.html">http://www.hp.com/techservers/clusters/ucp/index.html</a>
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. <a href="http://www.hp.com/go/cmu">http://www.hp.com/go/cmu</a>
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 deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform LSF workload scheduler, the HP-MPI parallelization library, 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

#### Industry Standard Compliance

ACPI 2.0 Compliant  
 PCIe 2.0 Compliant  
 PCI 2.2 Compliant  
 WOL Support  
 Microsoft® Logo certifications  
 USB 2.0 Support

#### Intelligent Manageability

HP Systems Insight Manager software  
 SmartStart  
 Management Agent  
 Redundant ROM  
 Remote Flash ROM  
 ROM-Based Setup Utility (RBSU)  
 Integrated Management Log  
 Automatic Server Recovery (ASR)  
 Dynamic Sector Repairing (with Smart Array controller)  
 Drive Parameter Tracking (with Smart Array controller)  
 Pre-Failure Warranty (covers processors, SAS hard drives and memory)

#### Security

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

#### Security - Trusted Platform Module

Trusted Platform Module option kit

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

For more information about TPM, including a white paper, go to: [www.hp.com/go/TPM](http://www.hp.com/go/TPM)

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

### Standard Features

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

**Power Supply** HP has a new design for ProLiant power. The new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency power supplies that allow you to right-size power supplies for your server configuration. Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed for highest efficiency to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 94%. There are three power wattage options to choose from - 460W, 750W, and 1200W - depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor ([www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor)) to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant.

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

- HP 460Watts, Common Slot, 92% Efficiency
- HP 460Watts, Common Slot, 94% Efficiency
- HP 750Watts, Common Slot, 92% Efficiency
- HP 750Watts, Common Slot, 94% Efficiency
- HP 1200Watts, Common Slot, 94% Efficiency
- HP 1200W -48V DC CS Power Supply

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

HP's ProLiant Common Slot Power supplies (1200W, 750W & 460W) meet multiple Energy Efficiency Initiatives including Climate Savers Computing Initiative Platinum and ECOS Consulting 80PLUS Platinum Power Supply requirements.

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

**NOTE:** BTO Performance models include two power supplies; BTO Base and Entry models include one power supply. On CTO models, power supply must be selected from available options.

**System Fans** Hot plug fans ship standard, N+1 fully redundant (3+1) for 1 processor, (5+1) for 2 processors  
**NOTE:** Processor option kits include 2 additional fans when upgrading to 2 processors.

**Operating Systems and Virtualization Software Support for ProLiant Servers** [Microsoft Windows Server](#)  
[Red Hat Enterprise Linux \(RHEL\)](#)  
[SUSE Linux Enterprise Server \(SLES\)](#)  
[Oracle Enterprise Linux \(OEL\)](#)  
[VMware](#)  
[Citrix XenServer](#)  
**NOTE:** For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page [www.hp.com/support/DL385G7](http://www.hp.com/support/DL385G7)



### Standard Features

#### Rack Airflow Requirements

##### Rack 10000 G2 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

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

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

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

**NOTE:** For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: [www.hp.com/servers/dl385-g7](http://www.hp.com/servers/dl385-g7).

#### Rack Kit

Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.

**NOTE:** Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.

**NOTE:** High Airflow Inserts (High Air Flow Rack Door Insert for the 7142 Rack (single) - PN: 327281-B21; or High Air Flow Rack Door Insert for the 7142 Rack (6-pack) - PN: 327281-B22) are required to support the HP ProLiant DL385 in 7000 series racks. The DL385 Cable Management Arm is not supported on 7000 series racks.

#### Telco Rack Support

Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions: <http://www.hp.com/go/rackandpower>

#### Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAXxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

#### HP Enterprise Configurator

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

<http://www.hp.com/products/configurator>.

### Standard Features

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

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

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

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

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

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

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

Refer to the information on "Installation & Start-Up" for service on ProLiant server and Microsoft, or Linux O/S per the Customer Description and/or Data Sheet; to be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

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

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

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

### Models

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

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

### Performance Models

<b>HP ProLiant DL385 G7 6174 2.2GHz Twelve- Core Performance Rack Server 573087-xx1</b>	<b>Processor(s)</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>Insight Control Environment (ICE)</b>  <b>Fans</b>  <b>Form Factor</b>	(2) Twelve-Core AMD Opteron™ Processor Model 6174 (2.2 GHz, 80W)  12MB L3 cache  16GB (8 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs  Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)  HP Smart Array P410i/1GB FBWC Controller  None ship standard  Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays  Slim SATA DVD-RW Optical Drive  (2) 750W 92% power supplies  HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates  6 Hot Plug Fully Redundant Fans  Rack (2U), (3.5-inch)
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### Base Models

<b>HP ProLiant DL385 G7 6172 2.1GHz Twelve- Core Base Rack Server 573088-xx1</b>	<b>Processor(s)</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>	(1) Twelve-Core AMD Opteron™ Processor Model 6172 (2.1 GHz, 80W)  12MB L3 cache  8GB (4 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs  Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)  HP Smart Array P410i/256MB Controller  None ship standard  Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays  Not included on Base Model  (1) 460W 92% power supply  4 hot plug redundant fans  Rack (2U), (3.5-inch)
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<b>HP ProLiant DL385 G7 6136 2.4GHz Eight- Core Base Rack Server 585335-xx1</b>	<b>Processor(s)</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>	(1) Eight-Core AMD Opteron™ Processor Model 6136 (2.4 GHz, 80W)  12MB L3 cache  8GB (4 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs  Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)  HP Smart Array P410i/256MB Controller  None ship standard  Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays  Not included on Base Model  (1) 460W 92% power supply  4 hot plug redundant fans  Rack (2U), (3.5-inch)
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### Models

#### Entry Models

<b>HP ProLiant DL385 G7 6128 2.0GHz Eight Core Entry Rack Server 573089-xx1</b>	<b>Processor(s)</b>	(1) Eight-Core AMD Opteron™ Processor Model 6128 (2.0 GHz, 80W)
	<b>Cache Memory</b>	12MB L3 cache
	<b>Memory</b>	4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	<b>Network Controller</b>	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)
	<b>Storage Controller</b>	HP Smart Array P410i/Zero Memory Controller
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	<b>Optical Drive</b>	Not Included on entry model
	<b>Power Supply</b>	(1) 460W 92% power supply
	<b>Fans</b>	4 hot plug redundant fans
<b>Form Factor</b>	Rack (2U), (3.5-inch)	

#### High Efficiency Models

<b>HP ProLiant DL385 G7 6128HE 2.0GHz Eight Core Entry Rack Server 573090-xx1</b>	<b>Processor(s)</b>	(1) Eight-Core AMD Opteron™ Processor Model 6128HE (2.0 GHz, 65W)
	<b>Cache Memory</b>	12MB L3 cache
	<b>Memory</b>	4GB (2 x 2GB) PC3-10600 (DDR3-1333) Unbuffered DIMMs
	<b>Network Controller</b>	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)
	<b>Storage Controller</b>	HP Smart Array P410i/Zero Memory Controller
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	<b>Optical Drive</b>	Not Included on HE model
	<b>Power Supply</b>	(1) 460W 94% power supply
	<b>Fans</b>	4 hot plug redundant fans
<b>Form Factor</b>	Rack (2U), (3.5-inch)	

