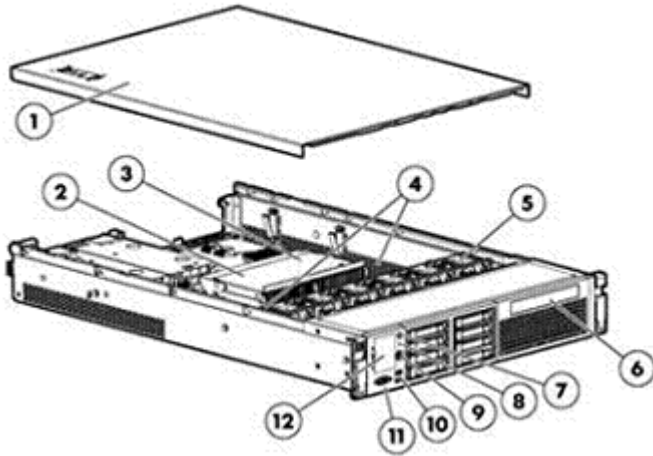


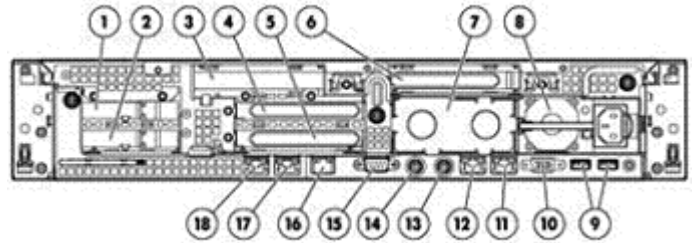
Overview

The HP ProLiant DL380 G7 Server continues to deliver on its heritage of engineering excellence with increased flexibility and performance, enterprise-class uptime and HP Insight Control manageability, 2 socket Intel® Xeon® performance, and 2U density for a variety of applications.



Front View:

1. Quick removal access panel
2. First Intel Processor
3. Second Intel Processor
4. Eighteen slots: DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory
5. Hot-plug fans, full N+1 redundancy
6. Slim Optical Bay (SATA DVD-RW Optical Drive included on Performance models)
7. UID LED button
8. Health LED
9. Power On/Standby button and system power LED
10. USB connectors (2)
11. Video connector
12. Systems Insight Display



Rear View:

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

What's New

- Support for new HP hard drives, UPS

Standard Features

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

Processor

One of the following
depending on Model

Six-Core Processors

Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W), DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
 Intel® Xeon® X5680 (3.33GHz/6-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processor
 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/3) Processor
 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W, DDR3-1333, HT, Turbo 2/2/3/3/4/4) Processor

Quad-Core Processors

Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W, DDR3-1333, HT, Turbo 1/1/2/2) Processor
 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W, DDR3-1333, HT, Turbo 1/1/2/2) Processor
 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-1066) Processor
 Intel® Xeon® E5506 (2.13 GHz/4-core/4MB/80W, DDR3-800) Processor
 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W, DDR3-1066) Processor
 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT, Turbo 1/1/2/2) Processor

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 5000, and 5600Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

NOTE: Up to 2 processors supported. Performance configurations include two processors. Mixing different processor models is not supported.

Cache Memory

One of the following
depending on Model

Up to 12MB (1x12MB) Level 3 cache for all 5600 series processors

Up to 8MB (1 x 8MB) Level 3 cache for all 5500 series processors

Chipset

Intel® 5520 Chipset

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

Standard Features

Upgradeability Upgradeable to 2 processors (12 cores)

Memory Protection Advanced ECC (multi-bit error protection)
Mirroring mode
Online Spare supported on 5600 Series
Lockstep mode

Memory

Type	DDR3 Registered (RDIMM) and 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 Models)	4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs
Standard (Efficiency Models)	4GB (2 x 2GB) PC3-10600E (DDR3-1333) Unbuffered DIMMS
Maximum (RDIMM)	384GB (12 x 32GB) for Registered Memory configurations NOTE: Using PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated at 2 DIMMs per Channel in 12 slots.
Maximum (UDIMM)	48GB (12 x 2GB) for Unbuffered Memory configurations NOTE: Using PC3-10600E DDR3 Unbuffered (UDIMM) memory, operating at 1066MHz when fully populated at 2 DIMMs per Channel in 12 slots.

NOTE: If only one processor is installed, only half the DIMM slots are available
NOTE: If only one processor is installed, only half the DIMM slots are available.
NOTE: when populating with the 16GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.
NOTE: For G6 and G7 servers using Xeon 5600 series processors, the default memory speed is 1333MHz with either one or two DIMMs per channel. For G6 and G7 servers using Xeon 5500 series processors, an RBSU option is available to disable 1333MHz operation (which will result in 1067MHz operation).
NOTE: UDIMM support is only on 12-slot servers.
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.

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

Expansion Slots

NOTE: The system board has 2 PCI connectors, but the below riser cards have the actual PCI slots, to which PCI cards attach. Up to six available PCI-Express Gen2 slots, optional mixed PCI-X / PCI-Express or x16 PCI configurations available (see "Standard Features -Expansion Slots" section for more details).

Primary Riser (Standard)	Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
	1	PCIe Gen2	X8	X16	7	Full Length, Full Height Slot	



Standard Features

2	PCIe Gen2	X4	X8	10	Half Length, Full Height Slot
3	PCIe Gen2	X4	X8	13	Half Length, Full Height Slot

* 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.

PCIe Riser (Optional Secondary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
4	PCIe Gen2	X8	X16	16	Full length, full height slot	
5	PCIe Gen2	X4	X8	20	Half length, half height slot	
6	PCIe Gen2	X4	X8	23	Half length, half height slot	

* 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.

PCIe/PCI-X Riser (Optional Primary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCI-X (133MHz)	64-bit	N/A	7	Full length, Full Height	
2	PCI-E Gen2	X8	X16	11	Half Length, Full Height	
3	PCI-E Gen2	X4	X8	15	Half Length, Full Height	

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

*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.

PCIe/PCI-X Riser (Optional Secondary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
4	PCI-X (133MHz)	64-bit	Not applicable	19	Full length, Full height slot	
5	PCI-E Gen2	X8	X16	23	Half Length, Half Height	

Standard Features

6	PCI-E Gen2	X4	X8	27	Half Length, Half Height
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NOTE: Only PCI-X support is available in slot 4, supporting PCI-X cards. PCI legacy cards are not supported.

*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.

x16 PCIe Riser (Optional Primary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCIe Gen2	x16	x16	13	Full Length, Full Height slot	Supports up to 150W; single wide cards only

* 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.

x16 PCIe Riser (Optional Secondary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
4	PCIe Gen2	x16	x16	16	Full Length, Full Height slot	Supports up to 150W; single wide cards only

* 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.

