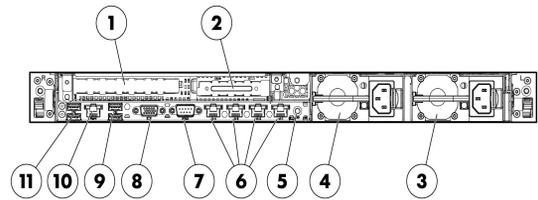
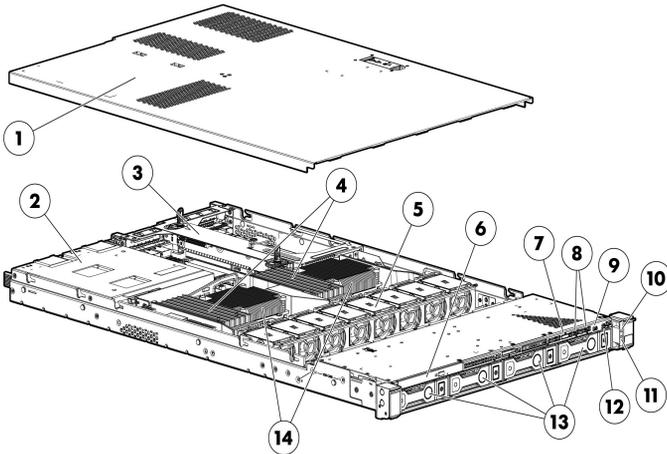


### Overview

Essential features packed in a 1U footprint to deliver the key elements for file and print and single application workloads. Value, performance, flexible storage, enhanced management and superior serviceability makes the DL360e the 2P system right-sized for both SMB and enterprise customers.



#### Front View:

1. Access Panel
2. Redundant Hot Plug Power Supplies (upgradeable option)
3. Removable Riser Cage assembly for 1 x PCIe 3.0 x16 + 1 x PCIe 2.0 x8
4. 12 DIMM slots: DDR3 Registered (RDIMM), Load Reduced (LRDIMM) or Unbuffered (UDIMM) memory
5. Removable hot-plug fan modules for easy serviceability
6. Optical Disk Drive Bay
7. Video connector
8. USB Connectors
9. Unit ID LED/button
10. Health LED
11. NIC activity LED
12. Power On/Standby button
13. Drive Bays
14. Up to two Intel® E5-2400/ E5-2400v2 Series processors

#### Rear View:

1. PCIe 3.0 Full-height/half-length (250mm) x16 expansion slot
2. PCIe 2.0 Low Profile x8 expansion slot
3. Power supply bay 1 (Primary Power Supply)
4. Power supply bay 2 (Shown populated: Optional)
5. Unit ID LED/button
6. HP Ethernet 1Gb 4-port 366i Adapter
7. Serial connector
8. Video connector
9. USB connectors
10. iLO connector
11. USB connectors

### 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

#### Entry Processors - E5-2400v2 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

Intel® Xeon® E5-2407v2(2.4GHz/4-core/10MB/6.4GT/s QPI/80W, DDR3-1333,)

Intel® Xeon® E5-2403v2(1.8GHz/4-core/10MB/6.4GT/s QPI/80W, DDR3-1333,)

#### Base Processors - E5-2400v2 series Processors

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

Intel® Xeon® E5-2430v2(2.5GHz/6-core/15MB/7.2GT/s QPI/80W, DDR3-1600,HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2430Lv2(2.4GHz/6-core/15MB/7.2GT/s QPI/60W, DDR3-1600,HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2420v2(2.2GHz/6-core/15MB/7.2GT/s QPI/80W, DDR3-1600,HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2440v2(1.9GHz/8-core/20MB/7.2GT/s QPI/95W, DDR3-1600,HT, Turbo2- 3/3/4/4/5/5) Turbo

#### Performance Processors - E5-2400v2 series Processors

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

Intel® Xeon® E5-2450v2(2.5GHz/8-core/20MB/8.0GT/s QPI/95W, DDR3-1600,HT, Turbo2- 5/5/6/6/7/7/8/8) Turbo +

Intel® Xeon® E5-2470v2(2.4GHz/10-core/25MB/8.0GT/s QPI/95W, DDR3-1600,HT, Turbo2- 5/5/6/6/7/7/8/8) Turbo+

Intel® Xeon® E5-2450Lv2(1.7GHz/10-core/25MB/8.0GT/s QPI/60W, DDR3-1600, HT, Turbo2- 5/5/6/6/7/7/8/8) Turbo+

#### Entry Processors - E5-2400 series Processors

**NOTE:** All support up to 1066MHz DDR3 memory speeds.

Intel® Xeon® E5-2407(2.2GHz/4 -core/10MB/6.4GT-s QPI/80W, DDR3-1066)

Intel® Xeon® E5-2403(1.8GHz/4 -core/10MB/6.4GT-s QPI/80W, DDR3-1066)

#### Base Processors - E5-2400 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

Intel® Xeon® E5-2440(2.4GHz/6 -core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2430(2.2GHz/6 -core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2430L(2.0GHz/6 -core/15MB/7.2GT-s QPI/60W, DDR3-1333,HT, Turbo2- 3/3/4/4/5/5) Turbo

Intel® Xeon® E5-2420(1.9GHz/6 -core/15MB/7.2GT/s QPI/95W, DDR3-1333, HT, Turbo2- 3/3/4/4/5/5) Turbo

#### Performance Processors - E5-2400 series Processors

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

### Standard Features

Intel® Xeon® E5-2470(2.3GHz/8-core/20MB/8.0GT-s QPI/95W, DDR3-1600,HT, Turbo2- 5/5/6/6/7/7/8/8) Turbo+

Intel® Xeon® E5-2450(2.1GHz/8 -core/20MB/8.0GT-s QPI/95W, DDR3-1600,HT, Turbo2- 5/5/6/6/7/7/8/8) Turbo+

Intel® Xeon® E5-2450L(1.8GHz/8 -core/20MB/8.0GT-s QPI/70W, DDR3-1600,HT, Turbo2- 2/2/3/3/4/4/5/5) Turbo+

#### Cache Memory

One of the following depending on Model

25MB (1x25MB) Level 3 cache

**NOTE:** for Ten-core processors.

20MB (1 x 20MB) Level 3 cache

**NOTE:** for Eight-core processors.

15MB (1 x 15MB) Level 3 cache

**NOTE:** For Six-core processors

10MB (1 x 10MB) Level 3 cache

**NOTE:** For Quad-core processors.

**NOTE:** All processor models above list the L3 Cache associated with that particular processor.

#### Chipset

Intel® C600 Series Chipset

Intel® E5-2400 Processor Family

Intel® E5-2400v2 Processor Family

**NOTE:** For more information regarding Intel® chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

#### Upgradeability

One of the following depending on Model

Upgradeable to 2 processors (16 Cores)

**NOTE:** Processor upgrade available from Intel® Xeon® Processors E5-2400 to E5-2400 v2. Please contact HP Technology Sales (<http://www.hp.com/support>), your local HP Re-seller, or reference the following Customer Advisory: [ProLiant Servers-Instructions for Upgrading an HP ProLiant Gen8 Server from an Intel Xeon Processor E5-2400 to an Intel Xeon Processor E5-2400v2](#), regarding critical details before upgrading. An explanation of requirements and limitations are provided.