<b>Country Code Key</b>	xx = 00	U.S.
	xx = 20	Brazil
	xx = 29	Japan
	xx = 37	APD
	xx = 42	Europe
	xx = AA	PRC

### Configuration Information - Factory Integrated Models

**NOTE:** This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.

**NOTE:** HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.

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

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

<b>HP Models</b>	<p>HP DL385G7 SFF CTO Chassis <span style="float: right;">573122-B21</span></p> <p><b>Factory Integrated Model ships with:</b></p> <ul style="list-style-type: none"> <li>(8) SFF Serial Attached SCSI (SAS) Drive Bays</li> <li>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)</li> <li>HP Smart Array P410i/Zero Memory Controller</li> <li>PCI-Express Riser Cage</li> <li>One IEC Power cord</li> <li>Hot plug fans (fully redundant)</li> <li><b>NOTE:</b> 4 fans one processor models; 6 fans two processor models</li> <li>Rack (2U), (3.5-inch)</li> <li><b>NOTE:</b> This option removes the optical media bay and 8 SFF drive bays</li> </ul>
	<p>HP DL385G7 LFF CTO Chassis <span style="float: right;">573123-B21</span></p> <p><b>Factory Integrated Model ships with:</b></p> <ul style="list-style-type: none"> <li>(6) LFF Serial Attached SCSI (SAS) Drive Bays</li> <li><b>NOTE:</b> LFF configuration does not support internal optical drive</li> <li>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)</li> <li>HP Smart Array P410i/Zero Memory Controller</li> <li>PCI-Express Riser Cage</li> <li>One IEC Power cord</li> <li>Hot plug fans (fully redundant)</li> <li><b>NOTE:</b> (4 fans one processor models; 6 fans two processor models)</li> <li>Rack (2U), (3.5-inch)</li> </ul>

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

<b>HP Processors</b>	<p><b>NOTE:</b> If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21.</p> <p><b>Twelve-Core Processors</b></p> <ul style="list-style-type: none"> <li>AMD Opteron™ Processor Model 6176SE (2.3 GHz, 12MB Level 3 Cache, 105W), FIO <span style="float: right;">585322-L21</span></li> <li>AMD Opteron™ Processor Model 6174 (2.2 GHz, 12MB Level 3 Cache, 80W), FIO <span style="float: right;">585320-L21</span></li> <li><b>NOTE:</b> If selecting 585320-L21 and high performance features are desired, select High Performance Pack in Step 3 below.</li> <li>AMD Opteron™ Processor Model 6172 (2.1 GHz, 12MB Level 3 Cache, 80W), FIO <span style="float: right;">585324-L21</span></li> </ul> <p><b>Eight-Core Processors</b></p> <ul style="list-style-type: none"> <li>AMD Opteron™ Processor Model 6136 (2.4 GHz, 12MB Level 3 Cache, 80W), FIO <span style="float: right;">585326-L21</span></li> <li>AMD Opteron™ Processor Model 6134 (2.3 GHz, 12MB Level 3 Cache, 80W), FIO <span style="float: right;">585328-L21</span></li> <li>AMD Opteron™ Processor Model 6128 (2.0 GHz, 12MB Level 3 Cache, 80W), FIO <span style="float: right;">585330-L21</span></li> <li>AMD Opteron™ Processor Model 6128HE (2.0 GHz, 12MB Level 3 Cache, 65W), FIO <span style="float: right;">585332-L21</span></li> </ul>
<b>HP Memory</b>	<p><b>NOTE:</b> DIMM banks are active only when the corresponding processor socket is populated.</p> <p><b>Registered DIMMs (RDIMMs)</b></p> <ul style="list-style-type: none"> <li>HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit <span style="float: right;">593907-B21</span></li> <li>HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit <span style="float: right;">593911-B21</span></li> <li>HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit <span style="float: right;">604500-B21</span></li> <li>HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit <span style="float: right;">593913-B21</span></li> </ul>

### Configuration Information - Factory Integrated Models

HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit 604502-B21

HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit 593915-B21

#### Unbuffered with ECC DIMMs (UDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 593921-B21

HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 593923-B21

**NOTE:** PC3L is a low voltage memory

#### HP Power Supplies

**NOTE:** Refer to HP Power Advisor when selecting a power supply for your configuration, [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor). Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: [www.hp.com/go/proliant-energy-efficient](http://www.hp.com/go/proliant-energy-efficient) or [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor)

460W HE 12V Hot Plug AC Power Supply Kit 503296-B21

HP 460W Common Slot Platinum Power Supply Kit 593188-B21

HP 750W Common Slot High Efficiency Power Supply Kit 512327-B21

HP 750W Common Slot Platinum Power Supply Kit 593831-B21

HP 1200W Common Slot High Efficiency Power Supply Kit 578322-B21

HP 1200W -48V DC Common Slot Power Supply 437573-B21

**NOTE:** DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.

### Step 3: Choose Additional Factory Integratable Options

**HP Performance Packs** The HP ProLiant DL385 G7 performance packs are necessary to configure a HP ProLiant DL385 G7 Performance Model. HP ProLiant DL385 G7 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd processor, two additional fans, 1G/FBWC, a second 750W CS HE power supply and Insight Control (ICE) license. To complete the configuration of a Performance model, select the Slim SATA DVD-RW Optical Drive Kit (481043-B21).

HP DL385G7 6174 HPM FIO Perf Pack 585334-B21

#### HP Insight Software

HP Insight Control, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates 582765-B21