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/1G FBWC Controller (RAID 0/1/1+0/5/5+0)
Available upgrades: 1G FBWC, 512MB FBWC, 256MB, 512MB with BBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)	

Standard Features

Internal Storage Devices	Diskette Drive	None Standard
	Optical Drive	None Standard on Entry, High Efficiency, and Base Models
	One of the following depending on Model	NOTE: No support on LFF HD Models, or when upgrading to optional 8 SFF HD.
		HP Slim SATA DVD RW Optical Drive Standard on Performance Models
		NOTE: The Optical Drive option is not available when you upgrade with the additional 8 SFF drive cage, or in the LFF Models
	Hard Drives	None Standard
	Hard Drive Bays	Standard (8) small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives Optional second drive cage for additional (8) SFF drive bays (total 16) Optional cage for (6) Large Form Factor SAS/SATA hard drive bays

Maximum Internal Storage	Hot Plug SFF SAS	16TB	16 x 1TB (with optional SFF drive cage)
	Hot Plug LFF SAS	18.0TB	6 x 3TB (with optional LFF drive cage)
	Hot Plug SFF SAS SSD	12.8TB	16 x 800GB (with optional SFF drive cage)
	Hot Plug SFF SATA SSD	6.4TB	16 x 400GB (with optional SFF drive cage)
	Hot Plug LFF SATA SSD	6.4TB	16 x 400GB (with optional SFF drive cage)

Interfaces	Serial	1
	Video	2 (1 front, 1 back)
	Network RJ-45	4
	HP iLO Remote Management Port	1
	Keyboard	1
	Pointing Device (Mouse)	1
	Graphics	1
	SD slot	1
	USB 2.0 Ports	5 total: 2 front, 2 back, 1 internal

Industry Standard Compliance	ACPI 2.0 Compliant
	PCI 2.2 Compliant
	WOL Support
	Microsoft® Logo certifications
	USB 2.0 Support

Standard Features

Server Power Cords

High voltage power cord ships standard with all part numbers.

NOTE: HP ProLiant DL servers no longer ship standard with a 12-foot NEMA 5-15P to C13 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 now ship standard with only a PDU 6-foot C-14 to C13 power cord (142258-001). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the 12-foot NEMA 5-15 to C13 power cord must be ordered separately. Also available: 110 volt 6-Foot NEMA 5-15p to C13 (AF556A).

Common Slot Power Supply

Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed to provide the highest power supply efficiency without degrading the performance of a ProLiant. CS Power Supplies have efficiency ratings of up to 94% and are available in three power output options allowing the customer to "right-size" a power supply for their specific server configuration. To make sure you select the correct power supply to meet your configuration needs, 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 support redundant configurations.

NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same output and efficiency rating. If non-matched power supplies are inserted you will get errors and operation will fail.

It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP Power Advisor can be accessed at: www.hp.com/go/hppoweradvisor.

NOTE: The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publicly posts the results on 80Plus.org.

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

System Fans

Fully redundant hot plug fans ship standard (N+1).

NOTE: One processor models include four fans. Two processor models include six fans.

Required Cabling

For required cabling information, refer to the HP Web site at: www.hp.com/servers/dl380.

Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)
[Red Hat Enterprise Linux \(RHEL\)](#)
[SUSE Linux Enterprise Server \(SLES\)](#)
[Oracle Solaris](#)
[VMware](#)
[Citrix XenServer](#)

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

Graphics

Integrated ATI ES1000, 64MB 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 3 remote console for ProLiant is 1280 x 1024 (for 32 bit color) and 1600 x 1200 (DVR max resolution).

Form Factor

Rack (2U)
 Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

HP Insight management software

HP Service Pack for ProLiant

HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) version 5 provide a new, comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new HP server hardware launches. By enabling firmware to be updated online and integrating firmware and system software updates in one operation HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support on each Service Pack for ProLiant.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM version 5 and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application has been re-written to provide a more straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP will recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

Standard Features

The Service Pack for ProLiant has been rigorously tested with specific attention for interaction between firmware, drivers and agents both within the server as well as in interaction with the BladeSystem enclosure components (Onboard Administrator and Virtual Connect). This testing ensures the highest quality as well as providing the input for HP SUM to deploy updates taking into account all interdependencies, when determining the correct updates and order of update deployment.

The Service Pack for ProLiant (which includes HP SUM 5) can be downloaded from: www.hp.com/go/spp/download. More information can be found: <http://www.hp.com/go/spp> and <http://www.hp.com/go/hpsum>

HP Insight Foundation

Insight Foundation is being baselined at version v8.70 which means the following:

- Its Media Kit (contains 2 SmartStart CDs, the Firmware DVD, and the Management DVD) will continue to ship with all supported ProLiant G7 or earlier BTO servers until the last supported server is no longer shipping.
- The Media Kit will not be updated past version 8.70.
- ProLiant G7 or earlier CTO servers are able to order the Media Kit with the understanding that the media is not updated. Please check specific server QuickSpecs for availability of CTO Kit.
- PSP and Firmware DVD downloads will be updated through 2Q 2012 at the HP Insight Foundation Suite for ProLiant downloads tab: <http://www.hp.com/go/foundation>

Customers are urged to use the replacement product, HP Service Pack for ProLiant, instead of Insight Foundation Suite which is found at these location: www.hp.com/go/spp
www.hp.com/go/spp/download

HP Integrated Lights-Out (iLO) for ProLiant

HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO

HP Insight Online

HP Insight Online is a new capability available through the HP Support Center portal for one stop, secure access to product and HP support information specific to your IT environment. Insight Online can automatically display devices remotely monitored by HP Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime. www.hp.com/go/insightonline

Standard Features

Security

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

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 deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see <http://www.hp.com/go/insightcontrol>.

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

HP Insight Dynamics for ProLiant

HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

NOTE: For more information, visit: <http://www.hp.com/go/insightdynamics>

High Performance Clusters

HP Cluster Platforms

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

HP HPC Interconnects

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

Optional Features

HP Cluster Management Utility

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

HP HPC Linux Value Pack

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

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, EVA7xxx, 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 Simple Configurator

SCE is a guided self service tool to help sales and non technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact HP's Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers and BladeSystem

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

What HP ProLiant and BladeSystem Services can do for you

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

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

Optimized Care

Optimized Care Package: Supports maintaining servers at optimum performance availability

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner <http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

HP Installation and Startup for Insight Control Software

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

3-Year HP Critical Advantage

Provides end-to-end infrastructure support solution for business critical applications running on virtualized/x86 infrastructures, enabling the customers to cost effectively build, operate, and continuously improve their IT environment <http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA3-1772ENW>

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

Service and Support

Standard Care

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

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

HP Installation and Startup for Insight Control Software

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

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

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

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

Provides for the deployment and basic configuration of HP Insight Control on HP ProLiant ML and DL series servers or HP BladeSystem servers
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf>

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

Basic Care

Basic Care Package: delivers minimum recommended support service level

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

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

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

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

Insight Remote Support

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

For more information

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



Pre-configured Models

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

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

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

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

Performance Models

Six-Core Models

**HP ProLiant DL380 G7
X5690 2P 12GB-R
P410i/1GB 8 SFF 750W
RPS Svr**
633404-001

Processor(s)

Two of the following
depending on Model

(2) Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W), DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processors

(2) Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processors

(2) Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3) Processors

Cache Memory

12MB (1 x 12MB) Level 3 cache

Memory

12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs

NOTE: Total of 18 DIMM slots.