#### On System Management Chipset

One of the following depending on Model

HP iLO (Firmware: HP iLO 4)

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

#### Memory Protection

One of the following depending on Model

Advanced ECC

Online Spare

Lock-step

### Standard Features

#### Memory

One of the following depending on Model

Type	HP SmartMemory DDR3 Load Reduced (LRDIMM), Registered (RDIMM) or Unbuffered (UDIMM)
Standard (Entry Models - SAS)	4GB (1 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) or 4GB (1 x 4GB) Registered DIMMs PC3L-12800R (1600MHz)
Standard (Entry Models - SATA)	4GB (1 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) or 4GB (1 x 4GB) Registered DIMMs PC3L-12800R (1600MHz)
Standard (Base Models)	8GB (2 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) or 8GB (1 x 8GB) Registered DIMMs PC3L-12800R (1600MHz)
Maximum Capacity (LRDIMM)	384GB (12 x 32GB LRDIMM @1333MHz)
Maximum Capacity (RDIMM)	192GB (12 x 16GB RDIMM @1600MHz or 1333MHz)
Maximum Capacity (UDIMM)	96GB (12 x 8GB UDIMM @1333MHz)

**NOTE:** HP memory from previous generation servers are not fully compatible with the HP ProLiant DL360e Gen8 Server.

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

**NOTE:** If only one processor is installed, only 6 DIMM slots are available. When populating with two processors 12 DIMM slots are available

**NOTE:** Depending on the memory configuration and processor model, the memory speed may run at 1600MHz, 1333MHz, or 1066MHz. 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).

#### Network Controller

HP Ethernet 1Gb 4-port 366i Adapter

**NOTE:** The HP ProLiant DL360e Gen8 server offers the customer a quad-port NIC standard with the option to upgrade with a variety of networking options.

#### Expansion Slots

Expansion Slots #	Technology	Bus Width*	Connector Width	Form Factor	Notes
1	PCIe 3.0	x16	x16	Full-height, half-length slot (250mm)	
2	PCIe 2.0	x4	x8	Low profile slot	

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

### 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).

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#### Storage Controller

One of the following depending on Model

Entry Model - SAS	HP Dynamic Smart Array B320i Controller <b>NOTE:</b> Provides support for up to 8 SAS or SATA drives and includes SAS license key.
Entry Model - SATA	HP Dynamic Smart Array B120i Controller <b>NOTE:</b> Provides data transmission speeds up to 3Gb/s.
Base Models	HP Dynamic Smart Array B320i/512MB FBWC Controller <b>NOTE:</b> Provides support for up to 8 SAS or SATA drives and includes SAS license key.
Performance Models	HP Smart Array P420/1GB FBWC Controller (RAID 0/1/1+0/5/5+0+6/6+0)

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### Standard Features

<b>Internal Storage Devices</b> One of the following depending on Model	Diskette Drive	None
	Optical Drive	Optional DVD-ROM, DVD-RW <b>NOTE:</b> This option available with all 8SFF or 4LFF drive bay models.
	Hard Drives	None ship standard
	Hard Drive Bays	8 SFF drive bays total with Optical drive bay 4 LFF drive bays total with Optical drive bay. <b>NOTE:</b> HP ProLiant DL360e Gen8 server offers both SFF and LFF versions in CTO. The Optical Drive bay is available with both models. <b>NOTE:</b> Drive cage changes are not supported. <b>NOTE:</b> 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.

<b>Maximum Internal Storage</b> One of the following depending on Model	Hot Plug SFF SAS	9.6TB	8 x 1.2TB
	Hot Plug SFF SATA	8.0TB	8 x 1TB
	Hot Plug LFF SAS	16.0TB	4 x 4TB
	Hot Plug LFF SATA	16.0TB	4 x 4TB
	Hot Plug SFF SAS SSD	6.4TB	8 x 800GB
	Hot Plug SFF SATA SSD	6.4TB	8 x 800GB
	Hot Plug LFF SATA SSD	3.2TB	4 x 800GB

<b>Interfaces</b>	Serial	1
	Video	1 Front Mini-Video connector/ 1 Rear standard video (not active simultaneously) <b>NOTE:</b> Mini-video connector requires Front Video Adapter Kit (PN 655915-B21).
	HP iLO Remote Management Network Port	1Gb Dedicated
	SD slot	1 Internal secure <b>NOTE:</b> The SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.
	USB 2.0 Ports	7 total: 4 rear, 2 front, 1 internal (secure)
	Network Ports	4x1GbE ports

### Standard Features

<b>Industry Standard Compliance</b>	ACPI 2.0b Compliant PCIe 3.0 PXE Support WOL Support Microsoft® Logo certifications USB 2.0 Compliant
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### 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 Worldwide 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/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 Power Discovery Services, a solution that creates 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 Power Discovery Services, 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).

### Standard Features

**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 [www.80Plus.org](http://www.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\\_div/14209\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html)

#### System Fans

One of the following depending on Model

4 Hot-Plug Non-redundant Fans ship standard in 1P Models

- 1P: 4 fans - non-redundancy
- 1P: 5 fans - redundancy

8 Hot-Plug Redundant Fans ship standard in 2P Models

**NOTE:** Customers may separately purchase a redundant fan with the 661530-B21 option kit. Additional fans to support redundancy are also included in -B21 processor option kits when upgrading from a one processor to a two processor model.

#### Required Cabling

For required cabling information, refer to the Web site at: [www.hp.com/servers/DL360e-gen8](http://www.hp.com/servers/DL360e-gen8)

#### 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](#)

**NOTE:** For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/DL360eGen8>.

#### Graphics

Integrated Matrox G200 video standard

#### Form Factor

One of the following depending on Model

1U Rack form factor

8 SFF Drive Bay Version:

1.7" (4.32cm) Height x 17.1" (43.46cm) Width x 27.5" (69.9cm) Length

4 LFF Drive Bay Version:

1.7" (4.32cm) Height x 17.1" (43.46cm) Width x 29.5" (75cm) Length

### 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

### Standard Features

#### HP Insight Management HP Service Pack for ProLiant (SPP)

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

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 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 provides a 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 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) can be downloaded from [www.hp.com/go/spp/download](http://www.hp.com/go/spp/download). More information can be found: <http://www.hp.com/go/SmartUpdate>, [www.hp.com/go/spp](http://www.hp.com/go/spp) and <http://www.hp.com/go/hpsum>

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<b>Security</b>	Power-on password Serial interface control Administrator's password
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### 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, 1-Year Labor, 1-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 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 Insight Control 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 iLO Essentials

HP iLO Essentials license ideal for small and medium business customers. The specially created HP iLO Essentials (a subset of iLO Advanced functionality) saves SMB customers time and money, by ease of remote server set up through the interactive virtual media, lowering operational costs with remote access via the Integrated Remote Console, and faster time to resolution with email-based proactive notifications. With this newly designed HP iLO Essentials license SMB customers now have the option of a server management package solely design and priced just right for their IT environments. HP iLO Essentials is available on all HP ProLiant Gen8 e-series making this an ideal solution for small business owners. For more information, see: <http://www.hp.com/go/iLO/essentials>

#### HP iLO Advanced

HP Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HP ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see: <http://www.hp.com/go/iLOADVANCE>

#### 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>

### 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>

#### Storage Software

Whether you need to solve a specific data protection, archiving, or storage command and control challenge, or deliver on strategic consolidation, compliance, or continuity initiatives, look no further than HP storage software. Our storage software helps you reduce costs, simplify storage infrastructure, protect vital assets and respond faster to business opportunities.

