Overview

Get HP DL360 G6 Memory from **Cloud Ninjas**

Front View:

1. Quick removal access panel with installation instructions
2. Up to two Intel Quad-Core or Dual-Core Xeon™ 5500/5600 series processors)
3. Video Connector
4. Slide-out System Insight Display
5. Removable fan modules for easy serviceability
6. Eighteen DIMM slots for DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory
7. 2 Redundant Common Slot Hot Plug Power Supplies (upgradeable option)
8. 2 PCI-E Slots

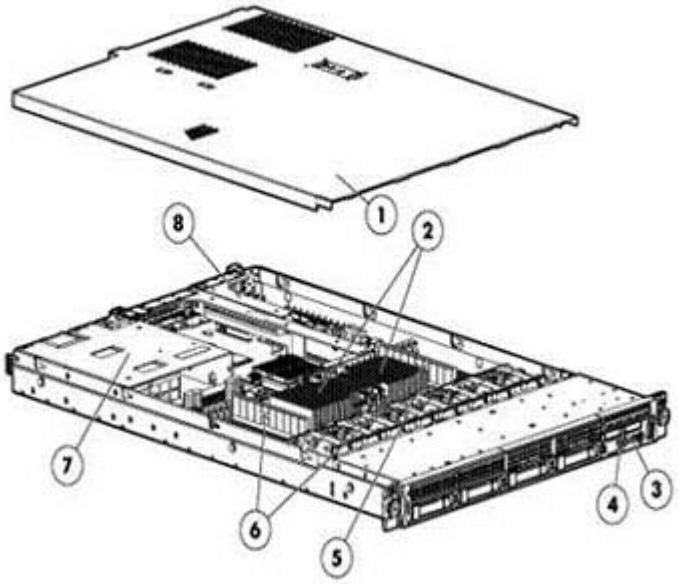
Rear View:

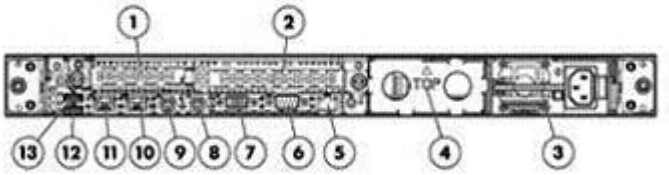
1. PCI Express expansion slot 1, low-profile, half-length
2. PCI Express expansion slot 2 full height full length x16 (16, 8, 4, 2, 1), 75W +EXT 75W (optional PCI-X card only support)
3. Power supply 1
4. Power supply 2
5. iLO 2 NIC connector
6. Serial connector
7. Video connector
9. Keyboard connector

10. NIC 2 connector
11. NIC 1 connector
12. USB connector
13. USB connector

Combining improved 1U compute performance, smart power and cooling management with infrastructure management tools and essential fault tolerance, the HP ProLiant DL360 G6 is optimized for space constrained operations.

With select Intel 5500/5600 Series Xeon® Processors (Six-Core, Quad-Core and Dual-Core), with choice of DDR3 Registered or Unbuffered DIMMs, integrated HP Smart Array for SATA, SAS and SSD hard drive support, PCI Express Gen2 technology and





ProLiant iLO management The DL360 G6 provides a high performance system, ideal for the full range of scale out applications.

What's more, the DL360 G6 steps up the fault tolerant in an ultra-dense platform with redundant power, redundant fans, mirrored memory and embedded RAID capability.

Standard Features

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

Processor One of the following depending on Model Six-Core Processors Intel® Xeon® Processor X5670 (2.93 GHz,12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5650 (2.66 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Upgradeability	Quad-Core Processors Intel® Xeon® Processor X5570 (2.93 GHz,8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5530 (2.40 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60 Watts, DDR3-800) Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) Dual-Core Processors Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
Cache Memory One of the following depending on Model	12MB (1x12MB) Level 3 Cache on the 5600 Series 6-Core models 8MB (1 x 8MB) Level 3 cache on 5500 series NOTE: All 5500 series processor models have 8M L3 Cache except for those identified below. 4MB (1 x 4MB) Level 3 cache NOTE: For processors E5506/L5506/E5504/E5502.
Chipset	Intel® 5520 Chipset NOTE: For more information regarding Intel® chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/
Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Upgradeability	NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage. Upgradeable to two processors

Memory Protection	Advanced ECC (multi-bit error protection)	
	Mirroring mode	
	Lock-step mode	

Memory One of the following depending on Model	Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
	Standard (Performance Models)	12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (Base Models)	6GB (3 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (Entry Model)	4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Standard (High Efficiency Model)	4GB (2 x 2GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs
	Maximum (RDIMM)	192GB (12 x 16GB) for Registered Memory configurations
	Maximum (UDIMM)	48GB (12 x 4GB) for Unbuffered Memory configurations

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

Network Controller	One HP NC382i Dual Port Multifunction Gigabit Server Adapter (two ports total) with TCP/IP Offload Engine, including support for Accelerated iSCSI

Expansion Slots

NOTE: Two PCI-Express Gen 2 expansion slots: (1) full-length, full-height slot; (1) low-profile slot. Optional PCI-X Riser expansion slot (for PCI-X card support only).

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCI-e	x8	x8	4	Low profile slot	
2	PCI-e	x16	x16	7	Full length, full height slot	

2	PCI-X (133 MHz, 3.3 Voltage)	64-bit	x8	7

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

** Indicates the number of physical electrical lanes running to the connector.

NOTE: For external power requirements for PCI options a PCI Thermal-Power Kit (cable) is offered optionally for higher power requirements.