Network Controller

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters

Storage Controller

HP Smart Array P410i/1GB with FBWC

Hard Drive

None ship standard

Internal Storage

Standard: 8 SFF SAS/SATA HDD Bays

Optional: 16 SFF SAS/SATA HDD Bays

Optical Drive

HP Slim SATA DVD RW drive

Power Supply

(2) 750W Hot Plug Power Supplies

Fans

(6) (N+1 redundancy standard)

Insight Control

HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates

Form Factor

Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

Warranty

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

Pre-configured Models

Base Models

Six -Core Models HP ProLiant DL380 G7 E5649 1P 6GB-R P410i/256 8 SFF 460W PS Svr 633405-001	Processor(s)	(1) Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/2) Processor
	One of the following depending on Model	(1) Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W, DDR3-1333, HT, Turbo 1/1/1/1/2/3) Processor
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
HP ProLiant DL380 G7 E5645 1P 6GB-R P410i/256 8 SFF 460W PS Server 633407-001	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	(1) 460W Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Quad-Core Models HP ProLiant DL380 G7 E5620 1P 6GB-R P410i/256 8 SFF 460W PS Base Server 589152-001	Processor(s)	(1) Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	(1) 460W Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Pre-configured Models

Entry Models

Quad-Core Models HP ProLiant DL380 G7 E5606 1P 4GB-R P410i/ZM 8 SFF 460W PS Server 633408-001	Processor(s)	(1) Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W, DDR3-1066) Processor
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs NOTE: Total of 18 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	(1) 460W Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Efficiency Model

Quad-Core Models HP ProLiant DL380 G7 L5630 1P 4GB-U P410i/ZM 4 SFF 460W PS Efficiency Server 583969-001	Processor(s)	(1) Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W, DDR3-1066, HT, Turbo 1/1/2/2) Processor
	Cache Memory	12MB (1 x 4MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs NOTE: Total of 18 DIMM slots.
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	(1) 460W 94% Efficient Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Smart Buys

HP DL380G7 E5620 SFF US Svr/S-Buy 605877-005	Processor(s)	(1) Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
	Memory	6GB UDIMM 3 x HP 2GB 2Rx8 PC3-10600E-9
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/512MB FBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
	Optical Drive	HP Slim SATA DVD RW
	Power Supply	(1) 460W Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

HP DL380G7 X5670 LFF US Svr/S-Buy 605878-005	Processor(s)	(2) Intel® Xeon® Processor X5670 (2.93 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/2/2/3/3)
	Memory	24GB (6x4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/1GB FBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Up to 6 LFF HDD
	Optical Drive	Not available with LFF HDD cage
	Power Supply	(2) 750W Hot Plug Power Supplies
	Fans	(6) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

HP DL380G7 E5606 SFF US Svr/S-Buy 639828-005	Processor(s)	(1) Intel® Xeon® Processor E5606 (2.13GHz, 8MB L3 Cache, 80W, DDR3-800)
	Memory	4GB RDIMM 1 x 4GB PC3-10600R-9
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/512MB FBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
	Optical Drive	HP Slim SATA DVD RW
	Power Supply	(1) 460W Hot Plug Power Supply
	Fans	(4) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

Smart Buys

HP DL380G7 E5649 SFF US Processor(s)
Svr/S-buy
639829-005

Processor(s)	(2) Intel® Xeon® Processor E5649 (2.53 GHz, 12MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
Memory	8GB (2x4GB) PC3-10600R (DDR3-1333) Registered DIMMs
Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
Storage Controller	HP Smart Array P410i/512MB FBWC Controller
Hard Drive	None ship standard
Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
Optical Drive	HP Slim SATA DVD RW
Power Supply	(2) 460W Hot Plug Power Supply
Fans	(6) (N+1 redundancy standard)
Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)

HP DL380G7 X5660 SFF US Processor(s)
Svr/S-Buy
643413-S01

Processor(s)	(1) Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95W, DDR3-1333)
Memory	4GB (1x4GB) PC3-10600R (DDR3-1333) Registered DIMMs
Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
Storage Controller	HP Smart Array P410i/512MB FBWC Controller
Hard Drive	None ship standard
Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
Optical Drive	HP Slim SATA DVD RW
Power Supply	(2) 460W Hot Plug Power Supplies
Fans	(6) (N+1 redundancy standard)
Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
Management	Insight Control

Smart Buys

HP DL380G7 X5675 SFF US Svr/S-Buy 639830-005	Processor(s)	(2) Intel® Xeon® Processor X5675 (3.06GHz, 12MB L3 Cache, 95W, DDR3-1333)
	Memory	8GB (2x4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/1GB FBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
	Optical Drive	HP Slim SATA DVD RW
	Power Supply	(2) 750W Hot Plug Power Supplies
	Fans	(6) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Management	Insight Control

HP DL380G7 X5660 SFF 24GB Svr/S-Buy 656765-S01	Processor(s)	(2) Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95W, DDR3-1333)
	Memory	24GB (6x4GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P410i/1GB FBWC Controller
	Hard Drive	None ship standard
	Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays
	Optical Drive	None included
	Power Supply	(2) 750W Hot Plug Power Supplies
	Fans	(6) (N+1 redundancy standard)
	Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
	Management	Insight Control

Configuration Information - Factory Integrated Models

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

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

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

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

HP Models	HP ProLiant DL380 G7 Small Form Factor (SFF) Configure-to-order Server	583914-B21
	<p>Factory Integrated Model ships with:</p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters Smart Array P410i Controller I/O slots - 3 Slots come standard:</p> <ul style="list-style-type: none"> • Slot 1 - FL/FH x8 PCIE (x16 connector) • Slot 2 - HL/FH x4 PCIE (x8 connector) • Slot 3 - HL/FH x4 PCIE (x8 connector) <ul style="list-style-type: none"> ○ Additional Slots may be added via selections from the PCI Information and Options subsection <p>System Fans - 4 (2 additional fans included with second processor) Drive Cage - 8-SFF (Second SFF drive cage optional) USB - 2 Rear, 2 Front, 1 Internal, 1 SD slot Server Management - (iLO 3) (embedded)</p> <p>NOTE: Power Supply not included - choose from Options section</p>	
	<p>HP ProLiant DL380 G7 Large Form Factor (LFF) Configure-to-order Server</p> <p>Factory Integrated Model ships with:</p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters Smart Array P410i Controller I/O slots - 3 Slots come standard:</p> <ul style="list-style-type: none"> • Slot 1 - FL/FH x8 PCIE (x16 connector) • Slot 2 - HL/FH x4 PCIE (x8 connector) • Slot 3 - HL/FH x4 PCIE (x8 connector) <ul style="list-style-type: none"> ○ Additional Slots may be added via selections from the PCI Information and Options subsection <p>Drive Cage - 6-LFF System Fans - 4 (2 additional fans included with second processor) USB - 2 Rear, 2 Front, 1 Internal, 1 SD slot Server Management - (iLO 3) (embedded)</p> <p>NOTE: Power Supply not included - choose from Options section NOTE: On LFF Model Optional Optical Drive is not available</p>	583917-B21

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

HP Processors	<p>NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21 unless Performance Model features are desired. Then choose one xxxxxx-L21 and the</p>
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Configuration Information - Factory Integrated Models

corresponding HP Performance Pack from Step 3 below.

Six-Core Processors

HP DL380 G7 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) FIO Processor Kit	633410-L21
HP DL380 G7 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) FIO Processor Kit	633414-L21
HP DL380 G7 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	633418-L21
HP DL380 G7 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) FIO Processor Kit	633420-L21

Quad-Core Processors

HP DL380 G7 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) FIO Processor Kit	633412-L21
HP DL380 G7 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) FIO Processor Kit	633416-L21
HP DL380 G7 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) FIO Processor Kit	587478-L21
HP DL380 G7 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) FIO Processor Kit	633442-L21
HP DL380 G7 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) FIO Processor Kit	633444-L21

HP Memory

Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21

NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.

HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21

NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.

HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21

Unbuffered with ECC DIMMs (UDIMMs)

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

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

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

NOTE: PC3L is a low voltage memory

HP Power Supplies

NOTE: Prior to making a power supply selection it is highly recommended that the HP

Configuration Information - Factory Integrated Models

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 Common Slot Platinum Power Supplies

HP 460W Common Slot Platinum Hot Plug Power Supply Kit	593188-B21
HP 750W Common Slot Platinum Hot Plug Power Supply Kit	593831-B21
HP 1200W Common Slot Platinum Hot Plug Power Supply Kit	578322-B21

HP Common Slot Gold Power Supplies

HP 460W Common Slot Gold Hot Plug Power Supply Kit	503296-B21
HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21

HP Common Slot -48VDC Power Supplies

HP 1200W Common Slot -48VDC Hot Plug Power Supply Kit	437573-B21
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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 (only one of the following from each list unless otherwise noted)

HP Performance Packs

The HP ProLiant DL380 performance packs are necessary to configure a HP ProLiant DL380 Performance Model. HP ProLiant DL380 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value.

- The performance pack includes:
 - 2nd processor
 - 750-watt redundant power supply
 - 1GB FBWC cache module for P410i
 - One DL380 G6 HP Fan kit (contains qty of 2)
 - Insight Control license with 1 yr 24x7 support

NOTE: Must also select Slimline SATA DVD RW Optical Drive (481043-B21) to achieve parity to DL380 High Performance Models.

HP DL380 G7 X5650 High Performance Model FIO Performance Pack	593824-B21
HP DL380 G7 X5660 High Performance Model FIO Performance Pack	593825-B21
HP DL380 G7 X5690 FIO High Performance Pack	633445-B21

HP Insight Software

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	582765-B21
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Step 4: Choose Additional Options for Factory Integration

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

Core Options

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

HP Unique Options	HP DL380 G6 8 Small Form Factor (SFF) Drive Cage Kit	516914-B21
	NOTE: Second drive cage installation replaces internal optical bay. NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21).	
	HP DL380 G6 3 Slot PCI-E Riser Kit	500579-B21

HP Processors

Six-Core Processors

HP DL380 G7 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) Processor Kit	633410-B21
HP DL380 G7 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) Processor Kit	633414-B21
HP DL380 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	587493-B21
HP DL380 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	587491-B21
HP DL380 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	587482-B21
HP DL380 G7 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) Processor Kit	633418-B21
HP DL380 G7 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) Processor Kit	633420-B21
HP DL380 G7 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W) Processor Kit	587507-B21

Quad-Core Processors

HP DL380 G7 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) Processor Kit	633412-B21
HP DL380 G7 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) Processor Kit	633416-B21
HP DL380 G7 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	587480-B21
HP DL380 G7 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	587478-B21
HP DL380 G7 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	587476-B21
HP DL380 G7 Intel® Xeon® E5606 (2.13GHz/4-core/8MB/80W) Processor Kit	633442-B21
HP DL380 G7 Intel® Xeon® E5603 (1.60GHz/4-core/4MB/80W) Processor Kit	633444-B21
HP DL380 G7 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	587505-B21

HP Memory

Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-S21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP S-Buy 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-S21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP S-Buy 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-S21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21
NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21



Core Options

HP S-Buy 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-S21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21
NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP S-Buy 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-S21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21
Unbuffered with ECC DIMMs (UDIMMs)	
HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
HP S-Buy 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-S21
HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-S21
HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
HP S-Buy 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-S21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator .	
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	
NOTE: PC3L is a low voltage memory.	

HP Optical Drives

HP Slim 12.7mm SATA DVD-RW Optical Drive	481043-B21
NOTE: Included in performance models.	
HP Slim 12.7mm SATA DVD-ROM Optical Drive	481041-B21
NOTE: There is no optical drive support in the LFF Hard Drive models, or optional 8 SFF HDD	

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.



Core Options

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

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	619291-B21
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive S-Buy	619291-S21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-B21
HP S-Buy 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581286-S21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	581284-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive	627117-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3 yr Warranty Hard Drive S-Buy	627117-S21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-B21
HP S-Buy 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507127-S21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-B21
HP S-Buy 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512547-S21
HP S-Buy 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-S21

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

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516828-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516816-B21
HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	516814-B21

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

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	605835-B21
HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive S-Buy	605835-S21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507610-B21

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

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	625031-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507616-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive	507614-B21

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

http://h18000.www1.hp.com/products/quickspecs/12244_na/12244_na.html

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

HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	625609-B21
HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive S-Buy	625609-S21
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP S-Buy 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-S21

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

HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	628059-B21
HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21

Core Options

HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP S-Buy 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-S21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive S-Buy	458928-S21
SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives	
HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive	571230-B21
6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives	
HP 800GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	690823-B21
HP 400GB 6G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream 3yr Warranty Solid State Drive	690821-B21
HP 200GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive	690819-B21
SATA Hot Plug 2.5" Enterprise Mainstream Solid State Drives	
HP 400GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636597-B21
HP 200GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636595-B21
HP 100GB 3G SATA MLC SFF (2.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636593-B21
SATA Hot Plug 3.5" Midline (MDL) Solid State Drives	
HP 400GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636611-B21
HP 200GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636609-B21
HP 100GB 3G SATA MLC LFF (3.5-inch) Enterprise Mainstream 3yr Warranty Solid State Drive	636607-B21
6G SAS Hot Plug Enterprise Performance Solid State Drives	
HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632494-B21
HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive	632492-B21

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

http://h18000.www1.hp.com/products/quickspecs/14038_na/14038_na.html

Core Options

HP Networking

Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter	503746-B21
HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21

10 Gigabit Ethernet Adapters

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

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

HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
HP 10 GbE PCI-e G2 Dual Port Network Interface Card	516937-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs

HP InfiniBand

HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA	592520-B21
QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA	583211-B21
HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA	483513-B21
HP InfiniBand FDR/EN 10/40Gb Dual Port 544QSFP Adapter	649281-B21

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html

HP I/O Expansion Options

HP DL380 G6 3 Slot PCI-E Riser Kit	500579-B21
NOTE: Supports the HP ProLiant DL380 G7 server.	
HP DL385G5p PCI-X Riser Kit	494322-B21
HP DL38X G5p/G6/G7 PCI-E x16 Riser Kit	494323-B21
HP DL38X (2) x8 PCI-E Riser Kit	494326-B21

Core Options

HP Power Supplies

NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.

HP Common Slot Platinum Power Supplies

HP 460W Common Slot Platinum Hot Plug Power Supply Kit	593188-B21
HP 750W Common Slot Platinum Hot Plug Power Supply Kit	593831-B21
HP 1200W Common Slot Platinum Hot Plug Power Supply Kit	578322-B21

HP Common Slot Gold Power Supplies

HP 460W Common Slot Gold Hot Plug Power Supply Kit	503296-B21
HP 750W Common Slot Gold Hot Plug Power Supply Kit	512327-B21

HP Common Slot -48VDC Power Supplies

HP 1200W Common Slot -48VDC Hot Plug Power Supply Kit	437573-B21
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NOTE: DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.