Storage software that gets the job done:

- **Data Protection and Recovery Software**  
Whether you're a large enterprise or a smaller business, HP data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**  
HP's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**  
HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**  
HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**  
Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**  
With HP StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

**NOTE:** For more information available Storage Software including QuickSpecs, please see:

### Optional Features

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

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#### 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)

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#### HPC Interconnects

**NOTE:** High Performance Computing (HPC) interconnect technologies are available for this server under the HP Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand Interconnects: <http://www.hp.com/techservers/clusters/ucp/index.html>

InfiniBand

PCI-Express Generation 2 adapters

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#### Factory Express Portfolio for Servers and Storage

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

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

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

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#### HP Proactive Insight experience

Prevent problems with innovative, automated monitoring tools and proactive services. The HP Proactive Insight experience consist of using Insight Online, Insight Remote Support, and Proactive Care Support Service as one integrated solution. The Proactive Insight experience provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit: [www.hp.com/go/proactiveinsightexperience](http://www.hp.com/go/proactiveinsightexperience)

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#### 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>

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### 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 or Critical Advantage

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 query or issue end to end until resolved, delivering a single point of contact for you  
<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-2140ENW.pdf>

**Additional Services:** Data Center Transformation Services

### 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**

Offers customers a single point of contact for server problem diagnosis, hardware problem resolution, and basic software problem diagnosis, fault isolation, and resolution if available to HP. If the problem is with HP HW, the representative will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf.

**Additional Services:** Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware) Installation & Start Up and Software Support; Microsoft or Linux or VMware education courses; +60 Proactive Select Credits

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

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA0-9972ENW.pdf>

**Additional Services:** Software OS (Microsoft, Linux (SUSE/Red Hat) & VMware) Installation & Start Up and Software Support; +30 Proactive Select Credits, Factory Express.

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#### Insight Remote Support

Provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. Learn more

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

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### 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.

**NOTE:** When the SAS FIO riser kit (PN 661387-B21) which includes HP Dynamic Smart Array B320i controller is installed in the server, the embedded Smart Array B120i controller is automatically disabled. In the absence of another storage controller or an expander backplane, drives operate in ACHI or Legacy mode. In these two modes, the drives are not part of a hardware RAID or a member of a logical drive. The Locate, Drive status, and Do not remove LEDs in the drive carrier are disabled.

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

### Entry Models - SAS

<b>HP ProLiant DL360e Gen8 E5-2403 1P 4GB-R Hot Plug 8 SFF 460W PS Entry Server</b> 668813-xx1	<b>Processor</b>	(1) Intel® Xeon® E5-2403 (1.8GHz/4-core/10MB/80W, DDR3-1066) Processor
	<b>Cache Memory</b>	10MB (1 x 10MB) L3 cache
	<b>Memory</b>	4GB (1 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) <b>NOTE:</b> Memory runs at 1066MHz speed due to processor.
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>	HP Dynamic Smart Array B320i Controller <b>NOTE:</b> Provides support for up to 8 SAS or SATA drives and includes SAS license key (PN BC393A).
	<b>Hard Drive</b>	None ship standard; includes 7 SFF hard drive blanks
	<b>Internal Storage</b>	8 SFF HDD Bays
	<b>Power Supply</b>	(1) HP 460W CS Gold Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	4 Hot-Plug Non-redundant Fans
	<b>Form Factor</b>	Rack (1U) <b>NOTE:</b> Includes Rack Mounting Gen8 non-telescoping Friction Rail Kit which does not allow for in rack serviceability. 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 is 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, 1-Year Labor, 1-Year Onsite support with next business day response.

### Pre-configured Models

<b>HP ProLiant DL360e Gen8 E5-2403v2 1P 4GB-R B320i Hot Plug SAS 8 SFF 460W PS Svr</b> 747089-xx1	<b>Processor</b>	(1) Intel® Xeon® E5-2403v2 (1.8GHz/4-core/10MB/80W, DDR3-1333066) Processor
	<b>Cache Memory</b>	10MB (1x10MB) L3 cache
	<b>Memory</b>	4GB (1x4GB) DDR3 RDIMM PC3L-12800R (1600MHz) <b>NOTE:</b> Memory runs at 1333MHz speed due to processor.
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>	HP Dynamic Smart Array B320i Controller <b>NOTE:</b> Provides support for up to 8 SAS or SATA drives and includes SAS license key (PN BC393A).
	<b>Hard Drive</b>	None ship standard; includes 7 SFF hard drive blanks
	<b>Internal Storage</b>	8 SFF HDD Bays
	<b>Power Supply</b>	(1) HP 460W CS Gold Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	4 Hot-Plug Non-redundant Fans
	<b>Form Factor</b>	Rack (1U) <b>NOTE:</b> Includes the Easy Install Rail kit which does allow for in-rack serviceability. The Easy Install Cable Management Arm is optional. 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, 1-Year Labor, 1-Year Onsite support with next business day response.

### Entry Models - SATA

<b>HP ProLiant DL360e Gen8 E5-2403 1P 4GB-R Hot Plug 4 LFF 460W PS Entry Svr</b> 668812-xx1	<b>Processor</b>	(1) Intel® Xeon® E5-2403 (1.8GHz/4-core/10MB/80W, DDR3-1066) Processor
	<b>Cache Memory</b>	10MB (1 x 10MB) L3 cache
	<b>Memory</b>	4GB (1 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) <b>NOTE:</b> Memory runs at 1066MHz speed due to processor.
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>	HP Dynamic Smart Array B120i Controller <b>NOTE:</b> Provides data transmission speeds up to 3Gb/s
	<b>Hard Drive</b>	None ship standard; includes 3 LFF hard drive blanks
	<b>Internal Storage</b>	4 LFF HDD Bays
	<b>Power Supply</b>	(1) HP 460W CS Gold Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	4 Hot-Plug Non-redundant Fans
	<b>Form Factor</b>	Rack (1U) <b>NOTE:</b> Includes Rack Mounting Gen8 non-telescoping Friction Rail Kit which does not allow for in rack serviceability. 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 is 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** Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.

