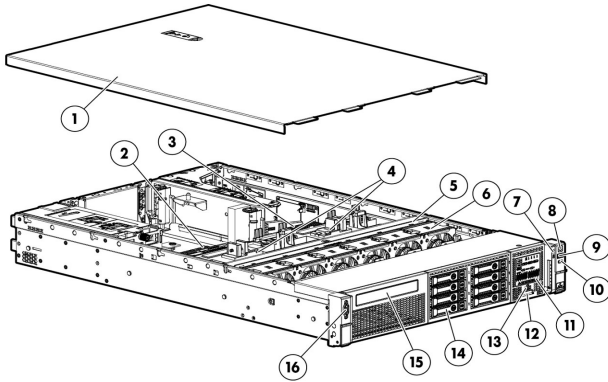


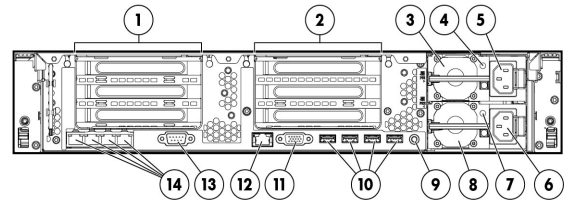
### Overview

With enhanced innovations in performance, feature flexibility, and management capabilities, the DL385p Gen8 is the price/performance choice for your virtualization, database, and high performance computing workloads.



#### Front View:

1. Quick removal access panel
2. Second AMD Processor
3. First AMD Processor
4. (24) DDR3 DIMM slots
5. Air Baffle
6. Hot-plug fans, full N+1 redundancy
7. Health LED
8. Power On/Standby button & system power LED button
9. USB connector
10. UID LED
11. Systems Insight Display
12. Asset Tag
13. USB connector
14. 8 SFF HDD Bays
15. Optional Slim Optical Bay
16. Video connector



#### Rear View:

1. PCIe Slots (Slots 1-3 top to bottom)
2. PCIe Slots (Slots 4-6 top to bottom)
3. Power supply 1
4. Power supply 1 Power LED
5. Power supply 1 Power connection
6. Power supply 2 Power connection
7. Power supply 2 Power LED
8. Power supply 2
9. UID LED
10. USB connectors (4)
11. Video connector
12. iLO connector
13. Serial connector
14. FlexibleLOM ports (Shown: 4 ports 1Gb each-Port 1-4 starting Right to Left)

### What's New

- HP is introducing a new line of AMD Opteron™ 6300 Series processors available on the DL385p Gen8 servers. Enhancing the price/performance equation from HP and AMD, the Opteron 6300 Series offers increased performance and efficiency over current solutions that maximize IT operations and output.

### 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

#### Sixteen-Core Processors

AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W TDP) Processor  
 AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6378 (2.4GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6366HE (1.8GHz/16-core/16MB/85W TDP) Processor  
 AMD Opteron™ 6284SE (2.7GHz/16-core/16MB/140W TDP) Processor  
 AMD Opteron™ 6282SE (2.6GHz/16-core/16MB/140W TDP) Processor  
 AMD Opteron™ 6278 (2.4GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6276 (2.3GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6274 (2.2GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6272 (2.1GHz/16-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6262HE (1.6GHz/16-core/16MB/85W TDP) Processor

#### Twelve-Core Processors

AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6238 (2.6GHz/12-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6234 (2.4GHz/12-core/16MB/115W TDP) Processor

#### Eight-Core Processors

AMD Opteron™ 6328 (3.2GHz/8-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6220 (3.0GHz/8-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W TDP) Processor

#### Quad-Core Processors

AMD Opteron™ 6308 (3.5GHz/4-core/16MB/115W TDP) Processor  
 AMD Opteron™ 6204 (3.3GHz/4-core/16MB/115W TDP) Processor

**NOTE:** Mixing different processor models is not supported.

**NOTE:** All processors support up to 1600MHz DDR3 memory speeds.

#### Cache Memory

16MB (2x8MB) Level 3

#### Chipset

AMD SR5690 Northbridge and SP5100 Southbridge

### Standard Features

#### Upgradeability

Upgradeable to 2 processors  
 Up to 24 DIMM slots available for higher memory capacities  
 FlexibleLOM connector for 1Gb or 10Gb networking options  
 8SFF (plus optional upgrade of 8SFF for up to 16SFF drives-requires second Smart Array) and other Models with 8LFF, 12LFF, or 25SFF hard drive bays  
 Optional 3-slot PCIe 2.0 riser (x16, x8, x8)  
**NOTE:** The second processor must be installed to take advantage of the optional 3-slot riser.  
 Redundant Power Supply  
 Optical Drive (available on 8SFF and 8LFF Models only)

#### On System Management Chipset

HP iLO (Firmware: HP iLO 4)  
**NOTE:** For more information, visit: <http://www.hp.com/go/ilo>

#### Memory Protection

Advanced ECC  
 Online Spare

#### Memory

One of the following depending on Model

Type	HP SmartMemory DDR3 Load Reduced (LRDIMM) and Registered (RDIMM)
DIMM Slots Available	24 (12 DIMM slots per processor/4 channels per processor/3 DIMMs per channel)
Storage Centric Model	16GB (2x8GB) PC3-10600R (DDR3-1333) Registered DIMMS
Dedicated Workload Model	32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS
Maximized Consolidation Model	32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS
Maximum Capacity (LDIMM)	768GB (24 x 32GB LRDIMM @ 800MHz)
Maximum Capacity (RDIMM)	128GB (8 slots x 16GB RDIMM @1600MHz) <b>NOTE:</b> Requires 2nd processor installed

**NOTE:** HP memory from previous generation servers may not provide the same performance with the HP ProLiant DL385p Gen8 Servers as HP SmartMemory will.  
**NOTE:** To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html)  
**NOTE:** If only one processor is installed, only half the DIMM slots are available.  
**NOTE:** Depending on the memory configuration, the memory speed may run at 1600MHz, 1333MHz, 1066MHz or lower. Please see Memory Population Table or the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

### Standard Features

#### Network Controller

One of the following depending on Model

HP ProLiant Gen8 servers offer a new networking technology - FlexibleLOM. The HP ProLiant DL385p Gen8 server offers the customer the choice of 1 Gigabit and/or 10 Gigabit networking solutions. For additional details see the Networking Section of this document. Only one FlexibleLOM may fit on a single server - see PCIe solutions for additional networking.

HP Ethernet 1Gb 4-port 331FLR Adapter

### Expansion Slots

#### PCIe Riser #1 (Standard)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCIe 2.0	X8	X16	5	Full Length, Full Height Slot	For Processor 1
2	PCIe 2.0	X8	X8	8	Half Length, Full Height Slot	For Processor 1
3	PCIe 2.0	X4	X8	11	Half Length, Full Height Slot	For Processor 1

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

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

**NOTE:** When populating the second optional riser slot, the second processor must be installed.

#### PCIe Riser #2 (Optional - Requires 2nd Processor)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
4	PCIe 2.0	X16	X16	65	Full length, full height slot	For Processor 2
5	PCIe 2.0	X8	X16	68	Half length, full height slot	For Processor 2
6	PCIe 2.0	X8	X8	71	Half length, full height slot	For Processor 2

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

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

**NOTE:** When populating the second optional riser slot, the second processor must be installed.

### Standard Features

#### HP Server ROM

HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU)).

**NOTE:** For further information, please refer to HP's RBSU (ROM based setup utility) user guide: [www.hp.com/support/rbsu](http://www.hp.com/support/rbsu).

#### Storage Controller

One of the following depending on Model

Entry Model	HP Smart Array P420i/ZM (RAID 0/1)
Storage Centric Model	HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)
Dedicated Workload Model	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
Maximized Consolidation Model	HP Smart Array P420i/2GB FBWC (RAID 0/1/1+0/5/5+0)

#### Internal Storage Devices

Diskette Drive	None
Optical Drive	Optional: DVD-ROM, DVD-RW <b>NOTE:</b> Not Available on 12LFF or 25SFF Models.
Hard Drives	None ship standard
Drive Bays	Entry Model 8-SFF drive bays (additional 8-SFF option)
One of the following depending on Model	Storage Centric Model 12-LFF drive bays
	Dedicated Workload Model 8-SFF drive bays total with options for DVD OR optional second 8-SFF drive bay set (total of 16SFF drive bays, no DVD) <b>NOTE:</b> Optional 2nd 8-SFF drive kit requires 2nd Smart Array Controller (PCIe) for support recommend HP Smart Array P420 PCI card).
	Maximized Consolidation Model 25-SFF drive bays total <b>NOTE:</b> For best performance on the 25 Small Form Factor drive cage where less than 25 drives are installed you will need to balance the drives on the

### Standard Features

backplane's two expanders. Drive bays 1-12 are on routed to expander 1 and drive bays 13-25 are routed to expander number 2. Example: if a customer purchases 16 drives, they should split 8 drives on expander 1 and 8 drives on expander 2 for optimal performance.

**NOTE:** HP ProLiant DL385p series servers offer both LFF and SFF versions. The optical drive bay is not available with +8SFF drive bay upgrade, 12-LFF, or 25-SFF drive bay models.

**NOTE:** 8-LFF, 12-LFF, and 25-SFF versions are not upgradeable options from the standard 8SFF model, or vice versa.

**NOTE:** All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit. These part numbers for single HDD blanks below are also provided should the customer require replacement HDD blanks for their server.

**NOTE:** All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

<b>Maximum Internal Storage</b>	Hot Plug SFF SAS	25.0TB	25 x 1TB (on 25 SFF Drive Bay Models)
	Hot Plug SFF SATA	25.0TB	25 x 1TB (on 25 SFF Drive Bay Models)
	Hot Plug LFF SAS	36.0TB	12 x 3TB (on 12 LFF Drive Bay Models)
	Hot Plug LFF SATA	36.0TB	12 x 3TB (on 12 LFF Drive Bay Models)
	Hot Plug SFF SAS SSD	20.0TB	25 x 800GB (on 25 SFF Drive Bay Models)
	Hot Plug LFF SATA SSD	4.8TB	12 x 400GB (on 12 LFF Drive Bay Models)

**NOTE:** Storage capacities may vary depending on Models/Drive Cages and Hard Drives selected.

<b>Interfaces</b>	Serial	1 (Back)
	Video	2 (1 front, 1 back) not active simultaneously
	FlexibleLOM Network Ports	All pre-configured models come standard with 4 x 1GB ports (See HP Networking section below for more details and options)
	HP iLO Remote Management Network Port	1 Gb Dedicated
	SD Slot	1 Internal Secure
	USB 2.0 Ports	Up to 8 total: up to 2 front, 4 back, 2 internal

<b>Industry Standard Compliance</b>	ACPI 2.0b Compliant
	PCIe 2.0 Compliant
	PXE Support
	WOL Support
	Microsoft® Logo certifications
	USB 2.0 Compliant

### Standard Features

#### Server Power Cords

All Pre-configured Models servers ship with a high voltage server to PDU power cord.