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 Management Media Kit 436222-B21

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

HP Integrated Lights-Out (iLO) Advanced

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License TA850AAE

HP iLO Advanced Electronic License with 3yr 24x7 Tech Support and Updates BD506AAE

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License 512485-B21

HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates BD505A

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Flexible Quantity License 512486-B21

HP iLO Advanced Flexible Qty License with 3yr 24x7 Tech Support and Updates BD506A

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Tracking License 512487-B21

HP iLO Advanced Tracking License with 3yr 24x7 Tech Support and Updates BD507A

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 iLO QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/14276_na/14276_na.html

HP Insight Control Server Deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License T9082AAE

HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License 452151-B21

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a printed license entitlement certificate via physical

Additional Options

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: 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

High Performance Clusters

HP Cluster Management Utility

HP Insight Cluster Management Utility 1yr 24x7 Flexible License

QL803B

HP Insight Cluster Management Utility 3yr 24x7 Flexible License

BD476A

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

HP Insight Cluster Management Utility Media

BD477A

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

http://h18004.www1.hp.com/products/quickspecs/12612_na/12612_na.html

HP HPC Linux Value Pack

HP High Performance Computing Linux Value Pack 1 Processor Flexible License for ProLiant Servers

TC293B

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

HP High Performance Computing Linux Value Pack Media Kit for ProLiant Servers

TC294A

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

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

http://h18004.www1.hp.com/products/quickspecs/13485_na/13485_na.html

HP Drive Cage Options

HP DL380 G6 8 Small Form Factor (SFF) Drive Cage Kit

516914-B21

NOTE: Supports the HP ProLiant DL380 G7 server.

NOTE: Second drive cage installation replaces internal optical bay.

NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21).

Additional Options

HP I/O Accelerator Options

Second Generation Accelerators

HP 365GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers	673642-B21
HP 785GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers	673644-B21
HP 1205GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers	673646-B21
HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo for ProLiant Servers	673648-B21

First Generation Accelerators

HP 160GB Single Level Cell PCIe ioDrive for ProLiant Servers	600278-B21
NOTE: A low-profile PCI bracket is included for use in low-profile slots.	
HP 320GB Multi Level Cell PCIe ioDrive for ProLiant Servers	600279-B21
NOTE: A low-profile PCI bracket is included for use in low-profile slots.	
HP 320GB Single Level Cell PCIe ioDrive Duo for ProLiant Servers	600281-B21
HP 640GB Multi Level Cell PCIe ioDrive Duo for ProLiant Servers	600282-B21
HP 1.28TB Multi Level Cell PCIe ioDrive Duo for ProLiant Servers	641027-B21

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

http://h18000.www1.hp.com/products/quickspecs/13587_na/13587_na.html

HP Security

HP Trusted Platform Module Option	488069-B21
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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 losing the key could result in data loss.

HP Storage Controllers

SAS Controllers

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 P410 Controller

HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller	462862-B21
HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller	462864-B21
HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller	578230-B21
HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller	572532-B21

Smart Array P411 Controller

HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
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Additional Options

HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-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	487204-B21
Optional Upgrades	
HP 256MB P-series Cache Upgrade	462968-B21
NOTE: Supported on HP Smart Array P212 Controller and as an upgrade on HP Smart Array P410i (Zero Memory).	
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 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/13203_na/13203_na.html (Smart Array P212 Controller)	
http://h18000.www1.hp.com/products/quickspecs/13201_na/13201_na.html (Smart Array P410 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 Controller Options	
HP 24 Bay SAS Expander Card	468406-B21
NOTE: Please see the QuickSpecs for Technical Specifications and additional information:	
http://h18004.www1.hp.com/products/quickspecs/13232_na/13232_na.html (SAS Expander Card)	
SAS HBA	
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 P2000 G3 SAS Modular Smart Array.	

Additional Options

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/13651_na/13651_na.html
 (SC08e 6Gb HBA)

SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter

412911-B21

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

HP Power Cords

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

HP C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord

AF556A

HP Tape Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media see:
<http://www.hp.com/go/tape>. For hardware and software compatibility of HP tape backup products see: <http://www.hp.com/storage/SPOCK> and www.hp.com/go/ebs.
NOTE: For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.

HP DAT 320 SAS Internal Tape Drive

AJ830A

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 P212 Smart Array Controller SAS (462828-B21) recommended.

HP Ultrium 920 SAS Internal Tape Drive

EH847B

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 P212 Smart Array Controller SAS (462828-B21) recommended.

HP LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit

EH946C

NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rack-mount

EJ014B

HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit

COL99A

HP StoreEver LTO-6 Ultrium 6650 Internal Tape Drive

EH963A

HP StoreEver LTO-6 Ultrium 6650 External Tape Drive

EH964A

HP StoreEver LTO-6 Ultrium 6250 Internal Tape Drive

EH969A

HP StoreEver LTO-6 Ultrium 6250 External Tape Drive

EH970A

HP MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library

BL538A

NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended.

Additional Options

HP Disk Backup

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

HP D2D Backup Systems with Backup Data Deduplication

HP D2D2502i Backup System	EJ001C
HP D2D2504i Backup System	EJ002C
HP D2D4112 Backup System	EH993C

HP RDX Removable Disk Backup Systems USB

HP RDX1000 Removable Disk Backup System DL Server Module	BV848A
HP RDX1000 USB3.0 DL Server Backup Module	B7B68A
HP RDX500 USB3.0 DL Server Backup Module	B7B65A

HP StoreOnce Backup systems

HP StoreOnce 2620 iSCSI Backup	BB852A
HP StoreOnce 4220 Backup	BB855A

HP Storage Options

Storage Fibre Channel HBA

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

Brocade Fibre Channel HBAs

HP 81B 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AP769B
HP 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AP770B
HP 41B 4Gb 1-port PCIe Fibre Channel Host Bus Adapter	AP767B
HP 42B 4Gb 2-port PCIe Fibre Channel Host Bus Adapter	AP768B

Emulex Fibre Channel HBAs

HP 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AJ762B
HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ763B
HP FC2142SR 4Gb 1-port PCIe Fibre Channel Host Bus Adapter	A8002B
HP FC2242SR 4Gb 2-port PCIe Fibre Channel Host Bus Adapter	A8003B
HP SN1000E 16Gb 1-port PCIe Fibre Channel Host Bus Adapter	QR559A
HP SN1000E 16Gb 2-port PCIe Fibre Channel Host Bus Adapter	QR558A
HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter	QW971A
HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A

QLogic Fibre Channel HBAs

HP 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AK344A
HP 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A
HP FC1142SR 4Gb 1-port PCIe Fibre Channel Host Bus Adapter	AE311A
HP FC1242SR 4Gb 2-port PCIe Fibre Channel Host Bus Adapter	AE312A

Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter	BK835A
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Additional Options

HP CN1000Q Dual Port Converged Network Adapter	BS668A
HP CN1000E Dual Port Converged Network Adapter	AW520B

HP Disk Storage Systems Disk Enclosures

HP D2600 Disk Enclosure	AJ940A
HP 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 G3 Uninterruptible Power Supply (UPS)

HP R1.5kVA G3 1U NA Uninterruptible Power System	AF469A
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NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14059_na/14059_na.html

HP R/T3000 G2 Uninterruptible Power System (UPS)

HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System	AF466A
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HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System	AF467A
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NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14058_na/14058_na.html

R5000 Uninterruptible Power System (UPS)

HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
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HP R5KVA and R7KVA 3U Extended Runtime Module	AF464A
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NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14109_na/14109_na.html

R7000 Uninterruptible Power System (UPS)

HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
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NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14110_na/14110_na.html

HP Rackmountable 3 Phase Uninterruptible Power Systems (UPS R8000/3 and R12000/3)

HP R8000/3 8000kVA Three Phase NA 6U Rackmount Uninterruptible Power System	AF431A
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HP R12000/3 12000VA Three Phase NA 6U Rackmount Uninterruptible Power System	AF429A
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NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/12857_na/12857_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.