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<b>HP ProLiant DL360e Gen8 E5-2403v2 1P 4GB-R B120i Hot Plug SATA 4 LFF 460W PS Svr 747088-xx1</b>	<b>Processor</b>	(1) Intel® Xeon® E5-2403 v2 (1.8GHz/4-core/10MB/80W, DDR3-1333) Processor
	<b>Cache Memory</b>	10MB (1 x 10MB) L3 cache
	<b>Memory</b>	4GB (1x4GB) DDR3 RDIMM PC3L-12800R (1600MHz) <b>NOTE:</b> Memory runs at 1333MHz speed due to processor
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>	HP Dynamic Smart Array B120i Controller <b>NOTE:</b> Provides data transmission speeds up to 3Gb/s
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	4 LFF HDD Bays
	<b>Power Supply</b>	(1) HP 460W CS Gold Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	4 Hot-Plug Non-redundant Fans
	<b>Form Factor</b>	Rack (1U) <b>NOTE:</b> Includes the Easy Install Rail kit which does allow for in-rack serviceability. The Easy Install Cable Management Arm is optional. 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, 1-Year Labor, 1-Year Onsite support with next business day response.

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### Base Models

<b>HP ProLiant DL360e Gen8 E5-2407 1P 8GB-R Hot Plug 8 SFF 460W PS Base Server 668814-xx1</b>	<b>Processor</b>	(1) Intel® Xeon® E5-2407 (2.2GHz/4-core/10MB/6.4GT-s QPI/80W, DDR3-1066, HT) Processor
	<b>Cache Memory</b>	10MB (1 x 10MB) L3 cache
	<b>Memory</b>	8GB (2 x 4GB) Registered DIMMs PC3L-10600R (1333MHz) <b>NOTE:</b> Memory runs at 1066MHz speed due to processor.
	<b>Network Controller</b>	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>	HP Dynamic Smart Array B320i/512 MB FBWC Controller <b>NOTE:</b> Provides support for up to 8 SAS or SATA drives and includes SAS license key (PN BC393A).
	<b>Hard Drive</b>	None ship standard; includes 7 SFF hard drive blanks
	<b>Internal Storage</b>	8 SFF HDD Bays
	<b>Power Supply</b>	(1) HP 460W CS Gold Plus Hot Plug Power Supply (92% Efficient)
	<b>Fans</b>	4 Hot-Plug Non-redundant Fans
	<b>Form Factor</b>	Rack (1U) <b>NOTE:</b> Includes Rack Mounting Gen8 telescoping SFF Ball Bearing Rail Kit which does allow for in rack serviceability. Due to the size and weight of the server two people are required to install the server into the rack. The HP 1U

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### Pre-configured Models

Gen8 Cable Management Arm is optional. 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 is required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

#### Warranty

Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.

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#### HP ProLiant DL360e Gen8 Processor E5-2407v2 1P 8GB-R

(1) Intel® Xeon® E5-2407 v2 (2.4GHz/4-core/10MB/6.4GT-s QPI/80W, DDR3-1333) Processor

#### B320i/512 Ht Plg SAS 8SFF Cache Memory

10MB (1 x 10MB) L3 cache

#### 460W PS Svr

#### Memory

8GB (1x8GB) DDR3 RDIMM PC3L-12800R (1600MHz)

747090-xx1

**NOTE:** Memory runs at 1333MHz speed due to processor.

#### Network Controller

HP Ethernet 1Gb 4-port 366i Adapter

#### Storage Controller

HP Dynamic Smart Array B320i/512 MB FBWC Controller

**NOTE:** Provides support for up to 8 SAS or SATA drives and includes SAS license key (PN BC393A).

#### Hard Drive

None ship standard

#### Internal Storage

8 SFF HDD Bays

#### Power Supply

(1) HP 460W CS Gold Plus Hot Plug Power Supply (92% Efficient)

#### Fans

4 Hot-Plug Non-redundant Fans

#### Form Factor

Rack (1U)

**NOTE:** Includes the Easy Install Rail kit which does allow for in-rack serviceability. The Easy Install Cable Management Arm is optional. 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.

#### Warranty

Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.

### Pre-configured Models

#### Performance Models

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

<b>HP ProLiant DL360e Gen8 Processor</b>	(2) Intel® Xeon® E5-2430 (2.2GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, 2- 3/3/4/4/5/5) Processor
<b>E5-2430 2P 24GB-R P420</b>	
<b>Hot Plug 8 SFF 2x460W PS</b>	<b>Cache Memory</b>
<b>Perf Svr</b>	20MB (1x20MB) Level 3
668815-xx1	<b>Memory</b>
	24GB (6 x 4GB) Registered DIMMs PC3L-10600R (1333MHz)
	<b>Network Controller</b>
	HP Ethernet 1Gb 4-port 366i Adapter
	<b>Storage Controller</b>
	HP Smart Array P420/1GB FBWC Controller (RAID 0/1/1+0/5/5+0+6/6+0)
	<b>Hard Drive</b>
	None ship standard; includes 7 SFF hard drive blanks
	<b>Internal Storage</b>
	8 SFF HDD Bays
	<b>Power Supply</b>
	(2) HP 460W CS Gold Plus Hot Plug Power Supplies (92% Efficient)
	<b>Fans</b>
	8 Hot-Plug Redundant Fans
	<b>Form Factor</b>
	Rack (1U)
	<b>NOTE:</b> Includes Rack Mounting Gen8 telescoping SFF Ball Bearing Rail Kit which does allow for in rack serviceability. Due to the size and weight of the server two people required to install the server into the rack. The HP 1U Gen8 Cable Management Arm is optional. 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 is 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, 1-Year Labor, 1-Year Onsite support with next business day response

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

### Configuration Information - Factory Integrated Models

**NOTE:** This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on 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 DL360e Gen8 8 SFF Configure-to-order Server

661189-B21

**NOTE:** New options are available for Rack Rail Kits; these options are no longer standard on-board with this Model Part Number. Please see HP Rack Options below for optional required options.

#### Includes:

##### Factory Integrated Model ships with:

2 x HP Smart Socket Guides for fast processor installation  
Drive Cage - 8-Small Form Factor  
12 DIMM slots for RDIMM, LRDIMM and UDIMM SmartMemory installation  
HP Ethernet 1Gb 4-port 366i Adapter  
HP Dynamic Smart Array B120i Controller (Cache connection for 512MB FBWC options)  
I/O slots - 2 Slots come standard:

- Slot 1 - Full-Height/Half-Length (250mm) x 16 PCIe 3.0
- Slot 2 - Low Profile x 8 PCIe 2.0

System Fans - 4 (4 additional fans included with second processor kit)  
USB - 4 Rear, 2 Front, 1 Internal  
1 Internal SD slot  
HP iLO Management Engine (standard)

HP ProLiant DL360e Gen8 4 LFF Configure-to-order Server

661190-B21

**NOTE:** New options are available for Rack Rail Kits; these options are no longer standard on-board with this Model Part Number. Please see HP Rack Options below for optional required options.