**NOTE:** HP ProLiant DL servers no longer ship standard with a 12-foot NEMA 5-15P to C13 power cord that connects to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to power distribution units (PDUs) in data center racks and now ship standard with a PDU 6-foot C-14 to C13 power cord (AOK02A). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the 6-foot NEMA 5-15 to C13 power cord must be ordered separately (AF556A). See Power Cords section for Power Cord options.

#### Power Specifications

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

**NOTE:** Power Specification and Technical Content for supported power supplies can be found at: [http://h18000.www1.hp.com/products/quickspecs/14209\\_div/14209\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html)

#### Common Slot Power Supply

**NOTE:** Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same model. Mixing Gold, Platinum, and Platinum Plus certified power supplies is not supported.

HP's Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HP Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. HP CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HP CS power supply options provide efficiency ratings of up to 94% (80 Plus Platinum) and are available in three power output options - 460W, 750W, and 1200W - allowing the customer to "right-size" a power supply for their specific server 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.

HP CS Platinum Plus power supplies are required when enabling HP's Intelligent Power Discovery (IPD) solution. IPD is the first technology to create an automated, energy-aware network between IT systems and facilities. This allows your company to reclaim millions of dollars in wasted power capacity and downtime costs across data centers. For more information on HP's IPD solution, go to [www.hp.com/go/ipd](http://www.hp.com/go/ipd).

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](http://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](http://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).

**NOTE:** Power Specification and Technical Content for supported power supplies can be found at: [http://h18000.www1.hp.com/products/quickspecs/14209\\_na/14209\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14209_na/14209_na.html)



### Standard Features

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**System Fans**

One of the following  
depending on Model

2P Models have (6) (N+1 redundancy standard)

1P Models have (4) (N+1 redundancy standard)

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**Required Cabling**

For required cabling information, refer to the HP Web site at: [www.hp.com/servers/dl385p-gen8](http://www.hp.com/servers/dl385p-gen8)

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**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> and our driver download page: <http://www.hp.com/support/DL385pGen8>

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**Graphics**

Integrated Matrox G200 video standard

- 1280 x 1024 (32 bpp)
- 1920 x 1200 (16 bpp)

HP iLO 4 On System Management Memory

- 16 MB Flash
  - 256 MB DDR 3 with ECC (112 MB after ECC and video)
- 

**Form Factor**

One of the following  
depending on Model

2U Rack form factor

**NOTE:** All pre-configured Models ship with Ball-Bearing sliding rails and cable management arm. Any customer configured models through HP Factory Integration must select the appropriate Rail Kit when configuring.

8 SFF Drive Bay Version:

3.44 (8.74 cm) Height x 17.54" (44.55 cm) Width x 27.5" (69.85 cm) Length

8 LFF Drive Bay Version:

3.44 (8.74 cm) Height x 17.54" (44.55 cm) Width x 29.5" (74.94cm) Length

12 LFF Drive Bay Version:

3.44 (8.74 cm) Height x 17.54" (44.55 cm) Width x 29.5" (74.94cm) Length

25 SFF Drive Bay Version:

3.44 (8.74 cm) Height x 17.54" (44.55 cm) Width x 27.5" (69.85 cm) Length

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### Standard Features

#### **On System Management**    HP iLO Management Engine

HP iLO Management Engine is a comprehensive set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support. HP iLO Management Engine comes standard on all HP ProLiant Gen8 servers. The HP iLO Management Engine portfolio includes:

- **HP iLO:** The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine
- **HP Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.
- **HP Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.
- **HP Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media. No more SmartStart CDs or Smart Update Firmware DVD are needed.
  - To start Intelligent Provisioning:
    - Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self test or POST).
    - Please go to the Intelligent Provisioning website at [www.hp.com/go/intelligentprovisioning](http://www.hp.com/go/intelligentprovisioning) for additional information and to view usage videos.
    - Use the Service Pack for ProLiant (SPP) at [www.hp.com/go/spp](http://www.hp.com/go/spp) to get firmware and software updates.
- **HP iLO Mobile App:** Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: [www.hp.com/go/ilo/mobileapp](http://www.hp.com/go/ilo/mobileapp)

**NOTE:** For more information, visit: <http://www.hp.com/go/ilo> or HP iLO Management Engine technologies whitepaper

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### Standard Features

#### HP Insight management software

HP Service Pack for ProLiant (SPP)

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 all 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.

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.

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

#### Security

Power-on password  
Serial interface control  
Administrator's password

### Standard Features

#### 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. HP InsightControl also supports Location and Power Discovery Services to automate many configuration, asset tracking, and power management tasks to speed implementation and prevent downtime. 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 Matrix Operating Environment

The HP Matrix Operating Environment (Matrix OE) for ProLiant and Integrity servers is an integrated command center that helps you instantly adjust to dynamic business demands. This advanced infrastructure management software lets you reduce the cost of common data center tasks by up to 40 percent while keeping pace with your changing business.

The HP Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HP CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).

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

HP iLO Advanced License for ProLiant Servers

HP iLO management processors for HP ProLiant Gen8 servers virtualizes system controls to help simplify server setup, engage health monitoring and power and thermal control, and promote remote administration. HP iLO functions out-of-the-box without additional software installation and functions regardless of the servers' state of operation. Basic system board management functions, diagnostics, and essential Lights-Out functionality ships standard across all HP ProLiant Gen8 rack, tower and blade servers. The HP iLO can be accessed from any location via a web browser and works hand-in-hand with HP Systems Insight Manager, Insight Control, and HP Matrix Operating Environment, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service to the business.

Advanced functionality, such as graphical remote console, multi-user collaboration, and video record/playback can be activated with the optional HP iLO Advanced or HP iLO Advanced for BladeSystem licenses. The Advanced licensed features offer sophisticated remote administration of servers in dynamic data center and remote locations and can help significantly reduce cost associated with IT-related travel and unplanned downtime.

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

### Optional Features

#### High Performance Clusters

HP Cluster Platforms	HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. <a href="http://www.hp.com/go/clusters">http://www.hp.com/go/clusters</a>
HP HPC Interconnects	High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. <a href="http://www.hp.com/techservers/clusters/ucp/index.html">http://www.hp.com/techservers/clusters/ucp/index.html</a>
HP Insight Cluster Management Utility	HP Insight Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. <a href="http://www.hp.com/go/cmu">http://www.hp.com/go/cmu</a>
HP HPC Linux Value Pack	HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported option to HP Insight CMU, for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform LSF workload scheduler and Platform Application Center, as well as the HP-MPI parallelization library. <a href="#">HP HPC Linux Value Pack</a>

#### HP Insight Online

HP Insight Online is a new addition to the HP Support Center for one stop, secure access to product and HP support information personalized 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](http://www.hp.com/go/insightonline)

#### 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>.

### Optional Features

**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. Foundation Care services deliver scalable support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for their business needs. New to this portfolio is HP Collaborative Support. If you are running business critical environments, HP offers Proactive Care or Critical Advantage. These services help deliver high levels of application availability through proactive service management and advanced technical response

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 support recommendations - **Optimized Care, Standard Care, and Basic Care** - available for each product group. Such support solutions enable customers to optimize technology operations, minimize risk and drive better business outcomes with easy-to-buy, easy-to-use scalable support recommendations for servers, storage, networking and software designed to meet your specific needs.

All three service recommendations include support services from the broader portfolio of Foundation Care and Proactive Care services.

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#### Optimized Care

##### **Optimized Care : 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.pdf>

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

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

###### **3-Year HP 24x7 4 hour Response, Proactive Care**

Helps optimize your systems and delivers high levels of application availability through proactive service management and advanced technical response. A skilled Technical Manager will own your call and end to end until resolved, delivering a single point of contact for you. Helping you to resolve your hardware and software issues and minimizing downtime in your business critical environment.

**Additional Services:** Factory Express, Education Services, Proactive Select - 30 Credit Package

### Service and Support

#### Standard Care

**Standard Care : Service recommendation 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.pdf>

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

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

##### **3-Year HP 24x7 4 hour Response, Collaborative Support**

Provides problem resolution support across the stack of HW, firmware, and HP and 3rd party SW. In case the issue is with 3rd party SW, HP does known issue resolution. If HP cannot solve the issue, it will contact the third-party vendor and create a problem incident on your behalf.  
<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-8232ENW.pdf>

**Additional Services:** Software support service with 24X7 availability with a 2 hour response, Training courses on Microsoft, Linux (Red Hat and SUSE), VMware, and HP Insight Software, 10 Proactive Select Credit package, Factory Express  
<http://www8.hp.com/us/en/business-services/it-services.html?compURI=1078865>

#### Basic Care

**Basic Care: 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.pdf>

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

Provides you with rapid remote support and if required an HP authorized technical engineer will be on site 24X7 begin hardware maintenance service within 4 hours of the service request being logged  
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

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

Provides remote 3-year software support service that delivers comprehensive software services, including access to HP technical resources and software updates  
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf>

**Additional Services:** Factory Express, Education Services, Proactive Select - 10 Credits

#### Insight Remote Support

Provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. Learn more  
<http://www.hp.com/go/insightremotesupport>



### Service and Support

#### HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

*\*HP' Support Center Mobile App is subject to local availability*

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#### Warranty / Service Coverage

For ProLiant servers and storage systems, the services cover HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