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

### Step 4: Choose Additional Options for Factory Integration

**NOTE:** For additional options, please refer to the "Core Options" and "Additional Options" section below.

### Core Options

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

<b>HP Unique Options</b>	<p>HP StorageWorks RDX320 Internal Removable Disk Backup System for DL Servers  <b>NOTE:</b> 320GB of disk capacity per data cartridge.  <b>NOTE:</b> Mounts in DL385 G7 second drive cage slot (320GB of Disk Storage)</p> <p>HP StorageWorks RDX500 Internal Removable Disk Backup System for DL Servers  <b>NOTE:</b> 500GB of disk capacity per data cartridge.  <b>NOTE:</b> Mounts in DL385 G7 second drive cage slot (500GB of Disk Storage)</p> <p>HP StorageWorks RDX750 Internal Removable Disk Backup System for DL Servers  <b>NOTE:</b> 750GB of disk capacity per data cartridge.  <b>NOTE:</b> Mounts in DL385 G7 second drive cage slot (750GB of Disk Storage)  <b>NOTE:</b> For the complete range of StorageWorks tape drives, autoloaders, libraries and media see: <a href="http://www.hp.com/go/tape">http://www.hp.com/go/tape</a>. For hardware and software compatibility of HP StorageWorks tape backup products see: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a>.</p> <p>HP DL385G7 8SFF Cage Kit</p>	<p>AP725A</p> <p>AP726A</p> <p>AW578A</p> <p>607248-B21</p>
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<b>HP Processors</b>	<p><b>Twelve-Core Processors</b></p> <p>AMD Opteron™ Processor Model 6176SE (2.3 GHz, 12MB Level 3 Cache, 105W) 585322-B21</p> <p>AMD Opteron™ Processor Model 6174 (2.2 GHz, 12MB Level 3 Cache, 80W) 585320-B21</p> <p>AMD Opteron™ Processor Model 6172 (2.1 GHz, 12MB Level 3 Cache, 80W) 585324-B21</p> <p><b>Eight-Core Processors</b></p> <p>AMD Opteron™ Processor Model 6136 (2.4 GHz, 12MB Level 3 Cache, 80W) 585326-B21</p> <p>AMD Opteron™ Processor Model 6134 (2.3 GHz, 12MB Level 3 Cache, 80W) 585328-B21</p> <p>AMD Opteron™ Processor Model 6128 (2.0 GHz, 12MB Level 3 Cache, 80W) 585330-B21</p> <p>AMD Opteron™ Processor Model 6128HE (2.0 GHz, 12MB Level 3 Cache, 65W) 585332-B21</p> <p><b>NOTE:</b> Second processor kits include additional two fans.</p>	
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<b>HP Memory</b>	<p><b>NOTE:</b> DIMM banks are active only when the corresponding processor socket is populated.  <b>NOTE:</b> 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></p> <p><b>Registered DIMMs (RDIMMs)</b></p> <p>HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit 593907-B21</p> <p>HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit 593911-B21</p> <p>HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit 604500-B21</p> <p>HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit 593913-B21</p> <p>HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit 604502-B21</p> <p>HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit 593915-B21</p> <p><b>Unbuffered with ECC DIMMs (UDIMMs)</b></p> <p>HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 593921-B21</p> <p>HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 593923-B21</p> <p><b>NOTE:</b> PC3L is a low voltage memory</p>	
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<b>HP Optical Drives</b>	<p>HP Slim SATA DVD-ROM Optical Drive 481041-B21</p> <p>HP Slim SATA DVD-RW Optical Drive 481043-B21</p> <p><b>NOTE:</b> Included in performance models.</p>	
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### Core Options

#### HP Hard Drives

**NOTE:** The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

**NOTE:** Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

HP 300GB 6G SAS 10K 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 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21
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#### SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21

**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 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	530888-B21

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

HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21

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

HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	460355-B21
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#### 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)



### Core Options

#### HP Networking

##### Gigabit Ethernet adapters

HP NC112T PCIe Gigabit Server Adapter	503746-B21
HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21

##### 10 Gigabit Ethernet adapters

**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 Server Adapter	468332-B21
HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21

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

#### HP InfiniBand

HP IB 4X QDR CX-2 PCI-e G2 Dual Port HCA	592520-B21
HP IB 4X DDR CX-2 PCI-e G2 Dual Port HCA	592521-B21
HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA	583211-B21

**NOTE:** Please see the QuickSpecs for additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13078\\_div/13078\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html)

#### HP I/O Expansion Options

HP DL38X (1) x16 PCI-E riser kit	494323-B21
HP DL38X (2) x8 Dual Port 10GbE Riser Kit	494326-B21
<b>NOTE:</b> This riser card will support Qty 2 of 10Gbe NICs or can be used for 2 additional PCIe Gen2 cards.	
<b>NOTE:</b> The shared network port is only supported in the secondary riser connection.	
HP DL385 x8/2x4 PCI-E riser kit	581783-B21
HP DL385 G7 PCI-X riser kit	581785-B21

#### HP Power Supplies

460W HE 12V Hot Plug AC Power Supply Kit	503296-B21
HP 460W Common Slot Platinum Power Supply Kit	593188-B21
HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21
HP 750W Common Slot Platinum Power Supply Kit	593831-B21
HP 1200W Common Slot High Efficiency Power Supply Kit	578322-B21
HP 1200W -48V DC Common Slot Power Supply	437573-B21

**NOTE:** DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.

### Additional Options

<b>HP Insight Software</b>	<p><b>HP Insight Control</b></p> <p>HP Insight Control, Single-Server License including 1 year of 24x7 Technical Support and Updates 452148-B22</p> <p>HP Insight Control suite, No Media, Electronic License including 1 year of 24x7 Technical Support and Updates T9074BAE</p> <p>HP Insight Control, Electronic License for bundling with ProLiant ML/DL server, including 1 year of 24x7 Technical Support and Updates TC278AAE</p> <p>HP Insight Control, Tracking License for bundling with ProLiant ML/DL server, including 1 year of 24x7 Technical Support and Updates TC275A</p> <p><b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.</p> <p><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.</p> <p><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>.</p> <p><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></p> <p><b>HP Insight Control for Linux</b></p> <p>HP Insight Control for Linux, No Media, 1-server license for bundling with Tower, Rack, and Scalable servers, including one year of 24x7 Technical Support and Updates, Electronic TC203AAE</p> <p>HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic TC213AAE</p> <p>HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates TC209A</p> <p>HP Insight Control for Linux, Media pack (DVD) - No licenses included TC208A</p> <p><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.</p> <p><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).</p> <p><b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.</p> <p><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></p> <p><b>HP Integrated Lights-Out (iLO) Advanced</b></p> <p>HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates 512485-B21</p> <p>HP ProLiant Essentials Integrated Lights-Out Advanced Pack, Electronic, including 1 year of 24x7 Technical Support and Updates TA850AAE</p> <p>HP Insight Software Media Kit 436222-B21</p> <p><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.</p> <p><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 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.</p> <p><b>NOTE:</b> Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.</p> <p><b>NOTE:</b> For additional license kits, including electronic delivery options, please see the QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html">http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html</a></p>
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### Additional Options