#### Includes:

##### Factory Integrated Model ships with:

2 x HP Smart Socket Guides for fast processor installation  
Drive Cage - 4-Large Form Factor  
12 DIMM slots for RDIMM, LRDIMM and UDIMM SmartMemory installation  
HP Ethernet 1Gb 4-port 366i Adapter  
HP Dynamic Smart Array B120i Controller (Cache connection for 512MB FBWC options)  
I/O slots - 2 Slots come standard:

- Slot 1 - Full-Height/Half-Length (250mm) x 16 PCIe 3.0
- Slot 2 - Low Profile x 8 PCIe 2.0

System Fans - 4 (4 additional fans included with second processor)  
USB - 4 Rear, 2 Front, 1 Internal

### Configuration Information - Factory Integrated Models

1 Internal SD slot  
HP iLO Management Engine (standard)

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

#### HP Processors

##### Entry Processors - E5-2400v2 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2407v2 (2.4GHz/4-core/10MB/80W) FIO Processor Kit 708483-L21

HP DL360e Gen8 Intel® Xeon® E5-2403v2 (1.8GHz/4-core/10MB/80W) FIO Processor Kit 708481-L21

##### Base Processors - E5-2400v2 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2430v2 (2.5GHz/6-core/15MB/80W) FIO Processor Kit 708487-L21

HP DL360e Gen8 Intel® Xeon® E5-2430Lv2 (2.4GHz/6-core/15MB/60W) FIO Processor Kit 746525-L21

HP DL360e Gen8 Intel® Xeon® E5-2420v2 (2.2GHz/6-core/15MB/80W) FIO Processor Kit 708485-L21

HP DL360e Gen8 Intel® Xeon® E5-2440v2 (1.9GHz/8-core/20MB/95W) FIO Processor Kit 708489-L21

##### Performance Processors - E5-2400v2 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2450v2 (2.5GHz/8-core/20MB/95W) FIO Processor Kit 708491-L21

HP DL360e Gen8 Intel® Xeon® E5-2470v2 (2.4GHz/10-core/25MB/95W) FIO Processor Kit 708493-L21

HP DL360e Gen8 Intel® Xeon® E5-2450Lv2 (1.7GHz/10-core/25MB/60W) FIO Processor Kit 746527-L21

##### Entry Processors - E5-2400 series Processors

**NOTE:** All support up to 1066MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2407 (2.2GHz/4-core/10MB/80W) FIO Processor Kit 660664-L21

HP DL360e Gen8 Intel® Xeon® E5-2403 (1.8GHz/4-core/10MB/80W) FIO Processor Kit 660666-L21

##### Base Processors - E5-2400 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2440 (2.4GHz/6-core/15MB/95W) FIO Processor Kit 660656-L21

HP DL360e Gen8 Intel® Xeon® E5-2430 (2.2GHz/6-core/15MB/95W) FIO Processor Kit 660658-L21

HP DL360e Gen8 Intel® Xeon® E5-2430L (2.0GHz/6-core/15MB/60W) FIO Processor Kit 660670-L21

HP DL360e Gen8 Intel® Xeon® E5-2420 (1.9GHz/6-core/15MB/95W) FIO Processor Kit 660660-L21

##### Performance Processors - E5-2400 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2470 (2.3GHz/8-core/20MB/95W) FIO Processor Kit 660650-L21

HP DL360e Gen8 Intel® Xeon® E5-2450 (2.1GHz/8-core/20MB/95W) FIO Processor Kit 660652-L21

HP DL360e Gen8 Intel® Xeon® E5-2450L (1.8GHz/8-core/20MB/70W) FIO Processor Kit 660668-L21

#### HP Memory

##### Registered DIMMs (RDIMMs)

**NOTE:** The following memory is supported by the E5-2400 v2 series Processors.

### Configuration Information - Factory Integrated Models

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713981-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713983-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21
HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21

**NOTE:** The following memory is supported by the E5-2400 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647893-B21
HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647897-B21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647899-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	690802-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21

#### Unbuffered with ECC DIMMs (UDIMM)

**NOTE:** The following memory is supported by the E5-2400 v2 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713975-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713977-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21

**NOTE:** The following memory is supported by the E5-2400 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21

#### Load Reduced DIMMs (LRDIMMs)

### Configuration Information - Factory Integrated Models

**NOTE:** The following memory is supported by the E5-2400 v2 and 2400 series Processors.

HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit 647903-B21

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

**NOTE:** Depending on the memory configuration and processor model, 1600MHz and 1333MHz memory may operate at a lower speed. Please see the "Memory" section later in this document and the Online Memory Configuration Tool for details at [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

**NOTE:** For additional memory rules and guidelines, see the "Memory" section later in this document.

**NOTE:** For more information on ProLiant Energy Efficient Features, see:

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

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

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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 Titanium Power Supply Kits

697581-B21

**NOTE:** The following Power Supply offers up to 96% Efficiency support for Intelligent Power Discovery.

HP 750W Common Slot Titanium Hot Plug Power Supply Kit

697581-B21

#### 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 up to 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

**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.

### Configuration Information - Factory Integrated Models

**NOTE:** HP ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). For a full list of optional HP power cords please go to [www.hp.com/products/powercords](http://www.hp.com/products/powercords)

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<b>HP I/O Expansion Options</b>	HP DL360e Gen8 CPU1 with SAS Support FIO Riser Kit <b>NOTE:</b> Includes HP Dynamic Smart Array B320i controller <b>NOTE:</b> SAS license key (PN BC393A) is selected by default when this riser kit is selected. If SAS support is not needed, SAS license key (PN BC393A) can be deselected. SAS license key is mandatory for SAS support. Supports up to 8 drives.	661387-B21
	HP DL360e Gen8 CPU1 with SATA Support FIO Riser Kit <b>NOTE:</b> If no other storage controller is selected, embedded HP Dynamic Smart Array B120i controller (SATA only) is the primary controller.	661388-B21

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### Step 3: Choose Additional Factory Integratable Options

#### HP Rack Kits

**NOTE:** Gen8 rail kits have changed significantly from prior generation rail kits. Please take a moment to review the installation documentation that comes with the server to help you with the installation of your Gen8 server.

**NOTE:** Rail kits are optional for Gen8 and are no longer included standard with the server. Customers have the option to purchase their server without a rail kit.