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#### For more information

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

### Pre-configured Models

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

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

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

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

**NOTE:** All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit.

### Entry Model

<b>HP ProLiant DL385p Gen8 6320 1P 4GB-R P420i/ZM Hot Plug 8SFF 460W PS Server</b> 710723-001	<b>Processor(s)</b>	(1) AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	4GB (1x4GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed (12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/ZM (RAID 0/1)
	<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives(P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit available for additional blanks)
	<b>Internal Storage</b>	8SFF SAS/SATA/SSD HDD Bays
	<b>Optical Drive Bay</b>	Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive)
	<b>PCI-Express Slots</b>	3 PCIe slots <b>NOTE:</b> 3 additional PCIe slots available with optional PCIe Riser Cage #2- requires second processor.
	<b>Power Supply</b>	(1) HP 460W CS Gold Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	(4) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
	<b>Form Factor</b>	Rack (2U), HP Friction Rail Kit Standard/ No Cable Management Arm included <b>NOTE:</b> The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### Pre-configured Models

#### Storage Centric Models

<b>HP ProLiant DL385p Gen8</b> <b>6320 1P 16GB-R</b> <b>P420i/512 Hot Plug 12 LFF</b> <b>750W PS Server</b> 703930-001	<b>Processor(s)</b>	(1) AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	16GB (2x8GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed (12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; drive cage includes 10 LFF hard drive blanks, 2 open drive bays for drives(P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit available for additional blanks)
	<b>Internal Storage</b>	12 LFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive)
	<b>PCI-Express Slots</b>	3 PCIe slots <b>NOTE:</b> 3 additional PCIe slots available with optional PCIe Riser Cage #2- requires second processor.
	<b>Power Supply</b>	(1) HP 750W CS Platinum Plus Hot Plug Power Supply (94% Efficient)
	<b>Fans</b>	(4) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard <b>NOTE:</b> The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### Pre-configured Models

<b>HP ProLiant DL385p Gen8</b> <b>6212 1P 16GB-R</b> <b>P420i/512 Hot Plug 12 LFF</b> <b>750W PS Server</b> 642137-001	<b>Processor(s)</b>	(1) AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	16GB (2x8GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed (12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 10 LFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	12 LFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	Optional Slim Optical Bay (SATA DVD-RW/ROM Optical Drive)
	<b>PCI-Express Slots</b>	3 PCIe slots <b>NOTE:</b> 3 additional PCIe slots available with optional PCIe Riser Cage #2- requires second processor.
	<b>Power Supply</b>	(1) HP 750W CS Platinum Plus Hot Plug Power Supply (94% Efficient)
	<b>Fans</b>	(4) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard <b>NOTE:</b> The HP 2U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### Dedicated Workload Models

**NOTE:** This Model is Energy Star Certified.

<b>HP ProLiant DL385p Gen8</b> <b>6344 2P 32GB-R</b> <b>P420i/1GB Hot Plug 8 SFF</b> <b>2x750W PS Svr</b> 703931-001	<b>Processor(s)</b>	(2) AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W TDP) Processors
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives(P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit available for additional blanks)

### Pre-configured Models

<b>Internal Storage</b>	8 SFF SAS/SATA HDD Bays Optional: +8 SFF (total of 16) SFF SAS/SATA HDD Bays (requires additional PCI controller)
<b>Optical Drive Bay</b>	Optional Slim Optical Bay (SATA DVD-RW /ROM Optical Drive)
<b>PCI-Express Slots</b>	6 PCIe slots <b>NOTE:</b> Includes PCIe Riser Cage #2.
<b>Power Supply</b>	(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
<b>Fans</b>	(6) (N+1 redundancy standard)
<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard <b>NOTE:</b> The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

**HP ProLiant DL385p Gen8**  
**6238 2P 32GB-R**  
**P420i/1GB Hot Plug 8 SFF**  
**2x750W PS Svr**  
642136-001

<b>Processor(s)</b>	(2) AMD Opteron™ 6238 (2.6GHz/12-core/16MB/115W TDP) Processors
<b>Cache Memory</b>	16MB (2x8MB) Level 3
<b>Memory</b>	32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).
<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
<b>Storage Controller</b>	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives
<b>Internal Storage</b>	8 SFF SAS/SATA HDD Bays Optional: +8 SFF (total of 16) SFF SAS/SATA HDD Bays (requires additional PCI controller)
<b>Optical Drive Bay</b>	Optional Slim Optical Bay (SATA DVD-RW /ROM Optical Drive)
<b>PCI-Express Slots</b>	6 PCIe slots <b>NOTE:</b> Includes PCIe Riser Cage #2.
<b>Power Supply</b>	(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
<b>Fans</b>	(6) (N+1 redundancy standard)
<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard <b>NOTE:</b> The HP 2U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

### Pre-configured Models

#### Warranty

representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

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

### Maximized Consolidation Models

**NOTE:** These Models are Energy Star Certified.

#### HP ProLiant DL385p Gen8 Processor(s)

6376 2P 32GB-R

P420i/2GB Hot Plug 25

SFF 2x750W PS Svr

703932-001

#### Cache Memory

#### Memory

#### Network Controller

#### Storage Controller

#### Hard Drive

#### Internal Storage

#### Optical Drive Bay

#### PCI-Express Slots

#### Power Supply

#### Fans

#### Management

#### Form Factor

#### Warranty

(2) AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W TDP) Processors

16MB (2x8MB) Level 3

32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS

**NOTE:** Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).

HP Ethernet 1Gb 4-port 331FLR Adapter

HP Smart Array P420i/2GB FBWC (RAID 0/1/1+0/5/5+0)

None ship standard; includes 23 SFF hard drive blanks, 2 open drive bays for drives (P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit available for additional blanks)

25 SFF SAS/SATA HDD Bays

None Available

6 PCIe slots

**NOTE:** Includes PCIe Riser Cage #2.

(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)

(6) (N+1 redundancy standard)

HP iLO Management Engine (standard)

Optional: HP Insight Control

Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard

**NOTE:** The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

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

### Pre-configured Models

<b>HP ProLiant DL385p Gen8 6272 2P 32GB-R P420i/2GB Hot Plug 25 SFF 2x750W PS Svr 642135-001</b>	<b>Processor(s)</b>	(2) AMD Opteron™ 6272 (2.1GHz/16-core/16MB/115W TDP) Processors
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	32GB (4x8GB) PC3-10600R (DDR3-1333) Registered DIMMS <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/2GB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 23 SFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	25 SFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	None Available
	<b>PCI-Express Slots</b>	6 PCIe slots <b>NOTE:</b> Includes PCIe Riser Cage #2.
	<b>Power Supply</b>	(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
	<b>Fans</b>	(6) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard) Optional: HP Insight Control
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard <b>NOTE:</b> The HP 2U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### Smart Buys

**HP ProLiant DL385p Gen8**  
**6212 2.6GHz 8-core 1P**  
**8GB-R Hot Plug SFF 460W**  
**PS US Server/S-Buy**  
 704913-S01

**Processor(s)**  
**Cache Memory**  
**Memory**

**Network Controller**  
**Storage Controller**  
**Hard Drive**  
**Internal Storage**  
**Optical Drive Bay**  
**PCI-Express Slots**  
**Power Supply**  
**Fans**  
**Management**  
**Form Factor**  
**Warranty**

AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W TDP) Processor  
 16MB (2x8MB) Level 3  
 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory.  
**NOTE:** Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).  
 HP Ethernet 1Gb 4-port 331FLR Adapter  
 HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)  
 None ship standard; includes 8 SFF hard drive blanks  
 8 SFF SAS/SATA HDD Bays  
 None Included  
 3 PCIe slots  
 HP 460W CS Gold Hot Plug Power Supply  
 (4) (N+1 redundancy standard)  
 HP iLO Management Engine (standard)  
 Rack (2U), HP 2U Friction Rail Kit  
 Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

**HP ProLiant DL385p Gen8**  
**6204 3.3GHz 4-core 1P**  
**8GB-R Hot Plug SFF 460W**  
**PS US Server/S-Buy**  
 686854-S01

**Processor(s)**  
**Cache Memory**  
**Memory**

**Network Controller**  
**Storage Controller**  
**Hard Drive**  
**Internal Storage**  
**Optical Drive Bay**  
**PCI-Express Slots**  
**Power Supply**  
**Fans**  
**Management**  
**Form Factor**  
**Warranty**

AMD Opteron™ 6204 (3.3GHz/4-core/16MB/115W TDP) Processor  
 16MB (2x8MB) Level 3  
 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory  
**NOTE:** Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).  
 HP Ethernet 1Gb 4-port 331FLR Adapter  
 HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)  
 None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives  
 8 SFF SAS/SATA HDD Bays  
 None Included  
 3 PCIe slots  
 (2) HP 460W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)  
 (4) (N+1 redundancy standard)  
 HP iLO Management Engine (standard)  
 Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard  
 Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.



### Smart Buys

<b>HP ProLiant DL385p Gen8</b> <b>6212 2.6GHz 8-core 2P</b> <b>16GB-R Hot Plug SFF</b> <b>460W PS US Server/S-Buy</b> 686853-S01	<b>Processor(s)</b>	(2) AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	16GB (2x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/512MB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	8 SFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	None Included
	<b>PCI-Express Slots</b>	6 PCIe slots
	<b>Power Supply</b>	(2) HP 460W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
	<b>Fans</b>	(6) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard)
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

<b>HP ProLiant DL385p Gen8</b> <b>6234 2.4GHz 12-core 2P</b> <b>16GB-R Hot Plug SFF</b> <b>460W PS IC US Server/S-Buy</b> 686852-S01	<b>Processor(s)</b>	(2) AMD Opteron™ 6234 (2.4GHz/12-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	16GB (2x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory <b>NOTE:</b> Up to 24 DIMM slots available with 2nd Processor installed(12 DIMM Slots per processor).
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	8 SFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	None Included
	<b>PCI-Express Slots</b>	6 PCIe slots
	<b>Power Supply</b>	(2) HP 460W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
	<b>Fans</b>	(6) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard); Includes Insight Control License
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### Smart Buys

<b>HP ProLiant DL385p Gen8</b> <b>6348 2.8GHz 12-core 1P</b> <b>8GB-R Hot Plug 25-SFF</b> <b>750W RPS US Server/S-</b> <b>Buy</b> 710724-S01	<b>Processor(s)</b>	AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 23 SFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	25 SFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	None Available
	<b>PCI-Express Slots</b>	3 PCIe slots
	<b>Power Supply</b>	(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
	<b>Fans</b>	(4) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard);
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