<b>High Performance Clusters</b>	<b>HP Cluster Management Utility</b>	
	HP Cluster Management Utility Compute Node Flexible License	436284-B21
	<b>NOTE:</b> 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
	<b>NOTE:</b> 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.	
	<b>NOTE:</b> For additional license kits please see the QuickSpecs at: <a href="http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html">http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html</a>	
	<b>HP HPC Linux Value Pack</b>	
	HP High Performance Computing Linux Value Pack 1 Processor Flexible License	TC293A
	<b>NOTE:</b> 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
	<b>NOTE:</b> This part number can be used to purchase media including software and documentation, which will be delivered to the customer.	
	<b>NOTE:</b> For additional license kits please see the QuickSpecs at: <a href="http://h18004.www1.hp.com/products/quickspecs/13485_div/13485_div.html">http://h18004.www1.hp.com/products/quickspecs/13485_div/13485_div.html</a>	
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<b>HP Drive Cage Options</b>	HP DL385G7 8SFF Cage Kit	607248-B21
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<b>HP I/O Accelerator Options</b>	HP 160GB SLC PCIe ioDrive	600278-B21
	<b>NOTE:</b> A low-profile PCI bracket is included for use in low-profile slots.	
	HP 320GB MLC PCIe ioDrive	600279-B21
	<b>NOTE:</b> A low-profile PCI bracket is included for use in low-profile slots.	
	HP 320GB SLC PCIe ioDrive Duo	600281-B21
	HP 640GB MLC PCIe ioDrive Duo	600282-B21
	<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)	
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<b>HP Security - TPM</b>	HP Trusted Platform Module Option Kit	488069-B21
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<b>HP Storage Controllers SAS Controllers</b>		
	<b>HP Smart Array P212 Controller</b>	
	HP Smart Array P212/Zero Memory Controller	462828-B21
	HP Smart Array P212/256 MB Controller	462834-B21
	<b>HP Smart Array P410 Controller</b>	
	HP Smart Array P410/256 MB Controller	462862-B21
	HP Smart Array P410/512 MB with BBWC Controller	462864-B21
	HP Smart Array P410/512MB with FBWC	578230-B21
	HP Smart Array P410/1G with FBWC	572532-B21
	<b>HP Smart Array P411 Controller</b>	
	HP Smart Array P411/256 MB Controller	462830-B21
	HP Smart Array P411/512 MB with BBWC Controller	462832-B21
	HP Smart Array P411/512MB Flash Backed Write Cache	578229-B21
	HP Smart Array P411/1G Flash Backed Write Cache	572531-B21
	<b>HP Smart Array P812 Controller</b>	
	HP Smart Array P812/1G Flash Backed Cache Controller	487204-B21
	<b>Optional Upgrades</b>	
	256 MB Cache Module	462968-B21
	<b>NOTE:</b> Supported on HP Smart Array P212 Controller and HP Smart Array P410/Zero Memory Controller only.	

### Additional Options

512MB BBWC	462967-B21
Battery Kit upgrade	462969-B21
<b>NOTE:</b> To enable BBWC on the 256MB cache.	
512MB Flash Backed Write Cache	534916-B21
1G Flash Backed Write Cache	534562-B21
HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support	516471-B21
<b>NOTE:</b> 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.	
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:	
<a href="http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html">http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html</a> (Smart Array P212 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html">http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html</a> (Smart Array P410 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html">http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html</a> (Smart Array P411 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html">http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html</a> (Smart Array P812 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html">http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html</a> (Smart Array Advanced Pack)	
<b>SAS Controller Options</b>	
HP SAS Expander Card	468406-B21
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:	
<a href="http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html">http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html</a> (SAS Expander Card)	
<b>SAS HBA</b>	
HP SC08e 6Gb 2-ports Ext PCIe SAS HBA	614988-B21
<b>NOTE:</b> This is a 2 x4 External Port HBA	
<b>NOTE:</b> This is only approved for the HP StorageWorks P2000 G3 SAS Modular Smart Array.	
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:	
<a href="http://h18004.www1.hp.com/products/quickspecs/13651_div/13651_div.html">http://h18004.www1.hp.com/products/quickspecs/13651_div/13651_div.html</a> (SC08e 6Gb HBA)	
<b>SCSI HBA</b>	
HP SC11Xe Host Bus Adapter	412911-B21
<b>NOTE:</b> Recommended HBA for SCSI tape drive connect.	
<b>NOTE:</b> Please see the following QuickSpecs for additional information:	
<a href="http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html">http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html</a> (SC11Xe HBA)	

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### HP Backup & Recovery HP Data Protector Express

<b>Software</b>	HP Data Protector Express 4.0 SP1 Backup Server	BB117BA
	HP Data Protector Express 4.0 SP1 for Microsoft Small Business Server	BB118BA
	HP Data Protector Express Backup Server 4.0 SP1 Upgrade from Data Protector Express Single Server Edition	BB117BT
<b>NOTE:</b> One of these Data Protector Express base products is required. To see available options: <a href="http://www.hp.com/dataprotectorexpress">http://www.hp.com/dataprotectorexpress</a>		

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### Additional Options

#### HP Tape Backup

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

HP StorageWorks DAT 320 USB Tape Drive in 1U USB Rack Kit	AP835A
HP StorageWorks DAT 320 SAS Internal Tape Drive	AJ830A
<b>NOTE:</b> For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	
HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive	EH847A
<b>NOTE:</b> For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	
HP StorageWorks LTO-4 Ultrium 1760 Tape Drive in 1U SAS Rack Kit	EH946B
<b>NOTE:</b> Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	
HP StorageWorks LTO-5 Ultrium 3000 Tape Drive in 1U SAS Rack Kit	EJ014A
<b>NOTE:</b> Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.	
HP StorageWorks 1/8 G2 LTO-3 Ultrium 3000 SAS Tape Autoloader	BL536A
<b>NOTE:</b> Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks MSL2024 Tape Library with one LTO-5 Ultrium 3000 SAS Drive	BL537A
<b>NOTE:</b> Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	

#### HP Disk Backup

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

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

HP StorageWorks D2D2502i Backup System	EJ001B
<b>NOTE:</b> 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
<b>NOTE:</b> 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 D2D4004i Backup System	EH938A
<b>NOTE:</b> 3.0TB (expandable to 7.5TB) of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
HP StorageWorks D2D4112fc Backup System	EH993A
<b>NOTE:</b> 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.	
<b>HP StorageWorks RDX Removable Disk Backup Systems USB</b>	
<b>NOTE:</b> Connect the USB tape power connector to the secondary SAS power connector on the system board. Refer to the hood label for SAS power connector locations on the system board.	
<b>NOTE:</b> Mounts in DL385 G7 second drive cage slot.	
HP StorageWorks RDX320 Internal Removable Disk Backup System for DL Servers	AP725A
<b>NOTE:</b> 320GB of disk capacity per data cartridge.	
HP StorageWorks RDX500 Internal Removable Disk Backup System for DL Servers	AP726A
<b>NOTE:</b> 500GB of disk capacity per data cartridge.	

### Additional Options

HP StorageWorks RDX750 Internal Removable Disk Backup System for DL Servers AW578A  
**NOTE:** 750GB of disk capacity per data cartridge.

#### HP StorageWorks Options

##### StorageWorks Fibre Channel HBA

**NOTE:** For the complete listing of Fibre Channel Host Bus Adapters for Windows 2000, Windows Server 2003 and Linux, please see:  
<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

##### Brocade Fibre Channel HBAs

HP StorageWorks 81B PCI-e FC HBA Single Port	AP769A
HP StorageWorks 82B PCI-e FC HBA Dual Port	AP770A
HP StorageWorks 41B 4Gb PCI-e FC HBA	AP767A
HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA	AP768A

##### Emulex Fibre Channel HBAs

HP StorageWorks 81E PCI-e FC HBA Single Port	AJ762A
HP StorageWorks 82E PCI-e FC HBA Dual Port	AJ763A
HP StorageWorks FC2142 4Gb PCI-e HBA	A8002A
HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA	A8003A

##### QLogic Fibre Channel HBAs

HP StorageWorks 81Q PCI-e FC HBA Single Port	AK344A
HP StorageWorks 82Q PCI-e FC HBA Dual Port	AJ764A
HP StorageWorks FC1142 4Gb PCI-e HBA	AE311A
HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA	AE312A

##### StorageWorks SCSI HBA

HP U320e SCSI Host Bus Adapter	AH627A
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**NOTE:** Recommended HBA for MSL SCSI Tape Library connect.