**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.

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HP 1U FIO Friction Rail Kit	663200-B21
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**NOTE:** Kit contains non-telescoping friction rails which do not allow for in rack serviceability. The HP 1U Gen8 Cable Management Arm is not available when using Friction Rails. Caution: HP recommends that a minimum of two people is required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

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<b>HP Insight Software</b>	HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License	C6N36A
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<b>HP Converged Infrastructure Management Software</b>	HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic	E5Y43A
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### Step 4: Choose Additional Options for Factory Integration

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

### Core Options

**NOTE:** Some options may not be integrated at the factory. 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 Processors

##### Entry Processors - E5-2400v2 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2407v2 (2.4GHz/4-core/10MB/80W) Processor Kit 708483-B21

HP DL360e Gen8 Intel® Xeon® E5-2403v2 (1.8GHz/4-core/10MB/80W) Processor Kit 708481-B21

##### Base Processors - E5-2400v2 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2430v2 (2.5GHz/6-core/15MB/80W) Processor Kit 708487-B21

HP DL360e Gen8 Intel® Xeon® E5-2430Lv2 (2.4GHz/6-core/15MB/60W) Processor Kit 746525-B21

HP DL360e Gen8 Intel® Xeon® E5-2420v2 (2.2GHz/6-core/15MB/80W) Processor Kit 708485-B21

HP DL360e Gen8 Intel® Xeon® E5-2440v2 (1.9GHz/8-core/20MB/95W) Processor Kit 708489-B21

##### Performance Processors - E5-2400v2 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2450v2 (2.5GHz/8-core/20MB/95W) Processor Kit 708491-B21

HP DL360e Gen8 Intel® Xeon® E5-2470v2 (2.4GHz/10-core/25MB/95W) Processor Kit 708493-B21

HP DL360e Gen8 Intel® Xeon® E5-2450Lv2 (1.7GHz/10-core/25MB/60W) Processor Kit 746527-B21

##### Entry Processors - E5-2400 series Processors

**NOTE:** All support up to 1066MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2407 (2.2GHz/4-core/10MB/80W) Processor Kit 660664-B21

HP DL360e Gen8 Intel® Xeon® E5-2403 (1.8GHz/4-core/10MB/80W) Processor Kit 660666-B21

##### Base Processors - E5-2400 series Processors

**NOTE:** All support up to 1333MHz DDR3 memory speeds.

HP DL360e Gen8 Intel® Xeon® E5-2440 (2.4GHz/6-core/15MB/95W) Processor Kit 660656-B21

HP DL360e Gen8 Intel® Xeon® E5-2430 (2.2GHz/6-core/15MB/95W) Processor Kit 660658-B21

HP DL360e Gen8 Intel® Xeon® E5-2430L (2.0GHz/6-core/15MB/60W) Processor Kit 660670-B21

HP DL360e Gen8 Intel® Xeon® E5-2420 (1.9GHz/6-core/15MB/95W) Processor Kit 660660-B21

##### Performance Processors - E5-2400 series Processors

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

HP DL360e Gen8 Intel® Xeon® E5-2470 (2.3GHz/8-core/20MB/95W) Processor Kit 660650-B21

HP DL360e Gen8 Intel® Xeon® E5-2450 (2.1GHz/8-core/20MB/95W) Processor Kit 660652-B21

HP DL360e Gen8 Intel® Xeon® E5-2450L (1.8GHz/8-core/20MB/70W) Processor Kit 660668-B21

**NOTE:** Up to 2 processors supported.

**NOTE:** HT indicates that the processor model supports Intel® /Hyper-Threading Technology

**NOTE:** Turbo2: Intel® Turbo Boost Technology 2.0 provides more computing power when you need it with performance that adapts to spikes in your workload and delivers more performance upside than then previous generation turbo technology.

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

**NOTE:** For the Intel® C600 Chipset E5-2400 and E5-2400 v2 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2400x v#, 2 = number of CPUs in a Node, 4 is socket/segment designation, 00 = Processor SKU, x = L for low power

### Core Options

SKUs and v# = version number.

#### HP Memory

**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\\_div/14225\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html)  
(Worldwide)

**NOTE:** HP memory from previous generation servers are not fully compatible with Smart Memory features in Gen8 Servers.

#### Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713981-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713983-B21
HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	731765-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713985-B21

**NOTE:** The above memory is supported by the E5-2400 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647893-B21
HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647897-B21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647899-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	690802-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21

**NOTE:** The above memory is supported by the E5-2400 series Processors.

#### Unbuffered with ECC DIMMs (UDIMM)

HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713975-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713977-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit	713979-B21

**NOTE:** The above memory is supported by the E5-2400 v2 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
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### Core Options

HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647905-B21
HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647907-B21
HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit	647909-B21
<b>NOTE:</b> The above memory is supported by the E5-2400 series Processors.	
<b>Load Reduced DIMMs (LRDIMMs) for E5-2xxx series Processors</b>	
HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit	647903-B21
<b>NOTE:</b> The above memory is supported by the E5-2400 v2 and E5-2400 series Processors.	
<b>NOTE:</b> All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: <a href="http://www.hp.com/go/ddr3memory-configurator">www.hp.com/go/ddr3memory-configurator</a> .	
<b>NOTE:</b> PC3L is a low voltage memory.	

### HP Optical Drives

HP 9.5mm SATA DVD-ROM JackBlack Optical Drive	652238-B21
HP 9.5mm SATA DVD-RW JackBlack Optical Drive	652241-B21

### HP Hard Drives

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

HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	697574-B21
HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
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 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21

#### 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 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	695510-B21
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

### Core Options

HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	652753-B21
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html">http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html</a> (Worldwide)	
<b>6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives</b>	
HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21
HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21
<b>6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives</b>	
HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	693687-B21
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 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658071-B21
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html">http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html</a> (Worldwide)	
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives</b>	
HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	717965-B21
HP 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734360-B21
<b>6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Boot Solid State Drives</b>	
HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	718171-B21
HP 80GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	734362-B21
<b>6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives</b>	
HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717973-B21
HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717971-B21
HP 600GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	739898-B21
HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive	739888-B21
HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive	717969-B21
<b>6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives</b>	
HP 800GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718189-B21
HP 600GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	739900-B21
HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718183-B21

### Core Options

HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive	739890-B21
HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive	718177-B21
<b>6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691868-B21
HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691866-B21
HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691864-B21
HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691862-B21
<b>6G SATA ME Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives</b>	
HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691860-B21
HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691856-B21
HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691854-B21
HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691852-B21
<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>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html">http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html</a> (Worldwide)	
<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
<b>3G SATA MLC Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives</b>	

### Core Options

HP 400GB 3G SATA MLC LFF (3.5-inch) SC Enterprise Mainstream 3yr Warranty Solid State Drive 653126-B21

**NOTE:** The HP ProLiant DL380e 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 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.

### 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 10Gb 2-port 530T Adapter 656596-B21

HP Ethernet 1Gb 2-port 361T Adapter 652497-B21

HP Ethernet 1Gb 4-port 331T Adapter 647594-B21

HP Ethernet 1Gb 2-port 332T Adapter 615732-B21

#### 10 Gigabit Ethernet Adapters

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

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

HP Ethernet 10Gb 2-port 530SFP Adapter 652503-B21

HP Ethernet 10Gb 2-port 560SFP+ Adapter 665249-B21

**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. See cables/options below.

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

### HP InfiniBand

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

HP Infiniband FDR/Ethernet 10Gb/40Gb 2-port 544QSFP Adapter 649281-B21

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

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

[http://h18000.www1.hp.com/products/quickspecs/13078\\_div/13078\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html)

### Core Options

#### 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 Titanium Power Supply Kits

**NOTE:** The following Power Supply offers up to 96% Efficiency support for Intelligent Power Discovery.

HP 750W Common Slot Titanium Hot Plug Power Supply Kit 697581-B21

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

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

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

#### HP Common Slot Gold Power Supplies

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

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

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

#### HP Common Slot -48VDC Power Supplies

HP 750W Common Slot -48VDC Hot Plug Power Supply Kit 636673-B21

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

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

**NOTE:** HP ProLiant servers ship with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). For a full list of optional HP power cords please go to [www.hp.com/products/powercords](http://www.hp.com/products/powercords)

**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)

#### HP Graphic Options

HP DL360 Gen8 Front Video Adapter Kit 655915-B21

**NOTE:** Required to enable the front video port.

HP Graphic Card Power Adapter Kit 661389-B21

**NOTE:** The adapter kit is used to provide power to high-wattage cards (example: graphics cards) that require up to 225W of power.