<b>HP ProLiant DL385p Gen8</b> <b>6376 2.3GHz 16-core 2P</b> <b>16GB-R Hot Plug 8-SFF</b> <b>750W RPS US Server/S-</b> <b>Buy</b> 710725-S01	<b>Processor(s)</b>	(2) AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W TDP) Processor
	<b>Cache Memory</b>	16MB (2x8MB) Level 3
	<b>Memory</b>	16GB (2x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 331FLR Adapter
	<b>Storage Controller</b>	HP Smart Array P420i/1GB FBWC (RAID 0/1/1+0/5/5+0)
	<b>Hard Drive</b>	None ship standard; includes 6 SFF hard drive blanks, 2 open drive bays for drives
	<b>Internal Storage</b>	8 SFF SAS/SATA HDD Bays
	<b>Optical Drive Bay</b>	HP 12.7mm Slim SATA DVD-RW JackBlack Optical Drive
	<b>PCI-Express Slots</b>	6 PCIe slots
	<b>Power Supply</b>	(2) HP 750W CS Platinum Plus Hot Plug Power Supplies (94% Efficient)
	<b>Fans</b>	(6) (N+1 redundancy standard)
	<b>Management</b>	HP iLO Management Engine (standard);
	<b>Form Factor</b>	Rack (2U), HP Ball Bearing Rail Kit /Cable Management Arm standard
	<b>Warranty</b>	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

### 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:** Factory Integrated Models must start with a CTO Server.

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

**NOTE:** All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

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

#### HP Models

HP ProLiant DL385p Gen8 8 SFF Configure-to-order Server

653203-B21

#### Factory Integrated Model ships with:

Drive Cage - 8-SFF Drive Bays available (See hard drives in Section 4 for options)

SID-Systems Insight Display Included

24 DIMM slots for RDIMM or LRDIMM memory installation

Smart Array P420i Controller w/ Zero Memory (ZM)

I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIe 2.0 (x16 connector)
- Slot 2 - HL/FH x8 PCIe 2.0 (x8 connector)
- Slot 3 - HL/FH x4 PCIe 2.0 (x8 connector)
- Additional PCIe Slots may be added with the 2nd Riser Cage option.

System Fans - 4 standard (2 additional fans included with second processor)

Drive Cage - 8SFF (drive blanks installed dependent on number of drives ordered)

USB - 4 Rear, 2 Front, 2 Internal, 1 SD slot

HP iLO Management Engine (iLO4)

**NOTE:** Smart Array Cache options, Hard drives, Optical drives, Flexible NICs\*, Power Supply\* and Rail/CMA Kits not included in the base configuration - choose these from Steps 2, 3, or 4 below in Options section. Additional 8-SFF Drive option requires additional HP Smart Array Controller.

\* This is a required selection.

HP ProLiant DL385p Gen8 8 LFF Configure-to-order Server

669804-B21

#### Factory Integrated Model ships with:

Drive Cage - 8-LFF Drive Bays available (See hard drives in Section 4 for options)

Pop Out SID-Systems Insight Display Included

24 DIMM slots for RDIMM or LRDIMM memory installation

Smart Array P420i Controller w/ Zero Memory (ZM)

I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIe 2.0 (x16 connector)
- Slot 2 - HL/FH x8 PCIe 2.0 (x8 connector)
- Slot 3 - HL/FH x4 PCIe 2.0 (x8 connector)
- Additional PCIe Slots may be added with the 2nd Riser Cage option.

System Fans - 4 standard (2 additional fans included with second processor)

Drive Cage - 8LFF (drive blanks installed dependent on number of drives ordered)

USB - 4 Rear, 2 Front, 2 Internal, 1 SD slot

HP iLO Management Engine (iLO4)

**NOTE:** Smart Array Cache options, Hard drives, Optical drives, Flexible NICs\*, Power

### Configuration Information - Factory Integrated Models

Supply\* and Rail/CMA Kits not included in the base configuration - choose these from Steps, 3, or 4 below in Options section.

\* Required selection.

HP ProLiant DL385p Gen8 12 LFF Configure-to-order Server

669805-B21

#### **Factory Integrated Model ships with:**

Drive Cage - 12-LFF Drive Bays available (See hard drives in Section 4 for options)

NO iLO-Systems Insight Display Included

24 DIMM slots for RDIMM and LRDIMM memory installation

Smart Array P420i Controller w/ Zero Memory (ZM)

I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIe 2.0 (x16 connector)
- Slot 2 - HL/FH x8 PCIe 2.0 (x8 connector)
- Slot 3 - HL/FH x4 PCIe 2.0 (x8 connector)
- Additional PCIe Slots may be added with the 2nd Riser Cage option.

System Fans - 4 standard (2 additional fans included with second processor)

USB - 4 Rear, 2 Front, 2 Internal, 1 SD slot

HP iLO Management Engine (iLO4)

**NOTE:** Smart Array Cache options, Hard drives, Optical drives, Flexible NICs\*, Power Supply\* and Rail/CMA Kits not included in the base configuration - choose these from Steps, 3, or 4 below in Options section.

\* Required selection.

HP ProLiant DL385p Gen8 25 SFF Configure-to-order Server

669803-B21

#### **Factory Integrated Model ships with:**

Drive Cage - 25-SFF Drive Bays available (See hard drives in Section 4 for options)

NO iLO-Systems Insight Display Included

24 DIMM slots for RDIMM, LRDIMM, and UDIMM memory installation

1 FlexibleLOM connector (see Step2: HP Flexible NIC section below for NIC choices to populate the embedded connector)

Smart Array P420i Controller w/ Zero Memory (ZM)

I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIe 2.0 (x16 connector)
- Slot 2 - HL/FH x8 PCIe 2.0 (x8 connector)
- Slot 3 - HL/FH x4 PCIe 2.0 (x8 connector)
- Additional Slots may be added via selection from the "PCI Information and Options" subsection

System Fans - 4 standard (2 additional fans included with second processor)

Drive Cage - 12LFF (drive blanks installed dependent on number of drives ordered)

USB - 4 Rear, 2 Front, 2 Internal, 1 SD slot

HP iLO Management Engine (iLO4)

**NOTE:** Smart Array Cache options, Hard drives, Optical drives, Flexible NICs\*, Power Supply\* and Rail/CMA Kits not included in the base configuration - choose these from Steps, 3, or 4 below in Options section.

\* Required selection.

### Configuration Information - Factory Integrated Models

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

##### HP Processors

**NOTE:** All processors support up to 1600MHz DDR3 memory speeds.

##### Sixteen-Core Processors

HP DL385p Gen8 AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W) FIO Processor Kit	703939-L21
HP DL385p Gen8 AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W) FIO Processor Kit	703941-L21
HP DL385p Gen8 AMD Opteron™ 6378 (2.4GHz/16-core/16MB/115W) FIO Processor Kit	703943-L21
HP DL385p Gen8 AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W) FIO Processor Kit	703946-L21
HP DL385p Gen8 AMD Opteron™ 6366HE (1.8GHz/16-core/16MB/85W) FIO Processor Kit	703950-L21
HP DL385p Gen8 AMD Opteron™ 6284SE (2.7GHz/16-core/16MB/140W) FIO Processor Kit	686879-L21
HP DL385p Gen8 AMD Opteron™ 6282SE (2.6GHz/16-core/16MB/140W) FIO Processor Kit	654712-L21
HP DL385p Gen8 AMD Opteron™ 6278 (2.4GHz/16-core/16MB/115W) FIO Processor Kit	686881-L21
HP DL385p Gen8 AMD Opteron™ 6276 (2.3GHz/16-core/16MB/115W) FIO Processor Kit	654714-L21
HP DL385p Gen8 AMD Opteron™ 6274 (2.2GHz/16-core/16MB/115W) FIO Processor Kit	654716-L21
HP DL385p Gen8 AMD Opteron™ 6272 (2.1GHz/16-core/16MB/115W) FIO Processor Kit	654718-L21
HP DL385p Gen8 AMD Opteron™ 6262HE (1.6GHz/16-core/16MB/85W) FIO Processor Kit	654728-L21

##### Twelve-Core Processors

HP DL385p Gen8 AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W) FIO Processor Kit	703952-L21
HP DL385p Gen8 AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W) FIO Processor Kit	703954-L21
HP DL385p Gen8 AMD Opteron™ 6238 (2.6GHz/12-core/16MB/115W) FIO Processor Kit	654722-L21
HP DL385p Gen8 AMD Opteron™ 6234 (2.4GHz/12-core/16MB/115W) FIO Processor Kit	654724-L21

##### Eight-Core Processors

HP DL385p Gen8 AMD Opteron™ 6328 (3.2GHz/8-core/16MB/115W) FIO Processor Kit	703958-L21
HP DL385p Gen8 AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W) FIO Processor Kit	703960-L21
HP DL385p Gen8 AMD Opteron™ 6220 (3.0GHz/8-core/16MB/115W) FIO Processor Kit	654726-L21
HP DL385p Gen8 AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W) FIO Processor Kit	654720-L21

##### Quad-Core Processors

HP DL385p Gen8 AMD Opteron™ 6308 (3.5GHz/4-core/16MB/115W) FIO Processor Kit	703962-L21
HP DL385p Gen8 AMD Opteron™ 6204 (3.3GHz/4-core/16MB/115W) FIO Processor Kit	677551-L21

##### HP Memory

**NOTE:** To realize the performance memory capabilities listed in this document, HP SmartMemory is recommended. For additional information, please see the HP SmartMemory QuickSpecs at:  
[http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html)  
 (Worldwide)

##### Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647871-B21
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### Configuration Information - Factory Integrated Models

HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647873-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	695793-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647877-B21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647879-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647883-B21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672633-B21

#### Load Reduced DIMMs(LRDIMMs)

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit	647885-B21
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#### Ultra Low Voltage DIMMs (ULVDIMM)

HP 4GB (1x4GB) Single Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647869-B21
HP 8GB (1x8GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647875-B21
HP 16GB (1x16GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647881-B21

**NOTE:** HP memory from previous generation servers may not provide the same performance with the HP ProLiant DL385p Gen8 Servers as HP SmartMemory will.