Additional Options

Please see the following link: www.hp.com/products/powercords.

HP Power Distribution Units

HP Monitored Power Distribution Unit: Full Rack Version

HP 8.6kVA 24A Single Input Three Phase NA/JP Monitored Power Distribution Unit AF504A

HP 8.3kVA 40A Single Input Single Phase NA/JP Monitored Power Distribution Unit AF506A

HP Monitored Power Distribution Unit: Half Rack Version

HP 4.9kVA 24A Single Input Single Phase NA/JP Monitored Power Distribution Unit AF914A

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 2.8kVA 24A Low Voltage NA/JP Modular Power Distribution 252663-D71

HP 4.9kVA 24A High Voltage NA/JP Modular Power Distribution Unit 252663-D72

HP 8.3kVA 40A High Voltage NA/JP Modular Power Distribution Unit 252663-D73

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.

HP Intelligent Power Distribution Units (iPDU)

iPDU Core Units

HP 4.9kVA 24A Single Phase Core Intelligent Modular Power Distribution Unit AF520A

HP 8.3kVA 40A Single Phase Core Intelligent Modular Power Distribution Unit AF521A

HP 8.6kVA 24A Three Phase Core Intelligent Modular Power Distribution Unit AF522A

HP 17.3kVA 48A Three Phase Core Intelligent Modular Power Distribution Unit AF523A

HP 11.4kVA 16A 415V Three Phase L22-20 Core Intelligent Power Distribution Unit AF900A

HP 17.3kVA 24A 415V Three Phase L22-30 Core Intelligent Power Distribution Unit AF902A

HP 17.3kVA 24A 415V Three Phase IEC309 Core Intelligent Power Distribution Unit AF901A

HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit AF535A

HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit AF537A

iPDU Extension Bars

HP 5xC13 Intelligent PDU Extension Bar G2 Kit AF547A

HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar AF528A

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

http://h18000.www1.hp.com/products/quickspecs/13650_na/13650_na.html



Additional Options

HP Rack Options

HP TFT7600 G2 KVM Console and Monitor (TFT7600 G2)

HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor AZ870A

HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor AZ885A

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

http://h18000.www1.hp.com/products/quickspecs/13731_na/13731_na.html

HP USB BFR with PVC Free Keyboard/Mouse Kit 631341-B21

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

http://h18000.www1.hp.com/products/quickspecs/13972_na/13972_na.html

HP Server Console Switches

HP Server Console 0x2x8 Port Analog Switch AF616A

HP Server Console 0x2x16 Port Analog Switch AF617A

HP TAA 0x2x16xKVM Server Console G2 Switch AF626A

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

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

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

HP KVM CAT5 1-pack USB Interface Adapter 336047-B21

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

HP 1x4 USB/PS2 KVM Console Switch AF611A

HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software AF620A

HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software AF621A

HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software AF622A

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

http://h18000.www1.hp.com/products/quickspecs/13474_na/13474_na.html

Additional Options

HP USB and SD options	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP USB 04 Standard Keyboard	DT528A#ABA
	HP 4GB Secure Digital High Capacity Flash Media Kit	580387-B21
	NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization .	
	HP 2GB USB Flash Media Drive Key Kit	608447-B21

NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software. 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 On-site Service

HP 3 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support	U4544E
HP 4 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support	U8101E
HP 5 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support	U8067E
HP 3 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support	U4545E
HP 4 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support	U8118E
HP 5 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support	U8084E

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

HP 3 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support	U4546E
HP 4 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support	U9738E
HP 5 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support	U9737E
HP 3 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support	UP717E
HP 4 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support	UP718E
HP 5 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support	UP719E

Installation & Start-up Services

HP Install ProLiant DL38x(p) Service	U4554E
HP 4 year Next business day ProLiant DL38x(p) Hardware Support	UA010E
HP 5 year Next business day ProLiant DL38x(p) Hardware Support	UA009E
HP Startup ProLiant DL38x(p) Service	U4555E
HP Installation and Startup for Insight Control Server Deployment - previously Rapid Deployment Pack	U5683E
HP Installation of ProLiant Add On/In Options Service	UH745E

Support Plus 24

HP 3 year Support Plus 24 Microsoft ProLiant DL38x(p) Service	U4557E
HP 3 year Support Plus 24 SuSE ProLiant DL38x(p) Service	U6312E

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

Additional Options

Smart Buy Care Pack Services	S-Buy 4-Hour Onsite Response, 13-Hour x 5-Day Coverage, 3 years	UE893E
	S-Buy 4-Hour Onsite Response, 24-Hour x 7-Day Coverage, 3 years	UE894E
	S-Buy 6-Hour Call to Repair, 24-Hour x 7-Day Coverage, 3 years	UM363E
	HP SBuy3y24x7 24hCTRProLiant DL38xHW Sup	HZ761E
NOTE: Smart Buy Care Packs can only be attached to Smart Buy SKUs		

Memory

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
- If any Quad rank DIMMs are installed, all channels are limited to only 2 DIMMs per channel.
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3,6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

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

Memory

1 DIMM Per Channel	1333	1333	1333	1066	1333	1333	1066	1066	1066	1333	1333	1333
2 DIMM Per Channel	1066/ 1333*	1333	1333	1066	1066/ 1333*	1066/ 1333*	800	800	800	1333	1333	1333
3 DIMM Per Channel	800**	800**	800	800	800**	800**	n/a	n/a	n/a	n/a	n/a	n/a

* 2DPC: LV runs default 1333 at 1.5V. Use RBSU Power Management option to select 1066 at 1.35V. Std runs at 1333.

** 3DPC: LV/Std voltage runs at 800

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
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

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

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

Standard memory configuration (1 CPU model)

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

Memory

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

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
 - 3x 2GB dual-rank PC3-10600 RDIMMs
 - 6x 8GB dual-rank PC3-8500 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 (1 CPU model)

- 96GB, consisting of six (6) 16GB quad-rank PC3-8500 RDIMMs

Memory

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

UDIMM maximum configuration (1 CPU model)

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

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

Standard memory replaced with optional memory (2 CPU model)

RDIMM maximum configuration (2 CPU model)

- 384GB, consisting of twelve (12) 32GB quad-rank PC3L-8500 RDIMMs

Memory

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

UDIMM maximum configuration

- 48GB, consisting of twelve (12) 4GB dual-rank PC3-10600 UDIMMs

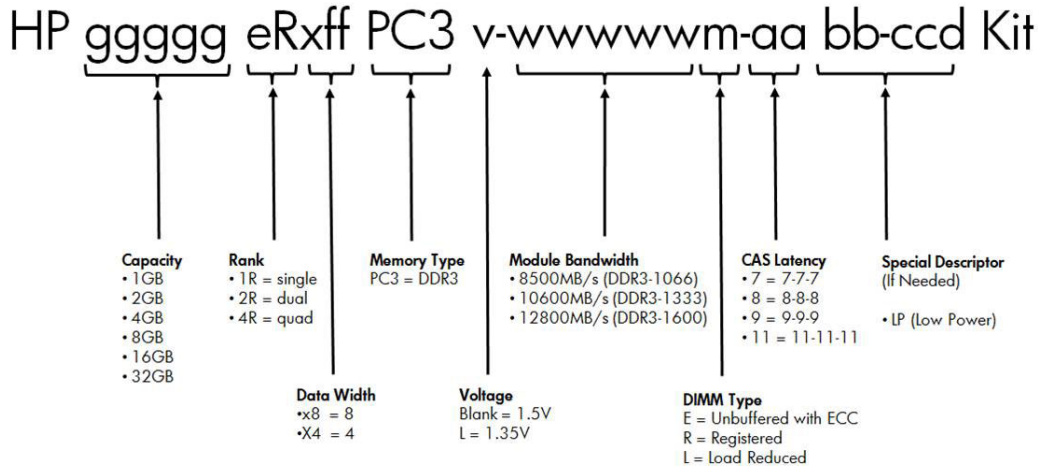
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 4GB DIMM	2	D; 4GB DIMM	
	3	A; 4GB DIMM	3	A; 4GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	B; 4GB DIMM	6	B; 4GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 4GB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

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

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB
- 32GB = 32768MB

DDR3 memory options part number decoder

Memory



Following are memory options available from HP:

HP Memory

Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604504-B21

NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.

HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit	604506-B21

NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.

HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit	627812-B21
HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit	627814-B21

Unbuffered with ECC DIMMs (UDIMMs)

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

HP Smart Buy Memory

Registered DIMMs (RDIMMs)

HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-S21
HP S-Buy 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-S21

Memory

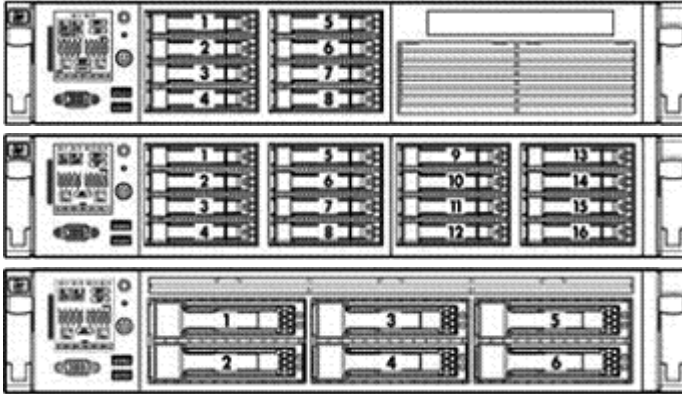
HP S-Buy 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-S21
HP S-Buy 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-S21
Unbuffered with ECC DIMMs (UDIMMs)	
HP S-Buy 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-S21
HP S-Buy 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-S21

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

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

NOTE: PC3L is a low voltage memory

Storage



1-8 Eight SFF SAS hot plug hard drive bays

1-16 Sixteen SFF SAS hot plug hard drive bays

NOTE: This configuration does not support optical drive.

1-6 Six LFF SAS hot plug hard drive bays

NOTE: This configuration does not support optical drive.

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
HP Slim SATA DVD RW Optical Drive	Only 1 available removable media bay	Slimline bay	Integrated SATA NOTE: Optional
HP Slim SATA DVD-ROM Optical Drive	Only 1 available removable media bay	Slimline bay	Integrated SATA NOTE: Optional

Hard Drives

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

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

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

	Quantity Supported	Position Supported	Controller
900GB 6G SAS 10K	Up to 8	1-8	HP Smart Array P410/256 MB Controller
600GB 6G SAS 10K			HP Smart Array P410/512 MB with BBWC Controller
450GB 6G SAS 10K			HP Smart Array P410/512MB with FBWC
300GB 6G SAS 10K			HP Smart Array P410/1G with FBWC
300GB 6G SAS 15K			HP Smart Array P411/256MB Controller
146GB 6G SAS 15K			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

NOTE: Second SFF drive cage requires second controller or HP SAS Expander Card (PN 468406-B21).

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



Storage

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K	Up to 6	1-6	HP Smart Array P410/256 MB Controller
450GB 6G SAS 15K			HP Smart Array P410/512 MB with BBWC Controller
300GB 6G SAS 15K			HP Smart Array P410/512MB with FBWC HP Smart Array P410/1G with FBWC HP Smart Array P411/256MB Controller HP Smart Array P411/512MB with BBWC Controller HP Smart Array P411/512MB Flash Backed Write Cache HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
1TB 6G SAS 7.2K	Up to 8	1-8	HP Smart Array P410/256 MB Controller
500GB 6G SAS 7.2K			HP Smart Array P410/512 MB with BBWC Controller HP Smart Array P410/512MB with FBWC HP Smart Array P410/1G with FBWC HP Smart Array P411/256MB Controller HP Smart Array P411/512MB with BBWC Controller HP Smart Array P411/512MB Flash Backed Write Cache HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
3TB 6G SAS 7.2K	Up to 6	1-6	HP Smart Array P410/256 MB Controller
2TB 6G SAS 7.2K			HP Smart Array P410/512 MB with BBWC Controller
1TB 6G SAS 7.2K			HP Smart Array P410/512MB with FBWC HP Smart Array P410/1G with FBWC HP Smart Array P411/256MB Controller HP Smart Array P411/512MB with BBWC Controller HP Smart Array P411/512MB Flash Backed Write Cache HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller

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

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

Storage

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

	Quantity Supported	Position Supported	Controller
3TB 3G SATA 7.2K	Up to 6	1-6	HP Smart Array P410/256 MB Controller
2TB 3G SATA 7.2K			HP Smart Array P410/512 MB with BBWC Controller
1TB 3G SATA 7.2K			HP Smart Array P410/512MB with FBWC
500GB 3G SATA 7.2K			HP Smart Array P410/1G with FBWC
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 7.2K	Up to 6	1-6	HP Smart Array P410/256 MB Controller
			HP Smart Array P410/512 MB with BBWC Controller
			HP Smart Array P410/512MB with FBWC
			HP Smart Array P410/1G with FBWC
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug 2.5" Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
400GB 3.0G SATA	Up to 8	1-8	HP Smart Array P410/256 MB Controller
200GB 3.0G SATA			HP Smart Array P410/512 MB with BBWC Controller
100GB 3.0G SATA			HP Smart Array P410/512MB with FBWC
			HP Smart Array P410/1G with FBWC
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
400GB 3.0G SATA	Up to 6	1-6	HP Smart Array P410/256 MB Controller
200GB 3.0G SATA			HP Smart Array P410/512 MB with BBWC Controller
120GB 3.0G SATA			HP Smart Array P410/512MB with FBWC
100GB 3.0G SATA			HP Smart Array P410/1G with FBWC
60GB 3.0G SATA			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache

Storage

HP Smart Array P812/1G Flash Backed Cache Controller

6G SAS Hot Plug Enterprise Performance Solid State Drives

	Quantity Supported	Position Supported	Controller
200GB 6G SAS SLC SFF	Up to 8	1-8	HP Smart Array P410/256 MB Controller
400GB 6G SAS SLC SFF			HP Smart Array P410/512 MB with BBWC Controller
			HP Smart Array P410/512MB with FBWC
			HP Smart Array P410/1G with FBWC
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

6G SAS Hot Plug Enterprise Mainstream Solid State Drives

	Quantity Supported	Position Supported	Controller
800GB 6G SAS MLC SFF	Up to 8	1-8	HP Smart Array P410/256 MB Controller
400GB 6G SAS MLC SFF			HP Smart Array P410/512 MB with BBWC Controller
200GB 6G SAS MLC SFF			HP Smart Array P410/512MB with FBWC
			HP Smart Array P410/1G with FBWC
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

External Storage

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

Storage

Maximum Storage Capacity - (with D2700, SAS HDD)