Storage Controller

One of the following depending on Model Entry Models HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)

Base Models HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)

Performance Models HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)

High Efficiency Models HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)

Standard Features

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

Internal Storage Devices	Diskette Drive	None
	Optical Drive	None Standard NOTE: This option supported on 4 drive models only. Optional DVD-ROM, DVD-RW or Slimline floppy drive Optional HP External USB CD/DVD R/RW for 8 drive models
	Hard Drives	None Standard
	Drive Bays	4 SFF Drive Bays standard with options for up to 8 SFF drive bays total NOTE: 4 bays standard in Entry / Base & High Efficiency models, with optional upgrade of 4 additional bays with the SFF HD Backplane Kit (516966-B21). NOTE: This option available for 8 drive models. HP External USB CD/DVD R/RW Drive available for 8 drive systems.

Maximum Internal Storage	Hot Plug SAS	4.8TB	8 x 600GB SAS
	Hot Plug SATA	4.0TB	8 x 500GB SATA

Interfaces	Serial	1
	Video	1
	Network RJ-45	2
	iLO 2 remote management port	1
	Keyboard (PS/2)	1
	Pointing Device (PS/2)	1
	SD slot	1
	USB 2.0 Ports	4 total: 2 rear, 1 front, 1 internal NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.

BBWC, 512MB with

Industry Standard Compliance	ACPI 2.0b Compliant PCI 2.2 Compliant PXE Support WOL Support SMBIOS 2.6.1 Microsoft® Logo certifications USB 1.1 and 2.0 Compliant
Server Power Cords	All Standard Model (BTO) servers ship with a high voltage server to PDU power cord. NOTE: ProLiant DL servers do not ship standard with NEMA power cords that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a standard wall receptacle (NEMA-15), the NEMA power cord must be ordered separately and the server will be shipped with both cords. If the order is a Factory-Integration or CTO order only the NEMA-15 power will be shipped. See Power Cords in the Additional Options section below for selection for your region.

Common Slot Power Supplies	HP has a unique design for ProLiant power supplies. The Common Slot (CS) Power Supply provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with or compatible with high-efficiency HP CS Power Supplies. These power supplies are designed to provide high-efficiency power without degrading performance of the ProLiant server. HP CS Power Supplies options for this server have efficiency ratings up to 92%. There are three Right Size power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP's ProLiant Common Slot Power supplies (460W & 750W) support multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative GOLD, 80PLUS GOLD and offers models that meet the Energy Star for Server 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).

System Fans	1P Models	3 fan modules ship standard
	2P Models	4 fan modules ship standard
	Fan redundancy standard with all modules	
	NOTE: The processor option kit contains 1 additional fan module, when upgrading from a 1 processor to two processor models. A Fan Module Option kit can also be purchased separately for use with PCI Graphics card upgrades on single processor models. See HP PCI Thermal Power Kit (519254-B21) in the Core Options section.	

Required Cabling	For required cabling information, refer to the Web site at: http://h18000.www1.hp.com/products/servers/proliantdl360/.

Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server Microsoft Windows Server Hyper-V Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris NetWare 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 including how to purchase from HP, please visit our OS Support Site at: http://www.hp.com/go/ossupport and our driver download page www.hp.com/support/DL360G6.

Graphics	Integrated ATI ES1000, 32MB video standard • 16 bit color: maximum resolution of 1600 x 1200 • 32 bit color: maximum resolution of 1280 x 1024 NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024.

Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

QuickSpecs

HP ProLiant DL360 Generation 6 (G6)

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: www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management • HP ProLiant Firmware Maintenance SmartStart version supported (minimum): SmartStart 8.20. http://www.hp.com/servers/smartstart NOTE: In an effort to support reducing our environmental impact, the HP ProLiant Essentials Foundation Pack media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.
	HP Integrated Lights-Out 2 (iLO 2)	HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant iLO2 management functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See www.hp.com/go/ProLiantOA

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

Integrated Lights-Out has 12 customizable user accounts and SSL encryption
Integrated Lights-Out can be disabled via a Global Setting iLO Advance Pack supports directory services integration and two-factor authentication

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Warranty

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

Optional Features

HP Insight management software

HP Insight Control

HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to

HP Insight Dynamics for ProLiant

deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console.

Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP
Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol

HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.

HP Insight Dynamics for ProLiant, 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. As a powerfully integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance 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 selfservice 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

Optional Features

Factory Express Portfolio for Servers and Storage

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

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

Service and Support

HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

Protect your business beyond warranty

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively

HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.

Learn more: www.hp.com/services/servers and www.hp.com/services/storage

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at http://www.hp.com/go/lookuptool

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services

3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour

Provides your IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service request to the HP Global Solution Center.

HP is committed to repairing your hardware within a maximum of six or twenty four hours. The benefits include:

- Improved system uptime
- Predictable repair times
- More effective IT resource planning
- Consistent level of hardware support across your multi-technology

systems http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6636ENN

3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Help improve or maintain system uptime
- Convenient onsite support Committed response time
- http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

HP ProLiant Server Hardware Installation

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

- Expedited installation, with all service prerequisites met before the installation is performed
- Installation in accordance with manufacturer's specifications, enhancing the supportability of your
- HP-installed hardware and software
- Service delivery at a mutually scheduled time
- Allows your IT resources to stay focused on their core tasks and priorities

Availability of an HP service specialist to answer questions during the onsite delivery of this service

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

Optional HP Care Pack Services that will enhance your HP product experience

Optional Services

3-Year HP Support Plus 24

As an alternative to our recommended support level, for customers who need access to responsive 24x7 hardware and software support plus software updates on HP and selected third party products:

For a higher return on your server and storage technology, our 3-year combined reactive support service delivers integrated onsite hardware/software support services available 24x7x365, including access to HP technical resources, 4-hour response onsite hardware support and software updates.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EEE

3-Year HP Proactive 24

As an alternative to our recommended support level, for customers who want enhanced operational effectiveness and proactive problem identification:

Provides improved stability, availability and operational effectiveness with an integrated hardware and software support service that combines industry-leading reactive technical assistance with proactive account services, giving your IT manage support from a team of service specialists.

http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-1614ENUC

HP Proactive Select Service

Customer needs on demand access to consulting, technical proactive services and education courses

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN

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eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24

X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Service and Support

Customer Technical Training	In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.
HP Services Awards	HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.
Additional Services Information	To learn more on HP ProLiant servers, HP BladeSystem servers and HP StorageWorks storage products, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: www.hp.com/services/proliant or www.hp.com/services/bladesystem or http://www.hp.com/hps/storage

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

Quad-Core Models DL360 G6 X5550 504633-001	Processor(s)	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: 18 DDR3 DIMM slots.
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/512MB with BBWC
	Hard Drive	None ship standard
	Internal Storage	8 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	Two 460W Hot Plug Power Supplies, redundant
	Fans	4 total (3 fan modules in 1P Models, 1 additional fan module with second processor), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response
Quad-Core Models HP DL360G6 X5550 470065-074	Processor(s)	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) 8MB (1 x 8MB) Level 3 cache
	Cache Memory	
	Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: 18 DDR3 DIMM slots.
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/512MB with BBWC
	Hard Drive	None ship standard
	Internal Storage	8 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	Two 460W Hot Plug Power Supplies, redundant
	Fans	4 total (3 fan modules in 1P Models, 1 additional fan module with second processor), fan redundancy standard

Pre-configured Models

Insight Control	HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates
Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

Performance Models

NOTE: Energy Star Qualified.

Pre-configured Models

	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Base Models

Quad-Core Models

DL360G6 E5540 6GB 504634-001

DL360G6 E5530 6GB 504635-001

Processor(s) One of the following depending on Model	(1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) (1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)
Cache Memory	8MB (1 x 8MB) Level 3 cache
Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: 18 DDR3 DIMM slots.
Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/256MB Controller
Hard Drive	None ship standard
Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
Power Supply	One 460W Hot Plug Power Supply
Fans	3 total (3 fan modules in 1P Models, 1 additional fan module with 2P Model), fan redundancy standard
Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Efficiency Models

Quad-Core Models

DL360G6 L5520 4GB 504636-001

Processor(s)	(1) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)
Cache Memory	8MB (1 x 8MB) Level 3 cache
Memory	4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs NOTE: 18 DDR3 DIMM slots.
Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
Storage Controller	HP Smart Array P410i/Zero Memory Controller
Hard Drive	None ship standard
Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)

Pre-configured Models

	Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
	Power Supply	One 460W Hot Plug Power Supply
	Fans	3 total (3 fan modules in 1P Models, 1 additional fan module with 2P Model), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Entry Model

Quad-Core Models DL360G6 E5504 4GB 504637-001	Processor(s)	(1) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)
	Cache Memory	4MB (1 x 4MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: 18 DDR3 DIMM slots.
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
	Power Supply	One 460W Hot Plug Power Supply
	Fans	3 total (3 fan modules in 1P Models, 1 additional fan module with 2P Model), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Smart Buys

The ProLiant Smart Buy program offers a collection of promotional server and option products that are configured with SMB in mind, offered at discounted prices, and positioned for quick delivery. Smart Buy server offers are available for a limited time only.

HP S-BUY DL360 G6 X5550 519567-005	Processor(s)	(1) Intel® Xeon® Processor X5550 (2.66 GHz, 95 W, DDR3-1333)
	Cache Memory	8MB Level 3 cache
	Memory	HP 4GB (2 x HP 2GB 2Rx8 PC3-10600E-9 Kit)
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP P410i/256 MB BBWC Smart Array (RAID 0/1/1+0/5/5+0)
	Hard Drive	None Included; supports up to 4 SFF
	Optical Drive	HP DL360 SL 12.7mm SATA DVD
	Power Supply	(2) HP 460W CS HE Power Supply Kit
	Fans	3 fan modules, N+1 fan redundancy
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

HP S-BUY DL360 G6 E5506 470065-152	Processor(s)	(1) Intel® Xeon® Processor E5506 (2.13 GHz, 80 W, DDR3-800)
	Cache Memory	4MB Level 3 cache
	Memory	HP 2GB 2Rx8 PC3-10600E-9 Unbuffered with ECC DIMMS (UDIMMs)
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP P410i/256 MB Smart Array P-Series Cache Upgrade with BBWC
	Hard Drive	None Included; supports up to 4 Hot-Plug SFF Drives
	Optical Drive	SATA DVD
	Power Supply	(1) HP 460W CS HE Power Supply
	Fans	3 fan modules, N+1 fan redundancy
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.