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

**NOTE:** Depending on the memory configuration, the memory speed may run at 1600MHz, 1333MHz, 1066MHz or lower. Please see Memory Population Table or the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

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

### HP Networking

#### FlexibleLOM Adapters

**NOTE:** The HP ProLiant DL385p Gen8 server requires one FlexibleLOM to be installed in the FlexibleLOM slot.

HP Ethernet 1Gb 4-port 331FLR FIO Adapter	684208-B21
HP Ethernet 10Gb 2-port 530FLR-SFP+ FIO Adapter	684210-B21
HP FlexFabric 10Gb 2-port 554FLR-SFP+ FIO Adapter	684213-B21

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

### HP Power Supplies

**NOTE:** Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same model. Mixing Gold, Platinum, and Platinum Plus certified power supplies is not supported.

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



### Configuration Information - Factory Integrated Models

#### HP Common Slot Platinum Plus Power Supply Kits

**NOTE:** The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

HP 460W Common Slot Platinum Plus Hot Plug Power Supply Kit	656362-B21
HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit	656363-B21
HP 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit	656364-B21

#### HP Common Slot Gold Power Supplies

**NOTE:** The following Power Supplies offer 92% efficiency.

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 750W Common Slot -48VDC Hot Plug Power Supply Kit	636673-B21
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**NOTE:** The HP 750W Common Slot -48VDC power supply does not ship with a power cable. It has been designed with a terminal block connection allowing for custom design of power cords by the user.

**NOTE:** Option Kits for AC power supplies include the power supply and one PDU IEC cable.

**NOTE:** Power Specification and Technical Content for supported power supplies can be found at:

[http://h18000.www1.hp.com/products/quickspecs/14209\\_na/14209\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14209_na/14209_na.html)

### Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)

#### HP Rack Kits

**NOTE:** Rail kits are optional for Gen8 and are no longer included standard with the server (except pre-configured Models). The customer has the choice to not include rail kits with their server purchase, but it is recommended.

**NOTE:** HP 2U Ball Bearing Rail Kits provide full serviceability of the server while in the Rack and include a CMA. HP 2U Friction Rail Kits ARE NOT serviceable in the Rack and must be removed from the rack and do not include CMA.

**NOTE:** Additional HP Rack Kit options can be found in "Step 4: Additional Options, HP Rack Options - Rail Kits" section of this QuickSpecs. Only FIO options are listed here.

**NOTE:** To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HP 2U Friction Gen8 Rail FIO Kit	663476-B21
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**NOTE:** No in-rack serviceability.

#### 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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### Configuration Information - Factory Integrated Models

#### **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.

<b>HP Unique Options</b>	HP DL380/DL385 Gen8 8 Small Form Factor Hard Drive Backplane Cage Kit	662883-B21
	<b>NOTE:</b> With upgrade of 8SFF Cage/Bkpln, there is no Optical Drive support.	
	<b>NOTE:</b> All cables necessary for proper installation of the 8SFF Cage are included with this Kit.	
	<b>NOTE:</b> With upgrade of 8SFF Cage/Bkpln, an additional storage controller is required. Please go to the Storage Controller section for options available.	
	HP DL385p Gen8 x16 2x8 PCI-E Riser Kit	653214-B21
	<b>NOTE:</b> 2nd Riser Cage requires 2nd Processor.	

### HP Processors

#### Sixteen-Core Processors

**NOTE:** All support up to 1600MHz DDR3 memory speeds

HP DL385p Gen8 AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W) Processor Kit	703939-B21
HP DL385p Gen8 AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W) Processor Kit	703941-B21
HP DL385p Gen8 AMD Opteron™ 6378 (2.4GHz/16-core/16MB/115W) Processor Kit	703943-B21
HP DL385p Gen8 AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W) Processor Kit	703946-B21
HP DL385p Gen8 AMD Opteron™ 6366HE (1.8GHz/16-core/16MB/85W) Processor Kit	703950-B21
HP DL385p Gen8 AMD Opteron™ 6284SE (2.7GHz/16-core/16MB/140W) Processor Kit	686879-B21
HP DL385p Gen8 AMD Opteron™ 6282SE (2.6GHz/16-core/16MB/140W) Processor Kit	654712-B21
HP DL385p Gen8 AMD Opteron™ 6278 (2.4GHz/16-core/16MB/115W) Processor Kit	686881-B21
HP DL385p Gen8 AMD Opteron™ 6276 (2.3GHz/16-core/16MB/115W) Processor Kit	654714-B21
HP DL385p Gen8 AMD Opteron™ 6274 (2.2GHz/16-core/16MB/115W) Processor Kit	654716-B21
HP DL385p Gen8 AMD Opteron™ 6272 (2.1GHz/16-core/16MB/115W) Processor Kit	654718-B21
HP DL385p Gen8 AMD Opteron™ 6262HE (1.6GHz/16-core/16MB/85W) Processor Kit	654728-B21

#### Twelve-Core Processors

HP DL385p Gen8 AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W) Processor Kit	703952-B21
HP DL385p Gen8 AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W) Processor Kit	703954-B21
HP DL385p Gen8 AMD Opteron™ 6238 (2.6GHz/12-core/16MB/115W) Processor Kit	654722-B21
HP DL385p Gen8 AMD Opteron™ 6234 (2.4GHz/12-core/16MB/115W) Processor Kit	654724-B21

#### Eight-Core Processors

HP DL385p Gen8 AMD Opteron™ 6328 (3.2GHz/8-core/16MB/115W) Processor Kit	703958-B21
HP DL385p Gen8 AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W) Processor Kit	703960-B21
HP DL385p Gen8 AMD Opteron™ 6220 (3.0GHz/8-core/16MB/115W) Processor Kit	654726-B21
HP DL385p Gen8 AMD Opteron™ 6212 (2.6GHz/8-core/16MB/115W) Processor Kit	654720-B21

#### Quad-Core Processors

HP DL385p Gen8 AMD Opteron™ 6308 (3.5GHz/4-core/16MB/115W) Processor Kit	703962-B21
HP DL385p Gen8 AMD Opteron™ 6204 (3.3GHz/4-core/16MB/115W) Processor Kit	677551-B21

**NOTE:** Up to 2 processors supported in all models.

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

### Core Options

#### HP Memory

**NOTE:** To realize the performance memory capabilities listed in this document, HP SmartMemory is recommended. For additional information, please see the HP SmartMemory QuickSpecs at:

[http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html)

#### Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647871-B21
HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit S-Buy	647871-S21
HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647873-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	695793-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647877-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-11 Low Voltage Memory Kit S-Buy	647877-S21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647879-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647883-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit S-Buy	647883-S21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672633-B21

#### Load Reduced DIMMs (LRDIMMs)

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit	647885-B21
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#### Ultra Low Voltage DIMMs (ULVDIMM)

HP 4GB (1x4GB) Single Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647869-B21
HP 8GB (1x8GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647875-B21
HP 16GB (1x16GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647881-B21

**NOTE:** HP memory from previous generation servers may not provide the same performance with the HP ProLiant DL385p Gen8 Servers as HP SmartMemory will.

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

**NOTE:** Depending on the memory configuration, the memory speed may run at 1600MHz, 1333MHz, 1066MHz or lower. Please see Memory Population Table or the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

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

### Core Options

<b>HP Optical Drives</b>	HP 12.7mm Slim SATA DVD-ROM JackBlack Optical Drive	652232-B21
	HP 12.7mm Slim SATA DVD-RW JackBlack Optical Drive	652235-B21

### HP Hard Drives

**NOTE:** The HP ProLiant DL385p Gen8 Smart Storage solutions are equipped with entirely re-designed Small Form Factor (SFF 2.5 in) and Large Form Factor (LFF 3.5 in) hot plug carriers for HP Qualified Hard Drives and Solid State Drives. These new carriers provide status, location and activity indicators as well as caution indicators for "Do Not Remove".

**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 with SmartDrive SFF (2.5-inch) Enterprise Drives

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive S-Buy	652589-S21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive S-Buy	652583-S21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive S-Buy	652564-S21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive S-Buy	652611-S21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive S-Buy	652605-S21

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

HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652749-B21
HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	652745-B21

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

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652620-B21
HP 450GB 6G SAS 15K rpm LFF (3.5-inch) SC Enterprise 3yr Warranty Hard Drive	652615-B21

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

HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652766-B21
HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652757-B21
HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652753-B21

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

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

#### 6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21
HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive S-Buy	655710-S21

### Core Options

HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21
HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive S-Buy	655708-S21
<b>6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives</b>	
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	628061-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658079-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	657750-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive S-Buy	657750-S21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658071-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive S-Buy	658071-S21
<b>NOTE: Please see the QuickSpecs for Technical Specifications and additional information:</b>	
<a href="http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html">http://h18000.www1.hp.com/products/quickspecs/13021_na/13021_na.html</a>	
<b>6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 800GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	690829-B21
HP 400GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	690827-B21
HP 200GB 6G SAS Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	690825-B21
<b>6G SAS SLC Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives</b>	
HP 400GB 6G SAS SLC SFF (2.5-inch) SC Enterprise Performance 3yr Warranty Solid State Drive	653082-B21
HP 200GB 6G SAS SLC SFF (2.5-inch) SC Enterprise Performance 3yr Warranty Solid State Drive	653078-B21
<b>3G SATA MLC Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 400GB 3G SATA MLC SFF (2.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653120-B21
HP 200GB 3G SATA MLC SFF (2.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653118-B21
HP 100GB 3G SATA MLC SFF (2.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653112-B21
<b>3G SATA MLC Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 400GB 3G SATA MLC LFF (3.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653126-B21
HP 200GB 3G SATA MLC LFF (3.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653124-B21
HP 100GB 3G SATA MLC LFF (3.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive	653122-B21
<b>NOTE: Please see the QuickSpecs for Technical Specifications and additional information:</b>	
<a href="http://h18000.www1.hp.com/products/quickspecs/14038_na/14038_na.html">http://h18000.www1.hp.com/products/quickspecs/14038_na/14038_na.html</a>	
<b>Hard Drive Kits</b>	
<b>NOTE: All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.</b>	

### Core Options

HP SFF Gen8 Hard Drive Blank Kit	666987-B21
HP LFF Gen8 Hard Drive Blank Kit	666986-B21
HP DL380/DL385 Gen8 8 Small Form Factor Hard Drive Backplane Cage Kit	662883-B21

### HP Networking

#### Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter	503746-B21
HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
HP Ethernet 1Gb 2-port 332T Adapter	615732-B21
HP Ethernet 1Gb 2-port 361T Adapter	652497-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 NC523SFP 10Gb 2-port Server Adapter	593717-B21
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21

#### FlexibleLOM Adapters

HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B21
HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	647581-B21
HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	629142-B21
HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21

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

### HP InfiniBand

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

**NOTE:** For the following two InfiniBand Adapters, only 1 FlexibleLOM can be added to the server, which is selected in Step 2 for the "Configuration Information - Factory Integrated Models" section. These two options are for upgrade or change from original configuration.