##### StorageWorks Converged Network Adapter

HP CN1000E 2P Converged Network Adapter	AW520A
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#### HP Modular Smart Array

##### MSA SAN Storage Arrays

HP StorageWorks 60 Modular Smart Array	418408-B21
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**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)

HP StorageWorks 70 Modular Smart Array	418800-B21
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**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 options and configuration information 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)

### Additional Options

#### HP Uninterruptible Power Systems

##### HP Rack-mountable UPS

###### HP R1500 G2 UPS

HP, R1.5kVA UPS, 1U, NA	AF419A
HP, R1.5kVA UPS, 1U, INTL	AF418A
HP, R1.5kVA UPS, 1U, JPN/TW	AF421A

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

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

###### HP Rack-Mountable R5500 UPS

HP R5500 VA UPS, INTL	AF416A
HP R5500 VA UPS, NA/JPN	AF426A

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

HP R/T3000 UPS, High voltage, NA/JPN	AF453A
HP R/T3000 UPS, High voltage, detachable inlet cord INTL	AF454A

**NOTE:** Additional HP Uninterruptible Power Systems (UPS) are available for this equipment. For information on all HP UPSs and accessories please go to [www.hp.com/products/ups](http://www.hp.com/products/ups) (Worldwide)

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

#### Power Distribution Units

##### HP Monitored Power Distribution Unit: Half Rack Version

HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN)	AF914A
HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF915A

##### HP Monitored Power Distribution Unit: Full Rack Version

HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN)	AF504A
HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN)	AF506A
HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL)	AF508A
HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF510A

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

[http://h18000.www1.hp.com/products/quickspecs/12118\\_div/12118\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html)  
(Worldwide)

##### Modular Power Distribution Units 1U/0U (Up to 32 outlets)

**NOTE:** 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).

HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan)	252663-D72
8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN)	252663-D73
HP Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW)	252663-B24

**NOTE:** This PDU has a detachable input power cord and allows for adaptability to country specific power requirements.

**NOTE:** Please see the following QuickSpecs for additional options including shorter jumper cables and country specific power cords:

[http://h18000.www1.hp.com/products/quickspecs/11041\\_div/11041\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html)  
(Worldwide)

**NOTE:** For additional information on HP Power Distribution Units including accessories please go to: [www.hp.com/go/pdu](http://www.hp.com/go/pdu).

#### HP Rack Series

##### HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

10642 G2 (42U) Rack Cabinet - Pallet	AF001A
10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A

**NOTE:** It is mandatory to use a shock pallet when shipping racks with equipment installed.

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

[http://h18000.www1.hp.com/products/quickspecs/12402\\_div/12402\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html)  
(Worldwide)

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

### Additional Options

#### HP Rack Options

#### HP Server Console Switches

HP Server console switch 0x2x8	AF616A
HP Server console switch 0x2x16	AF617A

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

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

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

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

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

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

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

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

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

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

#### HP USB and SD Options

HP USB 04 Standard Keyboard	DT528A#ABA
HP 4GB SD Flash Media Kit	580387-B21

**NOTE:** Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: <http://www.hp.com/go/proliantvirtualization>.

HP 2GB USB Flash Media Drive Key	608447-B21
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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.

#### HP Care Pack Services Hardware Services Response On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4544E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 4 Years, Electronic	U8101E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 5 Years, Electronic	U8067E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4545E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 4 Years, Electronic	U8181E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 5 Years, Electronic	U8084E

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

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4546E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 4 Years, Electronic	UA010E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 5 Years, Electronic	UA009E
24-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UP717E
24-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 4 Years, Electronic	UP718E
24-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 5 Years, Electronic	UP719E

#### Installation & Start-up Services

Hardware Installation, Electronic	U4554E
Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic	U4555E

#### Support Plus



### Additional Options

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4556E

#### **Support Plus 24**

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4557E

Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U6312E

**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".

#### Memory configurations

- This server supports 2GB to 256GB of system memory using DDR3 2GB, 4GB, 8GB, and 16GB memory modules across 24 memory sockets.
- 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)

#### Advanced ECC memory

- Advanced ECC memory is the memory protection mode for this server. In Advanced ECC, the server does not fail because of correctable memory errors. The server provides notification if the level of correctable errors exceeds a pre-defined threshold rate.
- Advanced ECC provides additional protection over standard ECC because it is possible to correct certain memory errors that would otherwise be uncorrectable and result in a server failure.
- Whereas standard ECC can correct single-bit memory errors, Advanced ECC can correct single-bit memory errors and multi-bit memory errors if all failed bits are on the same DRAM device on the memory module.

#### Population order

- The two tables below represent the memory module population order for one processor. The population order for the other processor is identical. SR denotes Single Rank, DR denotes Dual Rank, and QR denotes Quad Rank.
- All memory modules must follow the population order shown in these two tables for both processors with the following exception:
- QR memory modules must be installed only in memory sockets 2, 5, 8, and 11, while following the population order for those memory sockets.

Processor memory socket	1	2	3	4	5	6
Rank support per memory socket	SR/DR	SR/DR/QR	SR/DR	SR/DR	SR/DR/QR	SR/DR
Population order	A	I	E	C	K	G
Processor memory channel	A	A	A	B	B	B

Processor memory socket	7	8	9	10	11	12
Rank support per memory socket	SR/DR	SR/DR/QR	SR/DR	SR/DR	SR/DR/QR	SR/DR
Population order	B	J	F	D	L	H
Processor memory channel	C	C	C	D	D	D

#### Population rules

When installing memory modules, observe the following population rules:

- Use only HP memory modules listed in this document.
- Advanced ECC is not available if x4 and x8 memory modules are mixed in channels (A and B), (C and D), or both, but standard ECC is still available. Advanced ECC is available if x4 and x8 memory modules are mixed in memory channels (A and C), (B and D), or both.
- No more than two UDIMMs may be installed per channel.
- Do not mix UDIMMs and RDIMMs within this server.

#### Population guidelines

While adhering to the memory population rules ("Population rules" - see above), performance can be improved by following the guidelines below:

- Memory modules may be installed one at a time per processor, but installing two at a time per processor provides for additional performance, installing four at a time per processor provides for better performance, and installing equal amounts of memory for both processors provides for best performance.
- Install all memory modules of the same speed on the same processor for best performance.
- Install all memory modules of the same voltage on the same processor for best power.

#### Memory bus speed

Depending on the quantity and native speed of memory modules installed, memory bus speeds can be 1333 MHz, 1066 MHz, 800 MHz, or 667 MHz. Memory bus speeds can be different for each processor.

To determine memory bus speeds, do the following:

Within RBSU, select the **Power Management Options** menu > **Advanced Power Management Options** menu > **Maximum Memory Bus Frequency** menu.