NVIDIA Quadro K4000 PCI-E Graphics Adapter 730870-B21

### Core Options

#### HP Cooling Options

HP DL360e Gen8 Redundant Fan Kit

661530-B21

**NOTE:** The kit contains one fan to be added to a server with one processor installed to make the fans redundant.

### Additional Options

#### HP Insight Software

#### HP Insight Control

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License C6N27A

HP Insight Control Server Provisioning Media Kit BD883A

HP Insight Management Media Kit C6N31A

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

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

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

**NOTE:** Customer will receive a 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 QuickSpecs at:

[http://h18000.www1.hp.com/products/quickspecs/12631\\_div/12631\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html)

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

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 Essentials

HP Integrated Lights-Out Essentials including 3yr 24x7 Tech Support and Updates Single Svr License BD774A

HP Integrated Lights-Out Essentials including 1yr 24x7 Tech Support and Updates Single Svr License BD775A

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

[http://h18004.www1.hp.com/products/quickspecs/14276\\_div/14276\\_div.html](http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html)

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

#### HP Converged Infrastructure Management Software

#### HP OneView without iLO Advanced

HP OneView incl 3yr 24x7 Supp Phys 1 Svr Lic E5Y34A

HP OneView Media Kit Phys No Lic E5Y37A

HP OneView incl 3yr 24x7 Supp Flex Qty E-LTU E5Y35AAE

#### HP OneView without iLO Advanced

HP OneView w/o iLO Adv inc 3yr 24x7 Supp Flex Qty E-LTU E5Y39AAE

HP OneView w/o iLO Adv incl 3yr 24x7 Supp Phys 1 Svr Lic E5Y38A

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

[http://h18000.www1.hp.com/products/quickspecs/14621\\_div/14621\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14621_div/14621_div.html) (Worldwide)

### Additional Options

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

#### 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

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

[http://h18000.www1.hp.com/products/quickspecs/13587\\_div/13587\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html)  
(Worldwide)

#### HP Security

HP 1U Security Gen8 Bezel Kit

664918-B21

HP Trusted Platform Module Option

488069-B21

**NOTE:** The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: [www.hp.com/go/TPM](http://www.hp.com/go/TPM).

**NOTE:** ProLiant OS pre-installed units will come with the partition required for TPM deployment.

**NOTE:** The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

#### 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

**NOTE:** Supported on LFF models only.

#### HP Smart Array P430 Controller

### Additional Options

HP Smart Array P430/2GB FBWC 6Gb 1-port Int SAS Controller	698529-B21
<b>NOTE:</b> Supported on 8SFF models only. Cable kit PN: 725598-B21 is mandatorily required with P430 controller on DL360e Gen8.	
<b>HP Smart Array P420 Controller</b>	
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
<b>HP Smart Array P431 Controller</b>	
HP Smart Array P431/2GB FBWC 6Gb 2-ports Ext SAS Controller	698531-B21
<b>HP Smart Array P421 Controller</b>	
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
<b>HP Smart Array P822 Controller</b>	
HP Smart Array P822/2GB FBWC 2-ports Int/4-ports Ext SAS Controller	615418-B21
<b>NOTE:</b> Supported on SFF models only.	
<b>Optional Upgrades</b>	
HP 2GB P-series Smart Array Flash Backed Write Cache	631681-B21
HP 512MB B-series 36 inch Dynamic Smart Array Flash Backed Write Cache for ML/DL	631922-B21
<b>NOTE:</b> This kit includes a cable and cache module that is used in conjunction with the B320i and B120i controller.	
HP 1U Gen8 Smart Array Cable Kit	672242-B21
<b>NOTE:</b> This cable kit is required when using the P222, P420, P822 Smart Array controllers, and H222, H220 HBAs.	
<b>NOTE:</b> If P420 is installed in Slot 1 of 8SFF model, this cable is not required.	
HP Gen8 2-port SATA Cable Kit	675856-B21
<b>NOTE:</b> Required for 6SFF configurations with B120i	
HP DL360e Gen8 Internal SAS P430/830 Cable Kit	725598-B21
HP SAS License Key No Media 1 Single Server License for B320i	BC393A
HP SmartCache No Media 24x7 Technical Support 1 Svr License	D7S26A
HP SmartCache No Media 24x7 Technical Support Flexible License	D7S27A
HP SmartCache No Media 24x7 Technical Support Electronic License	D7S27AAE
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:	
<a href="http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html">http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html</a> (Smart Array P222 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/14228_div/14228_div.html">http://h18000.www1.hp.com/products/quickspecs/14228_div/14228_div.html</a> (Smart Array P420 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html">http://h18000.www1.hp.com/products/quickspecs/14229_div/14229_div.html</a> (Smart Array P421 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/14341_div/14341_div.html">http://h18000.www1.hp.com/products/quickspecs/14341_div/14341_div.html</a> (Smart Array P822 Controller)	
<a href="http://h18000.www1.hp.com/products/quickspecs/14343_div/14343_div.html">http://h18000.www1.hp.com/products/quickspecs/14343_div/14343_div.html</a> (Dynamic Smart Array Controllers)	
<b>HP Host Bus Adapters</b>	

### Additional Options

HP H221 Host Bus Adapter	650931-B21
<b>NOTE:</b> This is a 2 x4 External Port HBA.	
HP H222 Host Bus Adapter	650926-B21
<b>NOTE:</b> Supported on LFF models only.	
HP H220 Host Bus Adapter	650933-B21
HP H221 PCIe 3.0 SAS Host Bus Adapter	729552-B21
<b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://h18004.www1.hp.com/products/quickspecs/14336_div/14336_div.html">http://h18004.www1.hp.com/products/quickspecs/14336_div/14336_div.html</a> (HBA 220) <a href="http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html">http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html</a> (HBA 221) <a href="http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html">http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html</a> (HBA 222)	
<b>SCSI HBA</b>	
HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
<b>NOTE:</b> Please see the following QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html">http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html</a> (SC11Xe HBA)	

### HP Cable Options

HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A
HP B-series SFP+ to SFP+ Active Copper 1.0m Direct Attach Cable	AP818A
HP B-series SFP+ to SFP+ Active Copper 3.0m Direct Attach Cable	AP819A
HP B-series SFP+ to SFP+ Active Copper 5.0m Direct Attach Cable	AP820A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A

### 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> and [www.hp.com/go/ebs](http://www.hp.com/go/ebs).  
**NOTE:** For Internal drives to be connected to DL servers please make sure that you order rack mount kit as well.