HP InfiniBand FDR/EN 10/40Gb Dual Port 544FLR-QSFP Adapter	649282-B21
HP InfiniBand QDR/EN 10Gb Dual Port 544FLR-QSFP Adapter	649283-B21

**NOTE:** FLR Indicates new HP FlexibleLOM Adapter series.

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

### Core Options

<b>HP I/O Expansion Options</b>	HP DL385p Gen8 x16 2x8 PCI-E Riser Kit <b>NOTE:</b> 2nd Riser Cage requires 2nd Processor.	653214-B21
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### HP Power Supplies

**NOTE:** Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same model. Mixing Gold, Platinum, and Platinum Plus certified power supplies is not supported.

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

#### HP Common Slot Platinum Plus Power Supply Kits

**NOTE:** The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

HP 460W Common Slot Platinum Plus Hot Plug Power Supply Kit	656362-B21
HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit	656363-B21
HP 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit	656364-B21

#### HP Common Slot Gold Power Supplies

**NOTE:** The following Power Supplies offer 92% Efficiency.

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

**NOTE:** The following Power Supplies offer 92% Efficiency.

HP 750W Common Slot -48VDC Hot Plug Power Supply Kit	636673-B21
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**NOTE:** The HP 750W Common Slot -48VDC power supply does not ship with a power cable. It has been designed with a terminal block connection allowing for custom design of power cords by the user.

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

**NOTE:** Power Specification and Technical Content for supported power supplies can be found at:

[http://h18000.www1.hp.com/products/quickspecs/14209\\_na/14209\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14209_na/14209_na.html)



### Additional Options

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

#### HP Insight Software

#### HP Insight Control

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License 452148-B22

HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License T9074BAE

**NOTE:** HP Insight Management Media Kit contains DVDs without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Matrix Operating Environment, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates.

HP Insight Management Media Kit 436222-B21

**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](http://h18000.www1.hp.com/products/quickspecs/12631_na/12631_na.html)

#### HP Integrated Lights-Out (iLO) Advanced for ProLiant Remote Management

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

### Additional Options

**NOTE:** Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service.

**NOTE:** For additional license kits please see the Insight Control QuickSpecs at:  
[http://h18004.www1.hp.com/products/quickspecs/12631\\_na/12631\\_na.html](http://h18004.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](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](http://h18004.www1.hp.com/products/quickspecs/13485_na/13485_na.html)



### 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
<b>NOTE:</b> 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
<b>NOTE:</b> 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](http://h18000.www1.hp.com/products/quickspecs/13587_na/13587_na.html)

#### HP Security

HP Trusted Platform Module Option	488069-B21
<b>NOTE:</b> The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: <a href="http://www.hp.com/go/TPM">www.hp.com/go/TPM</a> .	
<b>NOTE:</b> ProLiant OS pre-installed units will come with the partition required for TPM deployment.	
<b>NOTE:</b> The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.	
HP 2U Security Bezel Kit	666988-B21

#### HP Storage Controllers

##### SAS Controllers

##### Smart Array P222 Controller

HP Smart Array P222/512 FBWC 6Gb 1-port Int/1-port Ext SAS Controller	631667-B21
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##### Smart Array P420 Controller

HP Smart Array P420/1GB FBWC 6Gb 2-ports Int SAS Controller	631670-B21
HP Smart Array P420/2GB FBWC 6Gb 2-ports Int SAS Controller	631671-B21

##### Smart Array P421 Controller

HP Smart Array P421/1GB FBWC 6Gb 2-ports Ext SAS Controller	631673-B21
HP Smart Array P421/2GB FBWC 6Gb 2-ports Ext SAS Controller	631674-B21

##### Smart Array P822 Controller



### Additional Options

HP Smart Array P822/2GB FBWC 2-ports Int/4-ports Ext SAS Controller 615418-B21

#### Optional Upgrades

HP 1GB P-series Smart Array Flash Backed Write Cache 631679-B21

HP 2GB P-series Smart Array Flash Backed Write Cache 631681-B21

HP 512MB P-series Smart Array Flash Backed Write Cache 661069-B21

HP Smart Array Advanced Pack 2.0 No Media 1 Server 1yr 24x7 Support Software BC377A

HP Smart Array Advanced Pack 2.0 No Media Electronic Lic 1yr 24x7 Support Software BC390AAE

**NOTE:** RAID 6, 6+0 may be enabled with a combination of one cache upgrade and one Smart Array Advanced Pack from the options above.

#### HP Cable Options

HP DL38x/DL360 Gen8 Embedded SATA Cable Kit 664009-B21

HP Mini SAS Straight to Straight 37in Cable Assembly 662897-B21

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

[http://h18000.www1.hp.com/products/quickspecs/14227\\_na/14227\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14227_na/14227_na.html)  
(Smart Array P222 Controller)

[http://h18000.www1.hp.com/products/quickspecs/14228\\_na/14228\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14228_na/14228_na.html)  
(Smart Array P420 Controller)

[http://h18000.www1.hp.com/products/quickspecs/14229\\_na/14229\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14229_na/14229_na.html)  
(Smart Array P421 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13200\\_na/13200\\_na.html](http://h18000.www1.hp.com/products/quickspecs/13200_na/13200_na.html)  
(Smart Array Advanced Pack)

#### Host Bus Adapter

HP H220 Host Bus Adapter 650933-B21

HP H221 Host Bus Adapter 650931-B21

HP H222 Host Bus Adapter 650926-B21

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

[http://h18004.www1.hp.com/products/quickspecs/14336\\_na/14336\\_na.html](http://h18004.www1.hp.com/products/quickspecs/14336_na/14336_na.html)  
(HBA 220)

[http://h18004.www1.hp.com/products/quickspecs/14222\\_na/14222\\_na.html](http://h18004.www1.hp.com/products/quickspecs/14222_na/14222_na.html)  
(HBA 221)

[http://h18004.www1.hp.com/products/quickspecs/14337\\_na/14337\\_na.html](http://h18004.www1.hp.com/products/quickspecs/14337_na/14337_na.html)  
(HBA 222)

#### 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](http://h18000.www1.hp.com/products/quickspecs/12566_na/12566_na.html)  
(SC11Xe HBA)

### Additional Options

#### 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>

HP DAT160 SCSI External Tape Drive	Q1574B
HP LTO-4 Ultrium 1760 SCSI External Tape Drive	EH922B
HP LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
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 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	AP769A
HP 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AP770B

##### 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 SN1000E 16Gb 1-port PCIe Fibre Channel Host Bus Adapter	QR558A
HP SN1000E 16Gb 2-port PCIe Fibre Channel Host Bus Adapter	QR559A
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

##### Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter	BK835A
HP CN1000Q Dual Port Converged Network Adapter	BS668A

### Additional Options

#### 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

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

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

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

AF467A

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

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

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

[http://h18000.www1.hp.com/products/quickspecs/14109\\_na/14109\\_na.html](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

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

[http://h18000.www1.hp.com/products/quickspecs/14110\\_na/14110\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14110_na/14110_na.html)

**NOTE:** For additional information on HP Uninterruptible Power Systems please go to:

[www.hp.com/servers/rackups](http://www.hp.com/servers/rackups).

**NOTE:** For additional information on sizing your server, please reference:

<http://www.upssizer.com>.

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

#### HP Power Distribution Units

##### Monitored PDUs

##### 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 QuickSpecs for Technical Specifications and additional information:

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

##### Modular PDUs 1U/0U

**NOTE:** 1U/0U mounting brackets shipped with the unit (optimized for 10000 G2 and 9000 series racks).

HP 2.8kVA 24A Low Voltage NA/JP Modular Power Distribution Unit

252663-D71

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

252663-D72

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



### Additional Options

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

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

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

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

#### HP Intelligent Power Distribution Units (iPDU)

##### iPDU Core Units

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

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

##### iPDU Kits with Standard Extension Bars

HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit AF531A

HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit AF532A

##### iPDU Extension Bars

HP 5xC13 Intelligent PDU Extension Bar G2 Kit AF547A

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

[http://h18000.www1.hp.com/products/quickspecs/13650\\_na/13650\\_na.html](http://h18000.www1.hp.com/products/quickspecs/13650_na/13650_na.html)

#### HP Rack Series

##### HP Intelligent Series Rack

HP 636 1075mm Pallet Intelligent Series Rack BW895A

HP 636 1075mm Shock Intelligent Series Rack BW896A

HP 642 1075mm Pallet Intelligent Series Rack BW903A

HP 642 1075mm Shock Intelligent Series Rack BW904A

HP 647 1075mm Pallet Intelligent Series Rack BW911A

HP 647 1075mm Shock Intelligent Series Rack BW912A

**NOTE:** Please see the QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

[http://h18000.www1.hp.com/products/quickspecs/14223\\_na/14223\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14223_na/14223_na.html)

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

#### HP Rack Options

##### HP Location Discovery Services

HP 36U Location Discovery Kit BW945A

HP 42U Location Discovery Kit BW946A

HP 47U Location Discovery Kit BW947A

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

[http://h18000.www1.hp.com/products/quickspecs/14429\\_na/14429\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14429_na/14429_na.html)



### Additional 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](http://h18000.www1.hp.com/products/quickspecs/13731_na/13731_na.html)  
(Worldwide)

#### HP USB Keyboard and Mouse

HP USB BFR with PVC Free US 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](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](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](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](http://h18000.www1.hp.com/products/quickspecs/13474_na/13474_na.html)

#### Rail Kits

**NOTE:** Rail kits are optional for Gen8 and are no longer included standard with the server(except pre-configured Models). The customer has the choice to not include rail kits with their server purchase, but it is recommended.