- Select one of the following menu options:
  - **Auto (default)** - The memory bus speed is set to what is shown in the following table. If the native speed of the installed memory module is slower than the memory bus speed, the memory bus speed is set to the memory module native speed

## Memory

Memory modules per channel	QR	SR or DR	Memory module native speed	Memory bus speed (standard-voltage memory module)	Memory bus speed (low-voltage memory module)
1	-	1*	SR 1333 MHz DR 1333 MHz DR 1066 MHz	1333 MHz	1066 MHz
1	1	-	QR 1066 MHz	1066 MHz	1066 MHz
2	-	2*	SR 1333 MHz DR 1333 MHz DR 1066 MHz	1333 MHz	1066 MHz
2	1	1	SR 1333 MHz DR 1333 MHz DR 1066 MHz QR 1066 MHz	800 MHz	800 MHz
3	-	3 SR	SR 1333 MHz	1066 MHz	1066 MHz
3	-	3 DR	DR 1333 MHz DR 1066 MHz	1066 MHz	800 MHz
3	-	3 mixed	SR 1333 MHz DR 1333 MHz DR 1066 MHz	1066 MHz	800 MHz
3	1	2	SR 1333 MHz DR 1333 MHz DR 1066 MHz QR 1066 MHz	800 MHz	667 MHz

\*These are the only configurations supported by UDIMMs. All configurations listed in this table are supported by RDIMMs. This table is for reference only.

- **800 MHz**-The memory bus speed is set to 800 MHz regardless of the quantity of memory modules installed, unless the table above reflects a slower memory bus speed.

**NOTE:** There may be more than one memory bus speed menu option.

**NOTE:** LVDIMM support is dependent on the ROM version

### Memory Installation Examples

These memory installation examples show the memory sockets associated with the first processor only. If there is a second processor installed, like for a performance model, then these examples can be applied toward the memory sockets associated with the second processor also.

#### 2 RDIMMs per processor

- Standard memory: 2x2GB RDIMMs (4GB per processor)
- Optional memory: Adding 10x8GB RDIMMs to standard memory (84GB per processor)
- Maximum memory: Replacing standard memory with 4x16GB QR RDIMMs and 8x8GB DR RDIMMs (maximum of 128GB per processor)

Processor memory socket	1	2	3	4	5	6
Standard Memory	2GB DR					
<b>Optional Memory</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>
Maximum Memory	8GB DR	16GB QR	8GB DR	8GB DR	16GB QR	8GB DR

Processor memory socket	7	8	9	10	11	12
Standard Memory	2GB DR					
<b>Optional Memory</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>
Maximum Memory	8GB DR	16GB QR	8GB DR	8GB DR	16GB QR	8GB DR

#### 2 UDIMMs per processor

- Standard memory: 2x2GB UDIMMs (4GB per processor)
- Optional memory: Adding 6x4GB UDIMMs to standard memory (28GB per processor)
- Maximum memory: Replacing standard memory with 8x4GB UDIMMs (maximum of 32GB per processor)

Processor memory socket	1	2	3	4	5	6
Standard Memory	2GB DR					
<b>Optional Memory</b>	<b>2GB DR</b>		<b>4GB DR</b>	<b>4GB DR</b>		<b>4GB DR</b>
Maximum Memory	4GB DR		4GB DR	4GB DR		4GB DR

Processor memory socket	7	8	9	10	11	12
Standard Memory	2GB DR					
<b>Optional Memory</b>	<b>2GB DR</b>		<b>4GB DR</b>	<b>4GB DR</b>		<b>4GB DR</b>
Maximum Memory	4GB DR		4GB DR	4GB DR		4GB DR

### Memory

#### 4 RDIMMs per processor

- Standard memory: 4x2GB RDIMMs (8GB per processor)
- Optional memory: Adding 8x8GB RDIMMs to standard memory (72GB per processor)
- Maximum memory: Replacing standard memory with 4x16GB QR RDIMMs and 8x8GB DR RDIMMs (maximum of 128GB per processor)\*

Processor memory socket	1	2	3	4	5	6
Standard Memory	2GB DR			2GB DR		
<b>Optional Memory</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>
Maximum Memory	8GB DR	16GB QR	8GB DR	8GB DR	16GB QR	8GB DR

Processor memory socket	7	8	9	10	11	12
Standard Memory	2GB DR			2GB DR		
<b>Optional Memory</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>	<b>2GB DR</b>	<b>8GB DR</b>	<b>8GB DR</b>
Maximum Memory	8GB DR	16GB QR	8GB DR	8GB DR	16GB QR	8GB DR

\* If you have a 2P system and want the maximum memory of 256GB installed, you will need to replace all standard memory with 8x16GB QR RDIMMs and 16x8GB DR RDIMMs.

Following are memory options available from HP:

#### HP Memory

**NOTE:** DIMM banks are active only when the corresponding processor socket is populated.

#### Registered DIMMs (RDIMMs)

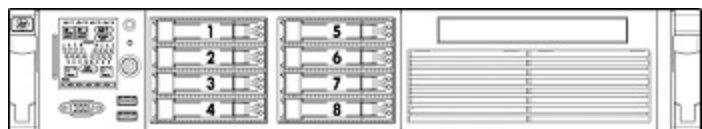
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593907-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593911-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604500-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593913-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604502-B21
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	593915-B21

#### Unbuffered with ECC DIMMs (UDIMMs)

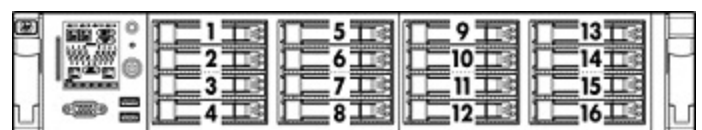
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	593921-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	593923-B21

**NOTE:** PC3L is a low voltage memory

### Storage



1-8 Eight SFF SAS hot plug hard drive bays



1-16 Sixteen SFF SAS hot plug hard drive bays  
**NOTE:** This configuration does not support optical drive.  
**NOTE:** This configuration requires a second controller or SAS Expander Card.



1-6 Six LFF SAS hot plug hard drive bays  
**NOTE:** This configuration does not support optical drive.  
**NOTE:** This configuration replaces SFF hard drive cage.

**NOTE:** Connect the SAS power cable from the primary drive cage (drive cage containing SFF drives 1-8 or LFF drives 1-6) to the primary SAS power connector on the system board. If a secondary drive cage (drive cage containing SFF drives 9-16) is installed, connect a SAS power cable from the secondary drive cage to the secondary SAS power connector on the system board. Refer to the hood label for SAS power connector locations on the system board.

### Drive Support

	Quantity Supported	Position Supported	Controller
<b>Removable Media</b>			
Slim SATA DVD RW Optical Drive	Only 1 available removable media bay	Slimline bay	Integrated SATA
<b>NOTE:</b> Included in performance models.			
Slim SATA DVD-ROM Optical Drive	Only 1 available removable media bay	Slimline bay	Integrated SATA

### 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.

**NOTE:** IMPORTANT: Installation of both SAS and SATA hard drives or a mixture of SSDs and traditional hard drives in a single RAID volume is not supported.