Internal	16TB (16 x 1TB SAS SFF with addition 8 SFF drive cage)
External	100TB (100 x 1TB SAS SFF)
Total	116TB

Maximum Storage Capacity - (with D2700, SATA HDD)

Internal	16TB (16 x 1TB SAS SFF with additional 8 SFF drive cage)
External	100TB (100 x 1TB SATA SFF)
Total	116TB

Tape and Disk Backup

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

	Position Supported	Controller	Part Number
HP SCSI Tape Drives, External	External	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
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			
HP USB Tape Drives, External	External	USB 2.0 Port	N/A
DAT 40			
DAT 72			
DAT 160			
DAT 320			
1U USB Rack-Mount Kit			
HP SAS Tape Drives, External	External	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
DAT 160			
DAT 320			
LTO-2 Ultrium 448			
LTO-3 Ultrium 920			

NOTE: Please check the full compatibility information at: <http://www.hp.com/storage/SPOCK>

Storage

LTO-4 Ultrium 1760
LTO-4 Ultrium 1840
LTO-5 Ultrium 3000
LTO-5 Ultrium 3280
1U Rack-Mount Kit
3U Rack-Mount Kit

HP SAS Tape Drives, External

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 SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter

412911-B21

HP SCSI Tape Libraries, External

MSL2024
MSL4048
MSL8096
MSL6000

External

HP U320e SCSI Dual Channel Host Bus Adapter

AH627A

NOTE: Please check the full compatibility information at:
<http://www.hp.com/storage/SPOCK>

HP SAS Tape Autoloaders and Libraries, External

1/8 G2 Autoloader
MSL2024
MSL4048
MSL8096

External

HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller

462828-B21

NOTE: Please check the full compatibility information at:
<http://www.hp.com/storage/SPOCK>

HP Fibre Channel Tape Libraries, External

MSL2024
MSL4048
MSL8096
MSL6000

External

Please consult the EBS connectivity matrix at:
<http://www.hp.com/go/ebs> for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs.

N/A

HP USB RDX Removable Disk Backup System, External

RDX160
RDX320
RDX500
RDX750

External

USB 2.0 port

N/A



Storage

RDX1TB

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

Power Specifications

HP 460W Common Slot Gold Hot Plug 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 460W Common Slot Platinum Hot Plug Power Supply Kit							
Part Number	593188-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.3	4.3	2.5	2.4	2.3	2.2	2.1
Maximum Rated Input Wattage Rating (Watts)	512	505	493	493	492	492	491
Maximum Rated VA (Volt-Amp)	526	518	506	506	505	505	504
Efficiency (%)	89.8	91.2	93.2	93.3	93.5	93.6	93.6
Power Factor	0.985						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	1747	1722	1683	1682	1679	1678	1677

Power Specifications

HP 750W Common Slot Gold Hot Plug 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						
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 750W Common Slot Platinum Hot Plug Power Supply Kit							
Part Number	593831-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.6	7.1	4.2	4.0	3.8	3.6	3.4
Maximum Rated Input Wattage Rating (Watts)	841	828	809	808	807	806	805
Maximum Rated VA (Volt-Amp)	863	850	830	829	828	827	826
Efficiency (%)	89.2	90.6	92.7	92.8	93	93.1	93.2
Power Factor	0.985						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2868	2825	2761	2757	2753	2749	2747

Power Specifications

HP 1200W Common Slot Platinum Hot Plug Power Supply Kit							
Part Number	578322-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.3	8.6	6.7	6.5	6.1	5.8	5.6
Maximum Rated Input Wattage Rating (Watts)	889	989	1290	1290	1290	1290	1290
Maximum Rated VA (Volt-Amp)	927	1031	1345	1345	1345	1345	1345
Efficiency (%)	90	91	93	93	93	93	93
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3033	3375	4403	4403	4403	4403	4403

HP 1200W Common Slot -48VDC Hot Plug Power Supply Kit			
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

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

Technical Specifications

System Unit	Dimensions (H x W x D) (with bezel)	SFF Drives: 3.38 x 17.54 x 27.25 in (8.59 x 44.55 x 69.22 cm) LFF Drives: 3.38 x 17.54 x 29.25 in (8.59 x 44.55 x 74.30 cm)	
	Weight (approximate)	Maximum	60.00 lb (27.27 kg)
		(all hard drives, power supply, and processor installed)	
		Minimum	47.18 lb (21.45 kg)
		(one hard drive, power supply, and processor installed)	
	Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
		Rated Input Current	For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC)
			For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC)
			For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC)
			For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC)
	BTU Rating	Maximum	For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)
			For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC)
			For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC)
	Power Specifications	NOTE: To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor	
	Power Supply Output (per power supply)	Rated Steady-State Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply:

Technical Specifications

		750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
	Maximum Peak Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
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	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
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).	
	NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.	
	Idle	1P SKU
		2P SKU
	LWAd	4.1 B
	LpAm	22 dBA
		28 dBA

Technical Specifications

	Operating	1P SKU	2P SKU
	LWAd	4.1 B	4.7 B
	LpAm	22 dBA	28 dBA
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.

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

Integrated Lights-Out 3 (iLO 3) integrated on system board

Architecture

Processor

Upgradeability

Video Support

Interfaces

Memory

Operating System Support

Client System Support

PCI Express based health and remote management ASIC

PCI Express RISC processor core running at 250MHz

Option firmware upgradeable via Flash ROM

1600 x 1200 DVR max resolution

One Ethernet Sideband connection (10/100/1000 Mb/s)

One Ethernet network connection (10/100Mb/s)

128-MB DDR with ECC

Microsoft Windows 2008 R2

Microsoft Windows 2008 (32 bit and 64 bit)

Microsoft Windows Server 2008 Standard Edition (32 bit and 64 bit)

Microsoft Windows Server 2008 Enterprise Edition (32 bit and 64 bit)

Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Embedded Systems Standard Edition, Enterprise Edition

Red Hat Enterprise Linux 5.4 (32 bit and 64 bit)

SUSE LINUX Enterprise Server 11 (32 bit and 64 bit)

SUSE LINUX Enterprise Server 10 (32 bit and 64 bit)

VMware ESX 4.0

VMware ESX 3.5.0

Microsoft Windows 7

Microsoft Windows XP Professional Edition

Microsoft Windows Vista Business and Ultimate Editions

Red Hat Enterprise Desktop 5.00

SUSE Linux Enterprise Desktop 11

SUSE Linux Enterprise Desktop 10

Microsoft Internet Explorer 8

Microsoft Internet Explorer 7

Technical Specifications

Client Browser Support	Microsoft Internet Explorer 6 Firefox 3.5 (on supported Windows and Linux systems) Firefox 3.0 (on supported Windows and Linux systems)
Command Line Support	Secure Shell and serial port access
Security	Secure Socket Layer Secure Shell version 2 Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface AES encryption of video RC4 encryption of video
Directory Support Services	Active Directory v1.0 (Windows 2003)
Driver Support	HP ProLiant iLO3 Management Controller Driver Package
Management protocols supported	SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML

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 4GB/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: <ul style="list-style-type: none"> 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 of 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)

Technical Specifications

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters

Network Interface

Compatibility

10Base-T/100Base-TX/1000Base-TX

IEEE 802.3 10Base-T

IEEE 802.3ab 1000Base-T

IEEE 802.3u 100Base-TX

IEEE 802.3ad 1000Base-TX

IEEE 802.1p 100Base-TX

IEEE 802.1q 100Base-TX

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) 2000Mb/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.

Technical Specifications

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