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

HP Models	HP ProLiant DL360 G6 Configure-to-order Rack Server	484184-B21
	Factory Integrated Model ships with:	
	HP NC382i Dual Port Multifunction Gigabit Server Adapter	
	HP Smart Array P410i/Zero Memory Controller	

Integrated Lights-Out 2 (iLO 2) embedded
2 PCIe G2 Slots - 1 full-length x16 and 1 low-profile x8 PCI-Express
4 bay Hot-Plug SAS/SATA Drives(Factory Options for up to 8)
4 USB ports(1-front,1-internal, 2-rear)
1 Internal Secure Digital(SD) slot
3 fan modules; fan redundancy standard
1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

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

HP Processors	Six-Core Processors	
	HP DL360 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) FIO Processor Kit	588062-L21
	HP DL360 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit	588064-L21
	HP DL360 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit	588066-L21
	Quad-Core Processors	
	HP DL360 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) FIO Processor Kit	507674-L21
	HP DL360 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) FIO Processor Kit	507676-L21
	HP DL360 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) FIO Processor Kit	505878-L21
	HP DL360 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) FIO Processor Kit	505880-L21
	HP DL360 G6 Intel® Xeon® L5530 (2.40GHz/4-core/8MB/60W) FIO Processor Kit	583379-L21
	HP DL360 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) FIO Processor Kit	505882-L21
	HP DL360 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) FIO Processor Kit	507680-L21
	HP DL360 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) FIO Processor Kit	505884-L21
	HP DL360 G6 Intel® Xeon® L5506 (2.13GHz/4-core/4MB/60W) FIO Processor Kit	507678-L21
	HP DL360 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) FIO Processor Kit	505886-L21
	HP DL360 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) FIO Processor Kit Dual-Core Processors	507682-L21
	HP DL360 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) FIO Processor Kit	507663-L21

NOTE: Up to 2 processors supported. Performance Model configurations include two processors.
NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology
NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 6,5,4,3,2 and 1 cores active.

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: For the Intel 5600/5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.	
	NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	
HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 460W HE Hot Plug AC Power Supply Kit	503296-B21
	HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21
	HP 1200W 12V Hot Plug AC Power Supply	500172-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.	
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers	NOTE: Please see the Additional Options section in this QuickSpecs for more HP Storage Controller choices.	
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller	491191-B21
	HP Smart Array P411/256 2-ports Ext PCIe x8 FIO SAS Controller	491193-B21
	Optional Upgrades	
	HP 256MB P-series Cache Upgrade	462968-B21
	NOTE: Additional cache memory options for the integrated P410i ZM-Zero Memory models is available in the options below.	
HP Performance Packs	The HP ProLiant DL360 G6 performance packs are necessary to configure a HP ProLiant DL360 G6 Performance Model. HP ProLiant DL360 G6 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, redundant 460w power supplies, Smart Array P410i Controller with 512MB of BBWC.	
	HP DL360G6 X5550 HPM FIO Perf Pack	507937-B21
HP Insight Software	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	582765-B21
	HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License	TC203A

Step 4: Choose Additional Options for Factory Integration

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

Core Options

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

HP Unique Options	HP DL360G6 SFF HD Backplane Kit	516966-B21
	NOTE: Integrated Optical/DVD cannot be used with this option. Optional External USB CD/DVD Drive available.	
	HP DL360 SL 12.7mm SATA DVD	532066-B21
	HP DL360 SL 12.7mm SATA DVD-RW Optical kit	532068-B21
	NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	
	PCI-X Riser option	518824-B21
	NOTE: To convert full-length PCI-Express slot to PCI-X slot. This option kit is limited to PCI-X card support only.	

HP Processor	Six-Core Processors	
	HP DL360 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	588062-B21
	HP DL360 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	588064-B21
	HP DL360 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	588066-B21
	Quad-Core Processors	
	HP DL360 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) Processor Kit	507674-B21
	HP DL360 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) Processor Kit	507676-B21
	HP DL360 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) Processor Kit	505878-B21
	HP DL360 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) Processor Kit	505880-B21
	HP DL360 G6 Intel® Xeon® L5530 (2.40GHz/4-core/8MB/60W) Processor Kit	583379-B21
	HP DL360 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) Processor Kit	505882-B21
	HP DL360 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) Processor Kit	507680-B21
	HP DL360 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) Processor Kit	505884-B21
	HP DL360 G6 Intel® Xeon® L5506 (2.13GHz/4-core/4MB/60W) Processor Kit	507678-B21
	HP DL360 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	505886-B21
	HP DL360 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) Processor Kit	507682-B21
	Dual-Core Processors	
	HP DL360 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) Processor Kit	507663-B21
	NOTE: Up to 2 processors supported. Performance Model configurations include two processors.	
	NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology	

Core Options

	NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.	
HP Memory	Registered DIMMs (RDIMMs)	500656-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500660-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500666-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500668-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.	
HP Drive Cage Options		516966-B21
	HP DL360G6 SFF HD Backplane Kit NOTE: For 4 addition HDs in 5-8 slots. NOTE: Optical/DVD cannot be used with this option.	
HP Optical Drives	HP DL360 SL 12.7mm SATA DVD	532066-B21
	HP DL360 SL 12.7mm SATA DVD-RW Optical kit	532068-B21
	NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	

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 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
	HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
	HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
	HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
	HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
	HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
	SAS Hot Plug 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
	NOTE: SAS Enterprise drives have a 3 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_na/12244_na.html	
	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 SFF (2.5-inch) Entry (ETY) Drives	
	HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	460355-B21
	HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive	458924-B21
	NOTE: SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html	
	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
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_na/13415_na.html	
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 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 NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	
	HP 10 GbE PCI-e G2 Dual Port NIC	516937-B21
HP InfiniBand	HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA	583211-B21
	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
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html.	
HP Power Supplies		
	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 460W HE Hot Plug AC Power Supply Kit	503296-B21
	HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21

	HP 1200W 12V Hot Plug AC Power Supply	500172-B21
	HP 1200W -48V DC Common Slot Power Supply NOTE: DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers. NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables. NOTE: For regional specific power cables please refer to Power Cords section below.	437573-B21
HP Cooling Options	HP PCI Thermal Power Kit NOTE: Supports 3rd Party PCI Video Graphics cards.	519254-B21