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

	Quantity Supported	Position Supported	Controller	
500GB 6G SAS 10K DP	Up to 16	1-8	HP Smart Array P212/Zero Memory Controller	
300GB 6G SAS 10K DP		1-16	HP Smart Array P212/256 MB Controller	
146GB 6G SAS 15K DP		<b>NOTE:</b> Depending on Model		HP Smart Array P410/256 MB Controller
146GB 6G SAS 10K DP				HP Smart Array P410/512 MB BBWC Controller
72GB 6G SAS 15K DP				HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller	
			HP Smart Array P812/512 BBWC Controller	

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

	Quantity Supported	Position Supported	Controller
450GB 6G SAS 15K DP	Up to 6	1-6	HP Smart Array P212/Zero Memory Controller
300GB 6G SAS 15K DP			HP Smart Array P212/256 MB Controller
			HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

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

### Storage

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	Up to 16	1-8	HP Smart Array P212/Zero Memory Controller
		1-16	HP Smart Array P212/256 MB Controller
		<b>NOTE:</b>	HP Smart Array P410/256 MB Controller
		<b>Depending on Model</b>	HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

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

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

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

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K	Up to 16	1-8	HP Smart Array P212/Zero Memory Controller
160GB 3G SATA 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 P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

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

	Quantity Supported	Position Supported	Controller
2TB 3G SATA 7.2K	Up to 6	1-6	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 P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

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

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K	Up to 16	1-8	HP Smart Array P212/Zero Memory Controller
		1-16	HP Smart Array P212/256 MB Controller
		<b>NOTE:</b>	HP Smart Array P410/256 MB Controller
		<b>Depending on Model</b>	HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

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

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 7.2K	Up to 6	1-6	HP Smart Array P212/Zero Memory Controller
160GB 3G SATA 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 P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P812/512 BBWC Controller

### Storage

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

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 16	1-8	HP Smart Array P212/Zero Memory Controller
120GB 3.0G SATA SSD		1-16	HP Smart Array P212/256 MB Controller HP Smart Array P410/256 MB Controller HP Smart Array P410/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/512 BBWC Controller

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

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 6	1-6	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 P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/512 BBWC Controller

#### External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8	External	HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 BBWC Controller
			HP Smart Array P411/1G Flash Backed Cache Controller
			HP Smart Array P812/1G Flash Backed Cache Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/ 256 MB Controller
	Up to 4	External	HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller
			HP Smart Array P411/1G Flash Backed Cache Controller
			HP Smart Array P812/1G Flash Backed Cache Controller
D2600 Disk Enclosure	Up to 4	External	HP Smart Array P212/ 256 MB Controller
	Up to 8	External	HP Smart Array P812/1G Flash Backed Write Cache Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB Controller
			HP Smart Array P411/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4	External	HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB Controller
			HP Smart Array P411/1G Flash Backed Cache Controller
			HP Smart Array P812/1G Flash Backed Write Cache Controller

#### Maximum Storage Capacity - (with MSA70)

Internal	8.0TB (16 x 500GB SAS/SATA)
External	12.5TB (250 x 500GB SAS/SATA SFF)
Total	20.5TB

#### Tape and Disk Backup

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

	Position Supported	Controller	Controller Part Number
<b>HP StorageWorks SCSI Tape Drives</b>			
LTO-1 Ultrium 232	External	HP SC11Xe Host Bus Adapter	412911-B21
LTO-2 Ultrium 448			
LTO-3 Ultrium 920			
LTO-3 Ultrium 960			

### Storage

LTO4 Ultrium 1760  
 LTO-4 Ultrium 1840  
 DAT 40  
 DAT 72  
 DAT 160  
 1U Rack-Mount Kit  
 3U Rack-Mount Kit

**NOTE:** Please check the full compatibility information at:  
<http://www.hp.com/go/connect>

<b>HP StorageWorks USB Tape Drives</b>	External	USB 2.0 Port	N/A
DAT 40 DAT 72 DAT 160 DAT 320 1U USB Rack-Mount Kit			

<b>HP StorageWorks SAS Tape Drives</b>	External	HP Smart Array P212/Zero Memory Controller	462828-B21
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 1U Rack-Mount Kit 3U Rack-Mount Kit			

**NOTE:** Please check the full compatibility information at:  
<http://www.hp.com/go/connect>

<b>HP StorageWorks SCSI Tape Autoloaders</b>	External	HP SC11Xe Host Bus Adapter	412911-B21
DAT 72x10 Autoloader 1/8 G2 Autoloader			

**NOTE:** Please check the full compatibility information at:  
<http://www.hp.com/go/connect>

<b>HP StorageWorks SCSI Tape Libraries</b>	External	HP U320e SCSI Dual Channel Controller	AH627A
MSL2024 MSL4048 MSL8096 MSL6000			

**NOTE:** Please check the full compatibility information at:  
<http://www.hp.com/go/connect>

<b>HP StorageWorks SAS Tape Autoloaders and Libraries</b>	External	HP Smart Array P212/Zero Memory Controller	462828-B21
1/8 G2 Autoloader MSL2024 MSL4048 MSL8096			

**NOTE:** Please check the full compatibility information at:  
<http://www.hp.com/go/connect>

<b>HP StorageWorks Fibre Channel Tape Libraries</b>	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
MSL2024 MSL4048 MSL8096 MSL6000			

<b>HP StorageWorks USB RDX Removable Disk Backup System</b>	Internal or External	USB 2.0 Port	N/A
RDX160 RDX320 RDX500 RDX750			

<b>HP StorageWorks D2D Backup Systems, iSCSI</b>	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
D2D2500i D2D4000i			



### Storage

<b>HP StorageWorks 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
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### Power Specifications

HP 460W CS HE Power Supply Kit							
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

HP 460W CS Platinum Power Supply Kit							
Part Number	593188-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 )	5.3	4.3	2.5	2.4	2.3	2.2	2.1
Maximum Rated Input Wattage Rating ( Watts )	512	505	493	493	492	492	491
Maximum Rated VA ( Volt-Amp )	526	518	506	506	505	505	504
Efficiency ( % )	89.8	91.2	93.2	93.3	93.5	93.6	93.6
Power Factor	0.985						
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 )	1747	1722	1683	1682	1679	1678	1677

HP 750W CS HE Power Supply Kit							
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

### Power Specifications

HP 750W CS Platinum Power Supply Kit							
Part Number	593831-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 )	8.6	7.1	4.2	4.0	3.8	3.6	3.4
Maximum Rated Input Wattage Rating ( Watts )	841	828	809	808	807	806	805
Maximum Rated VA ( Volt-Amp )	863	850	830	829	828	827	826
Efficiency ( % )	89.2	90.6	92.7	92.8	93	93.1	93.2
Power Factor	0.985						
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 )	2868	2825	2761	2757	2753	2749	2747