**NOTE:** HP 2U Ball Bearing Rail Kits provide full serviceability of the server while in the Rack and include a CMA. HP 2U Friction Rail Kits ARE NOT serviceable in the Rack and must be removed from the rack and do not include CMA.

**NOTE:** The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001). Caution:

### Additional Options

HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HP 2U Large Form Factor Ball Bearing Gen8 Rail Kit 663480-B21

**NOTE:** HP 2U Ball Bearing Rail Kits provide full serviceability of the server while in the Rack and include a CMA. HP 2U Friction Rail Kits ARE NOT serviceable in the Rack and must be removed from the rack and do not include CMA.

HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit 663478-B21

**NOTE:** HP 2U Ball Bearing Rail Kits provide full serviceability of the server while in the Rack and include a CMA. HP 2U Friction Rail Kits ARE NOT serviceable in the Rack and must be removed from the rack and do not include CMA.

### HP USB and SD options

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

HP 3 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support UP717E

HP 3 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support U4544E

HP 3 year 4 hour 24x7 ProLiant DL38x(p) Collaborative Support U1J30E

HP 3 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support U4545E

HP 3 year 4 hour 24x7 ProLiant DL38x(p) Proactive Care Service U2Z50E

HP 3 year 4 hour 24x7 ProLiant DL38x(p) with Insight Control Proactive Care Service U3N23E

HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL38x(p) Collaborative Support U1J33E

HP 3 year 4 hour 24x7 ProLiant DL380 Hardware Support Defective Media Retention UD940E

HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL38x(p) Proactive Care Service U2Z53E

HP 3 year 4hr 24x7 with Defective Media Retention DL38x(p) with Insight Control Proactive Care SVC U3N26E

HP 3 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support U4546E

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL38x(p) Collaborative Support U1J36E

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL38x(p) Proactive Care Service U2Z56E

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL38x(p) with Insight Control Proactive Care Service U3N29E

HP 3 year 6hr Call To Repair 24x7 withDefective Media Retention ProLiant DL38x(p) Collaborative Support U1J39E



### Additional Options

HP 3yr 6hrCallToRepair 24x7w/Defective Media Retention DL38x(p) w/Insight Control Proactive Care SVC	U3N32E
HP 3 year 6 hour Call To Repair 24x7 w/DefectiveMedia Retention ProLiant DL38x(p) Proactive Care SVC	U2Z59E
HP 3 year Next business day ProLiant DL38x(p) Collaborative Support	U1J24E
HP 3 year Next business day ProLiant DL38x(p) Proactive Care Service	U2Z44E
HP 3 year Next business day ProLiant DL38x(p) with Insight Control Proactive Care Service	U3N17E
HP 3 year Next business day with Defective Media Retention ProLiant DL38x(p) Collaborative Support	U1J27E
HP 3 Year Next business day w/DMR ProLiant DL38x(p) Hardware Support	US622E
HP 3 year Next business day withDefective Media Retention ProLiant DL38x(p) Proactive Care Service	U2Z47E
HP 3year Next business day w/Defective Media Retention DL38x(p) w/Insight Control Proactive Care SVC	U3N20E
HP 3 year Support Plus 24 Insight Control ProLiant DL38x(p) Service	UM812E
HP 3 year Support Plus 24 Microsoft ProLiant DL38x(p) Service	U4557E
HP 3 year Support Plus 24 SuSE ProLiant DL38x(p) Service	U6312E
HP 4 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support	UP718E
HP 4 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support	U8101E
HP 4 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support	U8118E
HP 4 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support	U9738E
HP 4 year Next business day ProLiant DL38x(p) Hardware Support	UA010E
HP 5 year 24x7 24 hour Call to Repair ProLiant DL38x(p) Hardware Support	UP719E
HP 5 year 4 hour 13x5 ProLiant DL38x(p) Hardware Support	U8067E
HP 5 year 4 hour 24x7 ProLiant DL38x(p) Hardware Support	U8084E
HP 5 year 6 hour 24x7 Call to Repair ProLiant DL38x(p) Hardware Support	U9737E
HP 5 year Next business day ProLiant DL38x(p) Hardware Support	UA009E
HP Install ProLiant DL38x(p) Service	U4554E
HP Install non Standard Hours ProLiant DL38x(p) Service	UF070E
HP Installation of ProLiant Add On/In Options Service	UH745E
HP Startup ProLiant DL38x(p) Service	U4555E
HP Installation and Startup for Insight Control Server Deployment - previously Rapid Deployment Pack	U5683E
HP Startup non Standard Hours ProLiant DL38x(p) Service	UF074E

**NOTE:** For more information, customer/resellers can contact:

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



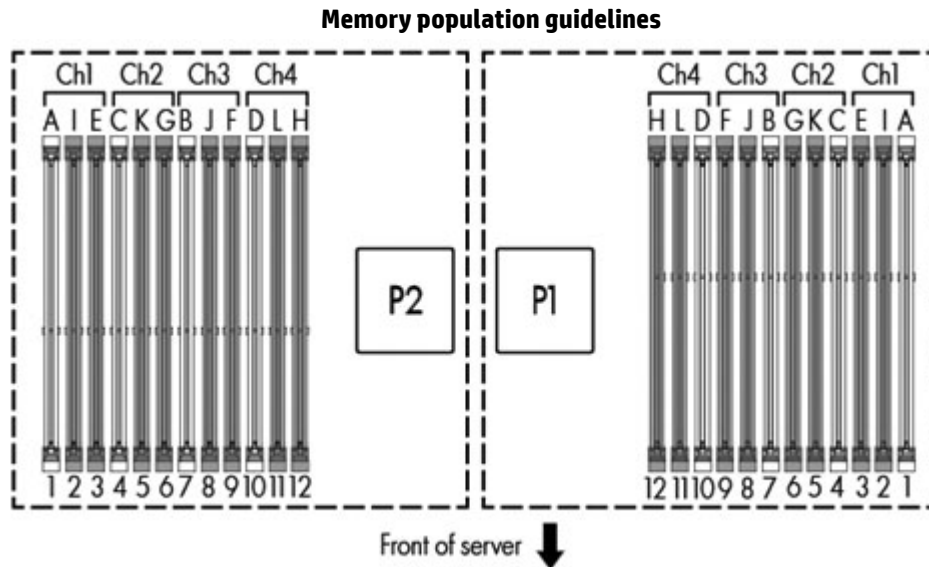
### Memory

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:

[www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator)

#### Memory Subsystem Architecture

Each AMD Opteron family processor socket contains four memory channels that support three DIMMs each for a total of twelve (12) DIMM per installed processor or a grand total of twenty-four (24) DIMMs for the server. Up to 32GB capacity DIMMs are supported for 768GB of memory (24 DIMM slots x 32GB per DIMM).



#### General Memory Population Rules and Guidelines:

- White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only.
- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors and to load the channels similarly whenever possible.
- RDIMMs operating at either 1.35V or 1.5V may be mixed in any order, but the system will power them at the higher voltage.
- RDIMMs and LRDIMMs are supported up to 3 DIMMs per channel.
- The DL385p Gen8 RBSU has options to set memory for Performance or Power modes. In Performance Mode all memory whether 1.35V DIMMs or 1.5V DIMMs will be set to 1.5V. In Power Mode all memory whether 1.35V or 1.5V will be set to 1.35V for power savings.
- DIMMs of different speeds may be mixed in any order; the server will select a common optimal speed.
- The maximum memory speed is a function of the memory type and memory configuration.
- The maximum memory capacity is a function of the memory type and number of installed processors.
- HP memory from previous generation servers is not qualified on the DL385p Gen8 Server. Certain HP SmartMemory features such as memory authentication and enhanced performance may not be supported.
- To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html).
- For memory population rules and additional memory guidelines, please see the DL385p Gen8 user guide at <http://www.hp.com/support>.

### Memory

DL385p Gen8 Supported Memory Bandwidth and Capacity							
DIMM Type	Registered DIMMS						Load Reduced (LRDIMMs)
DIMM Rank	Single Rank (1R)			Dual Rank (2R)			Quad Rank (4R)
DIMM Capacity	4GB	4GB	8GB	8GB	16GB	16GB	32GB
DIMM Native Speed (MHz)	1333	1600	1600	1333	1333	1600	1333
Voltage	LV/ULV	Std	Std	LV/ULV	LV/ULV	Std	LV
<b>SLOTS THAT CAN BE POPULATED</b>							
24 slot servers	24	24	24	24	24	24	24
<b>MAXIMUM CAPACITY (GB)<sup>1</sup></b>							
24 slot servers	96	96	192	192	384	384	768
<b>POPULATED DIMM SPEED (MHz)</b>							
1 DIMM Per Channel	1333	1600	1600	1333	1333	1600	1333
2 DIMM Per Channel	1333	1333	1333	1333/1066 <sup>2</sup>	1333/1066 <sup>2</sup>	1333	1333
3 DIMM Per Channel	1066	1066	1066	1066/800 <sup>3</sup>	1066/800 <sup>3</sup>	1066	800 <sup>4</sup>
<sup>1</sup> Maximum capacity will vary based on individual server platform. <sup>2</sup> Ultra Low Voltage 8GB and 16GB dual rank operate at 1066MT/s speed in 2 DPC configurations. <sup>3</sup> Ultra Low Voltage 8GB and 16GB dual rank operate at 667MT/s speed in 3 DPC configurations <sup>4</sup> LRDIMM capable of 3 DIMMs per channel.							

#### DIMM slot and configuration diagram

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

When one processor is installed, install DIMMs in sequential alphabetic order: A, B, C, D, E, F ...