Additional Options

HP Insight Software	HP Insight Control	
	HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License	T9074BAE
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License	TC278AAE
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	452148-B22
	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License	TC275A
	HP Insight Software Media Kit NOTE: 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. NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html	436222-B21
	HP Insight Control for Linux	
	HP Insight Control for Linux including 1yr 24x7 Support Electronic License	TC213AAE
	HP Insight Control for Linux including 1yr 24x7 Support Single Server License	TC209A
	HP Insight Control for Linux Media Kit NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately. NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button). NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys. NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_na/13019_na.html	TC208A
	HP Integrated Lights-Out (iLO) Advanced	
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License	TA850AAE

Additional Options

	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12362_na/12362_na.html	512485-B21
	HP Insight Control server deployment	
	HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License	T9082AAE
	HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License NOTE: Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key. NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service. NOTE: For additional license kits please see the Insight Control QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/12631_na/12631_na.html	452151-B21
HP I/O Accelerator Options	HP 160GB SLC PCIe ioDrive NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600278-B21
	HP 320GB MLC PCIe ioDrive NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600279-B21
	HP 320GB SLC PCIe ioDrive Duo	600281-B21
	HP 640GB MLC PCIe ioDrive Duo	600282-B21
	HP 1.28TB MLC PCIe ioDrive Duo NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_na/13587_na.html	641027-B21

Additional Options

HP Security - TPM		488069-B21
	HP Trusted Platform Module Option Kit	
	NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM.	
	NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.	
	NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or loosing the key could result in data loss.	
HP Storage Controllers	NOTE: The DL360 G6 Server comes standard with an integrated P410i Smart Array Controller designed to mange up to 8 SFF hard drives from HP. For additional capabilities and capacities HP offers additional Smart Arrays.	
	SAS Controllers	
	Smart Array P800 Controller	
	HP Smart Array P800/512 BBWC 2-ports Int/2-ports Ext PCIe x8 SAS Controller	381513-B21
	Smart Array P212 Controller	
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
	Smart Array P411 Controller	
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
	HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
	HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
	Smart Array P812 Controller	
	HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller NOTE: The HP Smart Array P812/1G Flash Backed Cache Controller has the ability to support 8 internal drives on the DL360 G6 as well as external storage solutions. For use with the internal 8 drives the Mini-SAS to Mini-SAS, 25.50" & 28.00" option kit (PN: 496013-B21) is required.	487204-B21
	Optional Upgrades	
	HP 256MB P-series Cache Upgrade	462968-B21
	NOTE: Supported on HP Smart Array P212 Controller and HP Smart Array P410i Controller.	
	HP 512MB P-Series Battery Backed Write Cache Upgrade	462967-B21
	HP 1GB Flash Backed Cache	534562-B21
	NOTE: Supported on the Smart Array P410i Controller only.	
	HP 512MB Flash Backed Write Cache	534916-B21
	NOTE: Supported on the Smart Array P410i Controller only.	

HP 650 mAh P-Series Battery	462969-B21
NOTE: To enable BBWC on the 256MB cache.	
HP 8484 to Mini SAS 33in Cable Assembly	591734-B21
NOTE: Cable for use connecting the Smart Array P800 Controller to internal hard disk drives on select HP ProLiant G6 Servers.	
HP Mini SAS to Mini SAS 28in Cable Assembly	496013-B21
HP Chipset SATA Cable Kit	627121-B21
NOTE: This cable allows for connection of Chipset SATA to 1 SATA HD in the drive cage. This solution allows for disabling the embedded storage controller. Qty of 1 HD blanks may need to be ordered/installed when using this solution (503771-B21) to ensure all bays are populated with HDs or blanks. There is no support for optical media. There is no support for HD LED or thermal management when this solution is deployed. Only supported on non Hot Plug SFF Hard Drives configurations. Hot Plug is not supported. Loss of HD support for all drives bays except for the 1 deployed in this configuration. VMWare (ESX3.5/i) is not supported in this configuration.	
HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License	516471-B21
NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.	
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12616_na/12616_na.html (Smart Array P800 Controller) http://h18000.www1.hp.com/products/quickspecs/13203_na/13203_na.html (Smart Array P212 Controller) http://h18000.www1.hp.com/products/quickspecs/13202_na/13202_na.html (Smart Array P411 Controller) http://h18000.www1.hp.com/products/quickspecs/13558_na/13558_na.html (Smart Array P812 Controller) http://h18000.www1.hp.com/products/quickspecs/13200_na/13200_na.html (Smart Array Advanced Pack)	
SAS HBA	
HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter	488765-B21
HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter	614988-B21
NOTE: This is a 2 x4 External Port HBA	
NOTE: This is only approved for the HP StorageWorks P2000 G3 SAS Modular Smart Array.	
NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/13082_na/13082_na.html (SC08Ge HBA) http://h18004.www1.hp.com/products/quickspecs/13651_na/13651_na.html (SC08e 6Gb HBA)	
SCSI HBA	

Additional Options

	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Recommended HBA for SCSI tape drive connect. NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12566_na/12566_na.html (SC11Xe HBA)	412911-B21
HP Power Cords	NOTE: The HP ProLiant DL360 G6 ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).	
	Nema 5-15P to IEC320-C13	AF556A
HP Backup & Recovery Software	HP Data Protector Express	
	HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU	TC333AAE
	HP Data Protector Express V5.0 for 10 Servers E-LTU	TC332AAE
	HP Data Protector Express V5.0 for 1 Server E-LTU	TC330AAE
	HP Data Protector Express V5.0 for 3 Servers E-LTU	TC331AAE
	NOTE: One of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress	
HP Tape Backup	NOTE: For the complete range of 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 in 1U Rack-mount Kit	AP835B
	HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended.	AK377A
	HP StorageWorks DAT 320 SAS Internal Tape Drive NOTE: 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.	AJ830A
	HP StorageWorks Ultrium 920 SAS Internal Tape Drive NOTE: 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.	EH847A
	HP StorageWorks LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828B21) recommended.	EH946B
	HP StorageWorks LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rackmount NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828B21) recommended.	EJ014A