HP 1200W CS Platinum Power Supply Kit							
Part Number	578322-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 )	9.3	8.6	6.7	6.5	6.1	5.8	5.6
Maximum Rated Input Wattage Rating ( Watts )	889	989	1290	1290	1290	1290	1290
Maximum Rated VA ( Volt-Amp )	927	1031	1345	1345	1345	1345	1345
Efficiency ( % )	90	91	93	93	93	93	93
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 )	10						
Maximum British Thermal Unit Rating ( BTU-Hr )	3033	3375	4403	4403	4403	4403	4403

HP 1200W 48VDC CS HE Power Supply Kit			
Part Number	437573-B21		
Input Voltage Range ( V rms )	36-72		
Frequency Range (Nominal) ( Hz )	DC		
Nominal Input Voltage ( Vrms )	<b>36</b>	<b>48</b>	<b>72</b>
Maximum Rated Output Wattage Rating	1200	1200	1200
Nominal Input Current ( A rms )	38	28	19
Maximum Rated Input Wattage Rating ( Watts )	1380	1350	1365
Maximum Rated VA ( Volt-Amp )	1380	1350	1365
Efficiency ( % )	87	89	88
Power Factor	N/A		
Leakage Current ( mA )	N/A		
Maximum Inrush Current ( A peak )	20	25	35
Maximum Inrush Current duration ( mS )	1	1	3
Maximum British Thermal Unit Rating ( BTU-Hr )	4713	4610	4662

**NOTE:** To review typical system power ratings use the HP Power Advisor which is available online 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)

- Click on "ProLiant Servers"
- Click on the Server of interest. Example: DL385 G7
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

### Technical Specifications

<b>System Unit</b>	<b>Dimensions</b> (H x W x D)	3.38 x 17.54 x 27.25 in (8.59 x 44.54 x 69.98 cm) (with bezel)	
	<b>Weight</b> (approximate)	Maximum (all hard drives, power supply, and processor installed)	60 lb (27.22 kg)
		Minimum (one hard drive, power supply, and processor installed)	45.90 lb (20.81 kg)
	<b>Input Requirements</b> (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
		Rated Input Current	For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)
	<b>BTU Rating</b>	Maximum	For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC)
	<b>Power Specifications</b>	<b>NOTE:</b> To review typical system power ratings use the <a href="http://www.hp.com/go/proliant-energy-efficient">HP Power Advisor</a> which is available online located at url: <a href="http://www.hp.com/go/proliant-energy-efficient">www.hp.com/go/proliant-energy-efficient</a> or <a href="http://www.hp.com/go/hppoweradvisor">www.hp.com/go/hppoweradvisor</a>	
	<b>Power Supply Output</b> (per power supply)	Rated Steady-State Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
		Maximum Peak Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
	<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	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.									
	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).									
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).									
<b>Acoustic Noise</b>	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>NOTE:</b> The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.										
	Idle	<table border="0"> <tr> <td></td> <td>1P SKU</td> <td>2P SKU</td> </tr> <tr> <td>LWAd</td> <td>4.1 B</td> <td>4.5 B</td> </tr> <tr> <td>LpAm</td> <td>23 dBA</td> <td>25 dBA</td> </tr> </table>		1P SKU	2P SKU	LWAd	4.1 B	4.5 B	LpAm	23 dBA	25 dBA
	1P SKU	2P SKU									
LWAd	4.1 B	4.5 B									
LpAm	23 dBA	25 dBA									
	Operating	<table border="0"> <tr> <td></td> <td>1P SKU</td> <td>2P SKU</td> </tr> <tr> <td>LWAd</td> <td>5.3 B</td> <td>5.6 B</td> </tr> <tr> <td>LpAm</td> <td>36 dBA</td> <td>38 dBA</td> </tr> </table>		1P SKU	2P SKU	LWAd	5.3 B	5.6 B	LpAm	36 dBA	38 dBA
	1P SKU	2P SKU									
LWAd	5.3 B	5.6 B									
LpAm	36 dBA	38 dBA									
<b>Emissions Classification (EMC)</b>	FCC Rating	Class A									
	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.										
	<b>NOTE:</b> The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.										

<b>HP Integrated Lights-Out 3 (iLO 3) integrated on system board</b>	<b>Architecture</b>	PCI Express based health and remote management ASIC
	<b>Processor</b>	PCI Express RISC processor core running at 250MHz
	<b>Upgradeability</b>	Option firmware upgradeable via Flash ROM.
	<b>Video Support</b>	1600 x 1200 DVR max resolution
	<b>Interfaces</b>	One Ethernet Sideband connection (10/100/1000 Mb/s)
		One Ethernet network connection (10/100Mb/s)
	<b>Memory</b>	128-MB DDR with ECC
	<b>Operating System Support</b>	Microsoft Windows 2008 R2
		Microsoft Windows 2008 (32 bit and 64 bit)
		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 (32 bit and 64 bit)		
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		
<b>Client System Support</b>	Microsoft Windows 7	

### Technical Specifications

Microsoft Windows XP Professional Edition  
 Microsoft Windows Vista Business and Ultimate Editions  
 Red Hat Enterprise Desktop 5.00  
 SUSE Linux Enterprise Desktop 11  
 SUSE Linux Enterprise Desktop 10

<b>Client Browser Support</b>	Microsoft Internet Explorer 8 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>	Secure Shell and serial port access Secure Socket Layer Secure Shell version 2
<b>Security</b>	Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface AES encryption of video RC4 encryption of video
<b>Directory Support Services</b>	Active Directory v1.0 (Windows 2003)
<b>Driver Support</b>	HP ProLiant iLO3 Management Controller Driver Package
<b>Management protocols supported</b>	SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML

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<b>Smart Array P410i Controller</b>	<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 (Mini-SAS) x4 wide port connectors (per connector)
	<b>Cache Memory Speed</b>	DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.
	<b>Server Interface</b>	X4 5GT/s PCIe Gen2 provides 2GB/s maximum bandwidth
	<b>SAS Speed</b>	x8 6Gbps SAS provides 4.8GB/s maximum bandwidth
	<b>Cache Memory</b>	40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade
	<b>Logical Drives Supported</b>	Up to 64 logical drives
	<b>Maximum Logical Drive Capacity</b>	Greater than 2TB
	<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> The minimum of 256 MB cache, battery kit, and Smart Array Advanced Pack License Key upgrade is required to enable RAID 6, 6+0
		RAID 5, 5+0 (Distributed Data Guarding)
		<b>NOTE:</b> The 256 MB is required to enable RAID 5, 5+0 support of the Smart Array P410i
	RAID 1+0 (Striping & Mirroring)	
	RAID 0 (Striping)	

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### Technical Specifications

<b>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters</b>	<b>Network Interface</b>	10Base-T/100Base-TX/1000Base-TX	
	<b>Compatibility</b>	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	<b>Data Transfer Method</b>	PCI Express, four lanes (x4)	
	<b>Controller</b>	Broadcom5709C	
	<b>Network Transfer Rate</b>	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
1000Base-TX (Half and Full-Duplex)		2000Mb/s	
<b>Connector</b>	Two 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)	
	1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)	

<b>Environment-friendly Products and Approach</b>	<b>End-of-life Management and Recycling</b>	<p>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: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a>. To recycle your product, please go to: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>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: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a>. 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.</p>
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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.