When two processors are installed, install DIMMs in sequential alphabetic order: CPU1-A, CPU2-A, CPU1-B, CPU2-B, CPU1-C, CPU2-C

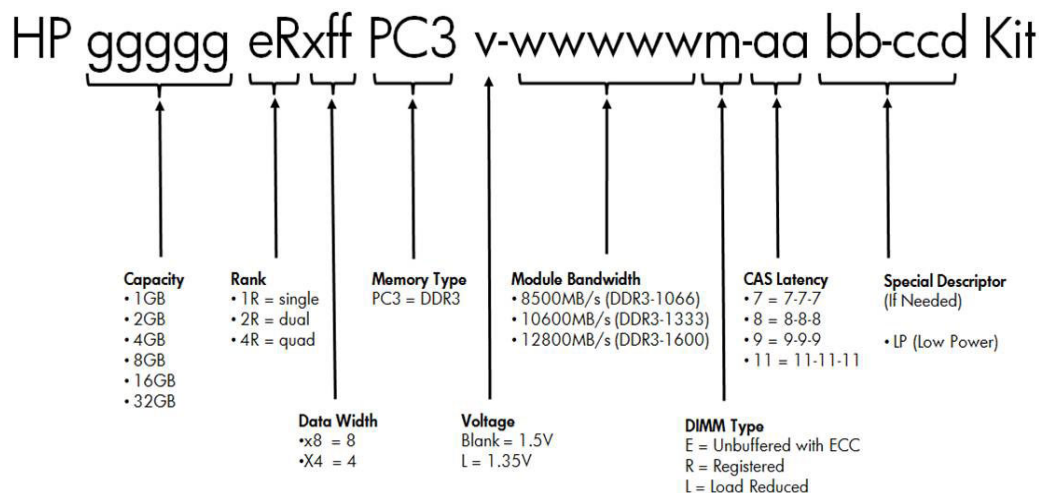
### Memory

24 DIMM SLOTS (12 per CPU node)					
	slot #	population order	slot #	population order	
Chnl 1	1	A	1	A	Chnl 1
	2	I	2	I	
	3	E	3	E	
Chnl 2	4	C	4	C	Chnl 2
	5	K	5	K	
	6	G	6	G	
CPU1			CPU2		
Chnl 3	7	B	7	B	Chnl 3
	8	J	8	J	
	9	F	9	F	
Chnl 4	10	D	10	D	Chnl 4
	11	L	11	L	
	12	H	12	H	

**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

**NOTE:** To realize the performance memory capabilities listed in this document, HP SmartMemory is recommended. For additional information, please see the HP SmartMemory QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/14225\\_na/14225\\_na.html](http://h18000.www1.hp.com/products/quickspecs/14225_na/14225_na.html) (Worldwide)

#### Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647871-B21
HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647873-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	695793-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647877-B21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647879-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647883-B21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672633-B21

#### Load Reduced DIMMs (LRDIMMs)

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit	647885-B21
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#### Ultra Low Voltage DIMMs (ULVDIMM)

HP 4GB (1x4GB) Single Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647869-B21
HP 8GB (1x8GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647875-B21
HP 16GB (1x16GB) Dual Rank x4 PC3U-10600R (DDR3-1333) Registered CAS-9 Ultra Low Voltage Memory Kit	647881-B21

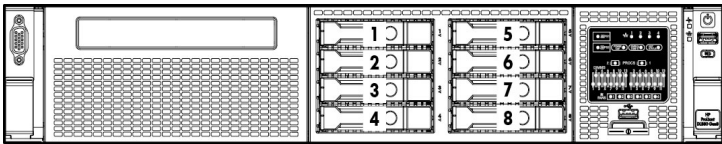
**NOTE:** HP memory from previous generation servers may not provide the same performance with the HP ProLiant DL385p Gen8 Servers as HP SmartMemory will.

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

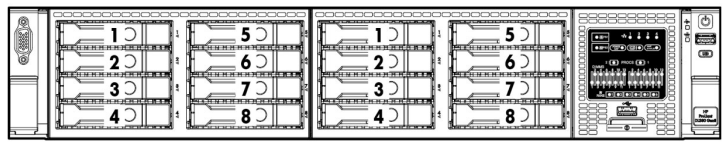
**NOTE:** Depending on the memory configuration, the memory speed may run at 1600MHz, 1333MHz, 1066MHz or lower. Please see Memory Population Table or the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

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

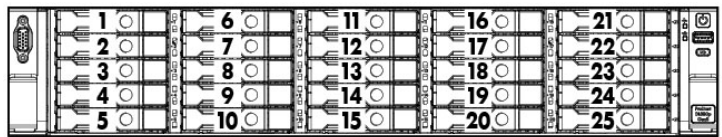
### Storage



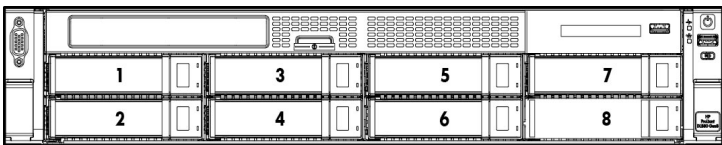
1-8 Eight SFF SAS hot plug drive bays



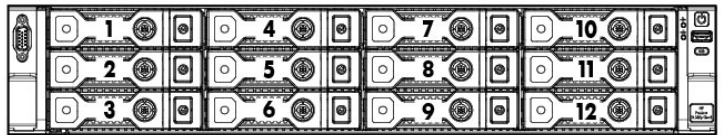
1-8, Sixteen SFF SAS hot plug drive bays. Built-In Smart Array manages first 8 drives. Requires 2nd Smart Array Controller for second option of 8 drives.  
**NOTE:** This configuration does not support optical drive.



1-25 Twenty Five SFF SAS hot plug drive bays  
**NOTE:** This configuration does not support SID or optical drive.



1-8 Eight LFF SAS hot plug drive bays.  
**NOTE:** This configuration supports a pop-out SID.



1-12 Twelve LFF SAS hot plug drive bays  
**NOTE:** This configuration does not support SID or optical drive.

### Maximum Storage Capacity - (SAS/SATA HDD)

Internal	16TB (16 x 1TB SAS/SATA SFF with addition 8 SFF drive cage)
External	200TB (200 x 1TB SAS SFF)
Total	216TB

### Technical Specifications

<b>System Unit</b>	<b>Dimensions</b> (H x W x D) (with bezel)	SFF Drives: 3.44 x 17.54 x 27.50 in (8.73 x 44.55 x 69.85 cm) LFF Drives: 3.44 x 17.54 x 29.50 in (8.73 x 44.55 x 74.93 cm)
	<b>Weight</b> (approximate)	Maximum 61.00 lb (27.66 kg) (all LFF hard drives, power supply, and processor installed)
		Minimum 41.0 lb (18.59 kg) (one SFF hard drive, power supply, and processor installed, ODD not installed)
	<b>Input Requirements</b> (per power supply)	Rated Line Voltage 100 to 120 VAC 200 to 240 VAC
		Rated Input Current For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)
		Rated Input Frequency 50 to 60 Hz
		Rated Input Power For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)
	<b>BTU Rating</b>	Maximum For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC)
	<b>Power Supply Output</b> (per power supply)	Rated Steady-State Power For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC)

### Technical Specifications

		<p>For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)</p> <p>For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC)</p> <p>For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC)</p> <p>For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)</p>
	Maximum Peak Power	
<b>System Inlet Temperature</b>	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 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).
<b>Relative Humidity (non-condensing)</b>	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.
<b>Altitude</b>	Operating	3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
<b>Acoustic Noise</b>	<p>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). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.</p> <p><b>NOTE:</b> The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.</p>	
	<b>Idle</b>	
	LWAd	5.5 B
	LpAm	37 dBA
	<b>Operating</b>	

### Technical Specifications

<b>Emissions Classification (EMC)</b>	LWAd	5.5 B
	LpAm	37 dBA
	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.

<b>HP Smart Array P420i Controller</b>	<b>Dimensions</b>	Embedded
	<b>Disk Drive and Enclosure Interface - Transfer Rate</b>	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	<b>SAS Connectors</b>	2 internal 4X connectors
	<b>Cache Memory Speed</b>	DDR2-800MHz with 40 or 72-bit wide bus
	<b>Server Interface</b>	x4 PCIe 2.0 provides 2GB/s maximum bandwidth
	<b>SAS Speed</b>	(8) 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	<b>Cache Memory</b>	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC Zero Memory, Up to 2 logical volumes (8 physical drives)
	<b>Logical Drives Supported</b>	Up to 64 logical drives with cache
	<b>Host Memory Addressing</b>	64-bit, supporting greater than 4GB server memory space
	<b>RAID Support</b>	RAID 6, 6+0 (Advanced Data Guarding) <b>NOTE:</b> RAID 6, 6+0 can be enabled with one of the following combinations: <ul style="list-style-type: none"> <li>• 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades</li> <li>• 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades</li> <li>• 1G FBWC and Smart Array Advanced Pack License key option upgrades</li> </ul> RAID 5, 5+0 (Distributed Data Guarding) <b>NOTE:</b> A minimum of 256 MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)



### Technical Specifications

<b>HP Ethernet 1Gb 4-port 331FLR Adapter</b>	<b>Network Interface</b>	10Base-T/100Base-TX/1000Base-TX	
	<b>Compatibility</b>	EEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		IEEE 802.3ad 1000Base-TX	
		IEEE 802.1p 100Base-TX	
		IEEE 802.1q 100Base-TX	
	<b>Data Transfer Method</b>	PCI Express, four lanes (x4)	
	<b>Number of Ports</b>	4	
	<b>Controller</b>	BCM5719	
	<b>Network Transfer Rate</b>	10Base-T (Half-Duplex)	10 Mb/s per port, 40 Mb/s Combined
		10Base-T (Full-Duplex)	20 Mb/s per port, 80 Mb/s Combined
		100Base-TX (Half-Duplex)	100 Mb/s per port, 400 Mb/s Combined
		100Base-TX (Full-Duplex)	200 Mb/s per port, 800 Mb/s Combined
		1000Base-TX (Half Duplex)	1000Mb/s per port, 4000 Mb/s Combined
		1000Base-TX (Full Duplex)	2000Mb/s per port, 8000 Mb/s Combined
	<b>Connector</b>	Two RJ-45	
	<b>Cable Support</b>	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		10/100/1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)

HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	EEE 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	BCM57810S	
	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 SFP+		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	

### Technical Specifications

100Base-TX

Category 5 or higher UTP;  
up to 328 ft (100 m)

1000BaseTX

Category 5 or higher UTP;  
up to 328 ft (100 m)

#### Environment-friendly Products and Approach

#### End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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