Additional Options

	HP StorageWorks 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL536A
	HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library	AK378A
	HP StorageWorks MSL2024 1 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL537A
	HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Tape Library	AK380A
	HP StorageWorks MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	BL538A
HP Disk Backup	NOTE: For the complete range of StorageWorks D2D Backup Systems see: http://www.hp.com/go/d2d. For the complete range of StorageWorks RDX drives and media see: http://www.hp.com/go/rdx. For hardware and software compatibility of HP StorageWorks disk backup products see: http://www.hp.com/go/connect.	
	HP StorageWorks D2D Backup Systems with Backup Data Deduplication	
	HP StorageWorks D2D2502i Backup System NOTE: 1.5TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ001B
	HP StorageWorks D2D2504i Backup System NOTE: 3.0TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	EJ002B
	HP StorageWorks D2D4112 Backup System NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric. See http://www.hp.com/go/connect for supported Fibre Channel Host Bus Adapters.	EH993B
	HP StorageWorks RDX Removable Disk Backup Systems USB	
	HP StorageWorks RDX320 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 320GB of disk capacity per data cartridge.	AJ767A
	HP StorageWorks RDX500 Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.	AJ934A
	HP StorageWorks RDX 1TB Internal Removable Disk Backup System NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 1 TB of disk capacity per data cartridge.	BV847A

Additional Options

HP StorageWorks Options	StorageWorks Fibre Channel HBA	
	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Brocade Fibre Channel HBAs	
	HP StorageWorks 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter	AP769A
	HP StorageWorks 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter	AP770A
	HP StorageWorks 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter	AP767A
	HP StorageWorks 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter	AP768A
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter	AJ762A
	HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ763A
	HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter	A8002A
	HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter	AK344A
	HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ764A
	HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter	AE311A
	HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter StorageWorks SCSI HBA	AE312A
	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter NOTE: Recommended HBA for MSL SCSI Tape Library connect.	AH627A
	StorageWorks Converged Network Adapter	
	HP StorageWorks CN1000E Dual Port Converged Network Adapter	AW520A
	HP CN1000Q 2P Converged Network Adapter	BS668A
HP Disk Storage Systems	MSA SAN Storage Arrays	
	HP StorageWorks 60 Modular Smart Array	418408-B21
	NOTE: Supports 12 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12627_na/12627_na.html	
	HP StorageWorks 70 Modular Smart Array	418800-B21
	NOTE: Supports 25 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12652_na/12652_na.html	

Additional Options

	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_na/13404_na.html	
HP Uninterruptible Power Systems	HP Rack-mountable UPS	
	HP R1500 G2 UPS	
	HP R1500 G2 1440VA Low Voltage 1U Rackmount Uninterruptible Power System NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_na/12507_na.html	AF419A
	HP Rack-Mountable R5500 UPS	
	HP R5500 5000kVA 3U Rackmount Uninterruptible Power System	AF426A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_na/13129_na.html NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com NOTE: 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.	
HP Power Distribution Units	HP Monitored Power Distribution Unit: Half Rack Version HP	
	4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A	AF914A
	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A	AF504A
	HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A	AF506A
	NOTE: Please see the following QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12118_na/12118_na.html	
	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)	252663-D72
	8.3kVA Model - mPDU, 40A, High (power cord attached)	252663-D73

	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) 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_na/11041_na.html NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu. NOTE: 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.	252663-B24

HP Rack Series	HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	
	HP 10642 G2 Pallet Universal Rack	AF001A
	HP 10642 G2 Shock Universal Rack	AF002A
	HP 10642 G2 1200mm deep Shock Rack	AF092A
	HP 10647 G2 1200mm deep Shock Rack	AF094A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed. NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12402_na/12402_na.html NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower. NOTE: 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 hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm). CAUTION: Always use blanking panels to fill all remaining empty front panel Uspaces 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/dl360. Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.	

HP Rack Options	Keyboards and Monitors	
	HP TFT7600 G2 KVM Console Rackmount Keyboard Monitor	AZ870A
	HP TFT7600 G2 KVM Console Rackmount Keyboard TAA Monitor HP Server Console Switches	AZ885A
	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_na/11834_na.html	
	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_na/13475_na.html	
	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_na/13474_na.html	
	Rack Kits	
	1U Cable Management Arm	365403-B21
	NOTE: Package contains two cable management arms.	
HP USB and SD Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	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
	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 4-Hour On-site Service	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4496E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic Hardware Services 6-Hour Call to Repair On-site Service	U4497E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4498E
	Hardware Services Next Business Day On-Site Service	
	Hardware Installation, Electronic	U4506E
	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 8am5pm, M-F, excl. HP holidays, Electronic	U4507E
	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	U4509E
	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	U6310E
	NOTE: For more information, customer/resellers can contact:	
	http://www.hp.com/services/carepack.	

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

DDR3 memory population guidelines

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

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
  - DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- No mixing DIMM voltage; all DIMMs must be the same voltage

DIMM Type ->	Registered Dimms (RDIMMs)						Unbuffered with ECC DIMMs (UDIMMs)	
DIMM Rank ->	Dual Rank (2R)				Quad Rank (4R)		Single Rank (1R)	Dual Rank (2R)
DIMM Capacity ->	2GB	4GB	8GB	8GB	4GB	16GB	1GB	2GB
DIMM Native Speed (MHz) ->	1333	1333	1333	1066	1066	1066	1333	1333
SLOTS THAT CAN BE POPULATED								
9 slot servers	9	9	9	9	6	6	6	6
12 slot servers	12	12	12	12	12	12	12	12
16 slot servers	16	16	16	16	12	12	12	12
18 slot servers	18	18	18	18	12	12	12	12
MAXIMUM CAPACITY (GB)								

Memory

9
slot

POPULATED DIMM SPEED (MHz)								
1 DIMM Per Channel	1333	1333	1333	1066	1066	1066	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	800	800	1333*	1333*
3 DIMM Per Channel	800	800	800	800	n/a	n/a	n/a	n/a
* - supported with ROM update via ROM Based Setup Utility (RBSU). UDIMM support is only on 12-slot serv rs.								

servers	18	36	72	72	24	96	6	12
12 slot servers	24	48	96	96	48	192	12	24
16 slot servers	32	64	128	128	48	192	12	24
18 slot servers	36	72	144	144	48	192	12	24

NOTES:

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

DIMM slot and configuration diagrams

Basic memory slot & population diagram

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

18 DIMM SLOTS (9 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	

	CPU1		CPU2		
	slot #	population order	slot #	population order	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

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

Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  -
  -

Memory

3x 2GB dual-rank PC3-10600 RDIMMs 6x
8GB dual-rank PC3-8500 RDIMMs

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

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

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

Memory

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

UDIMM maximum configuration (1 CPU model)

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

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

	8	F; 2GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

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

- 192GB, consisting of twelve (12) 16GB quad-rank PC3-8500 RDIMMs

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

UDIMM maximum configuration (2 CPU model)

- 48GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; 4GB DIMM	
	3	A; 4GB DIMM	3	A; 4GB DIMM	

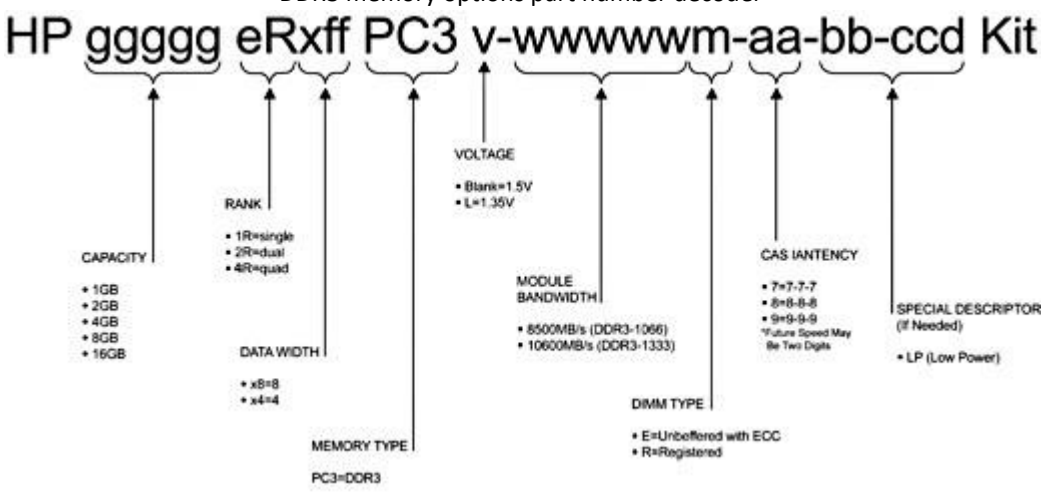
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	B; 4GB DIMM	6	B; 4GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB DIMM	8	F; 4GB DIMM	
	9	C; 4GB DIMM	9	C; 4GB DIMM	

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

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

Following are memory options available from HP:

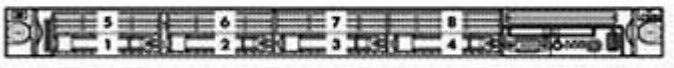
DDR3 memory options part number decoder



HP Memory Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
Unbuffered with ECC DIMMs (UDIMMs)	
HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21

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



1-8 8 x SFF SAS Hot Pluggable Hard Drive Bays. Optical Media Bay not available for this configuration

1-4 4 x SFF SAS Hot Pluggable Hard Drives

A Optical Media Bay

5, 6 Blanks (HDD Bays will not function)

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
HP DL360 SL 12.7mm SATA DVD-RW	1	Slim Line Bay	Integrated SATA
HP DL360 SL 12.7mm SATA DVD	1	Slim Line Bay	Integrated SATA
NOTE: DVD/Optical drive options supported on 4 hard drive models only.			

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components. NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller

Storage

600GB 6G SAS 10K DP 450GB 6G SAS 10K DP 300GB 6G SAS 10K DP 146GB 6G SAS 15K DP	8	1-8	HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410i/Zero Memory Controller

146GB 6G SAS 10K DP
72GB 6G SAS 15K DP HP Smart Array P410i/256 MB Controller
HP Smart Array P410i/512 MB BBWC Controller
HP Smart Array P411/256 MB Controller
HP Smart Array P411/512 MB BBWC Controller
HP Smart Array P411/512 MB FBWC Controller
HP Smart Array P411/1G FBWC Controller

HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity	Position	Supported	Supported Controller
500GB 6G SAS 7.2K DP	8	1-8		HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410i/Zero Memory Controller HP Smart Array P410i/256 MB Controller HP Smart Array P410i/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity	Position	Supported	Supported Controller
500GB 3G SATA 7.2K 160GB 3G SATA 7.2K	8	1-8		HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410i/Zero Memory Controller HP Smart Array P410i/256 MB Controller HP Smart Array P410i/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K 120GB 1.5G SATA 5.4K	8	1-8	HP Smart Array P410i/Zero Memory Controller HP Smart Array P410i/256 MB Controller HP Smart Array P410i/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller
HP Smart Array P800/512 BBWC Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller			

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

Storage

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity	Position Supported	Supported Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P410i/Zero Memory Controller HP Smart Array P410i/256 MB Controller HP Smart Array P410i/512 MB BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8		HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4		HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4		HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

HP Smart Array P812/1G Flash Backed Cache Controller

Tape and Disk Backup

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

	Position Supported	Controller	Part Number
HP StorageWorks SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	412911-B21
HP StorageWorks USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320 1U USB Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks SAS Tape Drives DAT 160 DAT 320 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 LTO-5 Ultrium 3000 LTO-5 Ultrium 3280 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21

HP StorageWorks SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	412911-B21
HP StorageWorks SCSI Tape Libraries, External MSL2024 MSL4048 MSL8096 MSL6000	External	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	AH627A
HP StorageWorks SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect	462828-B21
HP StorageWorks Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information.	N/A
HP StorageWorks USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750 RDX1TB	External	USB 2.0 Port	N/A

HP StorageWorks D2D Backup Systems, iSCSI D2D2500i D2D4000i	External	Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.	
HP StorageWorks D2D Backup Systems, Fibre Channel D2D4000fc	External	Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect	N/A

Power Specifications

HP 460W HE 12V Hot Plug AC 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)	100	120	200	208	220	230	240
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 750W Common Slot High Efficiency 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)	100	120	200	208	220	230	240
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						

Power Specifications

HP 1200W 12V Hot Plug AC Power Supply							
Part Number	500172-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600
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

HP 1200W -48V DC Common Slot Power Supply			
Part Number	437573-B21		
Input Voltage Range (V rms)	36-72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (Vrms)	36	48	72
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

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

System Unit	Dimensions (H x W x D) (with bezel)		1.70 x 16.78 x 27.25 in (4.32 x 42.62 x 69.22 cm)
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	39.5 lb (17.92 kg)
		Minimum (one hard drive, power supply, and processor installed)	32 lb (14.51 kg)
	Input Requirements (for Standard 460W PSU, see power specifications tables for detail on 460W, 750W and 1200W power	Rated Line Voltage	100 to 240 VAC
		Rated Input Current	4.5 Amps (at 120VAC) to 2.2 Amps (at 240 VAC)
		Rated Input Frequency	50 to 60 Hz supplies)
	BTU Rating	Maximum	1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliantenergy-efficient or www.hp.com/go/hppoweradvisor - Click on the system of interest. Example: DL360 G6 - Follow the instructions of the next screens.	
	Power Supply Output (per power supply)	Rated Steady-State Power	460 W (at 100 VAC), 460 W (at 200 VAC)
		Maximum Peak Power	460 W (at 100 VAC), 460 W (at 200 VAC) NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.
	System Inlet Temperature	Operating	10° to 35° C (50° to 95° F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8° F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct

		sustained sunlight. Maximum rate of change is 10° C/hr (18° F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30° C (86° F).
	Non-operating	-40° to 70° C (-40° to 158° F). Maximum rate of change is 20° C/hr (36° F/hr).
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing.

	Non-operating	5 to 95% relative humidity (Rh), 38.7° C (101.7° F) maximum wet bulb temperature, noncondensing.
Altitude	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).

Acoustic Noise

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

Idle (Single Processor, Note 1)		
	L WAd	4.3 B Average Bystander
	L pAm	27 dBA
Operating		
	L WAd	4.8 B Average Bystander
	L pAm	32 dBA
Idle (Dual Processors, Note 2)		
	L WAd	4.9 B Average Bystander
	L pAm	33 dBA
Operating		
	L WAd	5.4 B Average Bystander
	L pAm	38 dBA

NOTES:
Note 1) Configuration tested included an Intel X5520 quad-core 2.27GHz processor, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, six system fans, three 4GB(2x2GB) DIMM's, and one power supply (1P SKU).
Note 2) Configuration tested included two Intel X5520 quad-core 2.27GHz processors, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, eight system fans, six 4GB(2x2GB) DIMM's, and one power supply (2P SKU).
Note 3) Values are subject to change without notification and are for reference only.
Note 4) Performance of system, options, and ancillary equipment will vary depending on the system configuration.
Note 5) Levels presented do not account for non-Hewlett-Packard installed hardware.

Emissions Classification (EMC)	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 NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
Smart Array P410i Controller	Dimensions	Embedded
	Disk Drive and Enclosure Interface - Transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal 4X connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus
	Server Interface	x4 PCIe 2.0 provides 2GB/s maximum bandwidth
	SAS Speed	8 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	Cache Memory	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC Zero Memory, Up to 2 logical volumes (8 physical drives)
	Logical Drives Supported	Up to 64 logical drives with cache
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with one of the following combinations: • 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades • 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades • 1G FBWC and Smart Array Advanced Pack License key option upgrades RAID 5, 5+0 (Distributed Data Guarding) NOTE: A minimum or 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)

Embedded NC382i Dual Network Interface	10Base-T/100Base-TX/1000Base-TX		
Port Multifunction Gigabit Compatibility Server Adapter	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX		
	Data Transfer Method	PCI Express, four lanes (x4)	
	Controller	BCM5709C	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000 Mb/s
	Connector	Two RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
		1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)

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

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