HP StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
HP StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive	EH900B
HP StoreEver LTO-4 Ultrium 1840 SAS External Tape Drive	EH861B
HP StoreEver LTO-4 Ultrium 1840 SCSI External WW Tape Drive	EH854B
HP StoreEver 1U USB Rack-mount Kit	A8007B
HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit	COL99A
HP StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive	EH963A
HP StoreEver LTO-6 Ultrium 6650 SAS 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 StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader	COH19A
HP StoreEver MSL6480 Scalable Base Module	QU625A

#### HP Disk Backup

##### HP RDX Removable Disk Backup System

HP RDX320 USB3.0 External Disk Backup System	B7B63A
HP RDX500 USB3.0 Internal Disk Backup System	B7B64A
HP RDX500 USB3.0 External Disk Backup System	B7B66A
HP RDX1000 USB3.0 Internal Disk Backup System	B7B67A
HP RDX1000 USB3.0 External Disk Backup System	B7B69A

**NOTE:** Please see the QuickSpecs for additional part numbers, Technical Specifications, and additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13036\\_div/13036\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html)  
(Worldwide)

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

### Additional Options

#### HP Storage Options

#### Fibre Channel HBA

**NOTE:** The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: <http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

#### Brocade Fibre Channel HBAs

HP 81B 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AP769B
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 SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	C8R38A
HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A

#### QLogic Fibre Channel HBAs

HP 81Q 8Gb 1-port PCIe Fibre Channel Host Bus Adapter	AK344A
HP 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A
HP 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

#### Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter	BK835A
HP CN1000Q Dual Port Converged Network Adapter	BS668A
HP StoreFabric CN1100R Dual Port Converged Network Adapter	QW990A

#### HP Uninterruptible Power Systems HP Rack-mountable UPS

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

HP R1.5kVA G3 1U INTL Uninterruptible Power System	AF471A
HP R1.5kVA G3 1U JP/TW Uninterruptible Power System	AF470A
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\\_div/14059\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14059_div/14059_div.html) (Worldwide)

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

HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System	AF468A
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\\_div/14058\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14058_div/14058_div.html) (Worldwide)

#### R5000 Uninterruptible Power System (UPS)

HP R5KVA 3U IEC309-32A High Voltage INTL Uninterruptible Power System	AF461A
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### Additional Options

HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System	AF460A
<b>NOTE:</b> Please see the QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/14109_div/14109_div.html">http://h18000.www1.hp.com/products/quickspecs/14109_div/14109_div.html</a> (Worldwide)	
<b>R7000 Uninterruptible Power System (UPS)</b>	
HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System	AF462A
HP R7KVA 4U IEC-32A High Voltage INTL Uninterruptible Power System	AF463A
<b>NOTE:</b> Please see the QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/14110_div/14110_div.html">http://h18000.www1.hp.com/products/quickspecs/14110_div/14110_div.html</a> (Worldwide)	
<b>NOTE:</b> For additional information on HP Uninterruptible Power Systems please go to: <a href="http://www.hp.com/servers/rackups">www.hp.com/servers/rackups</a> .	
<b>NOTE:</b> For additional information on sizing your server, please reference: <a href="http://www.upsizer.com">http://www.upsizer.com</a> .	
<b>NOTE:</b> Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: <a href="http://www.hp.com/products/powercords">www.hp.com/products/powercords</a> .	

### HP Basic Power Distribution Units

HP 1.9kVA 120 Volt 12 Outlet NA/JP Basic Power Distribution Unit	H5M54A
HP 2.8kVA 120 Volt 18 Outlet NA/JP Basic Power Distribution Unit	H5M55A
HP 3.6kVA 200-240 Volt 12 Outlet WW Basic Power Distribution Unit	H5M56A
HP 3.6kVA 200-240 Volt 20 Outlet WW Basic Power Distribution Unit	H5M57A
HP 4.9kVA 208 Volt 20 Outlet NA/JP Basic Power Distribution Unit	H5M58A
HP 4.9kVA 208 Volt 30 Outlet NA/JP Basic Power Distribution Unit	H5M59A
HP 8.3kVA 208 Volt 36 Outlet NA/JP Basic Power Distribution Unit	H5M60A
HP 8.6kVA 208 Volt Three Phase 18 Outlet NA/JP Basic Power Distribution Unit	H5M61A
HP 8.6kVA 208 Volt Three Phase 30 Outlet NA/JP Basic Power Distribution Unit	H5M62A
HP 5.7kVA 208 Volt Three Phase 27 Outlet NA/JP Dual Voltage Basic Power Distribution Unit	H5M63A
HP 8.6kVA 208 Volt Three Phase 30 Outlet NA/JP Dual Voltage Basic Power Distribution Unit	H5M64A
HP 11kVA 400 Volt Three Phase 42 Outlet NA Basic Power Distribution Unit	H5M67A
HP 7.3kVA 230 Volt 20 Outlet INTL Basic Power Distribution Unit	H5M68A
HP 7.3kVA 230 Volt 30 Outlet INTL Basic Power Distribution Unit	H5M70A
HP 11kVA 230 Volt 36 Outlet INTL Basic Power Distribution Unit	H5M71A
HP 11kVA 400 Volt Three Phase 30 Outlet INTL Basic Power Distribution Unit	H5M72A
HP 11kVA 400 Volt Three Phase 42 Outlet INTL Basic Power Distribution Unit	H5M73A
HP Hardwired 200-240 Volt 36 Outlet WW Basic Power Distribution Unit	H5M75A
HP 13.2kVA 480 Volt Three Phase 15 Outlet NA Basic Power Distribution Unit	H3X07A
HP 19.9kVA 480 Volt Three Phase 30 Outlet NA Basic Power Distribution Unit	H3X08A
HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF521A
HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit	AF523A

### Additional Options

HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF527A
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
HP 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit	AF533A
HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit	AF534A
HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF535A
HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit	AF537A
HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit	AF538A
HP 17.3kVA 24A 415V Three Phase L22-30 NA Core Intelligent Power Distribution Unit	AF902A
HP 11kVA 400 Volt Three Phase 21 Outlet INTL Monitored Power Distribution Unit	D9N55A

#### HP 277 Volt options for H3X07A and H3X08A

**NOTE:** Additional HP Power Distribution Units are available. For a complete list of all HP PDUs and additional information please visit: [www.hp.com/go/rackandpower](http://www.hp.com/go/rackandpower).

HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
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**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:

[http://h18000.www1.hp.com/products/quickspecs/14557\\_div/14557\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14557_div/14557_div.html)  
(Worldwide)

### HP Remote Monitoring Power Distribution Units

HP 2.8kVA 120 Volt 12 Outlet NA/JP Monitored Power Distribution Unit	D9N43A
HP 4.9kVA 208 Volt 12 Outlet NA/JP Monitored Power Distribution Unit	D9N44A
HP 3.6kVA 200-240 Volt 16 Outlet WW Monitored Power Distribution Unit	D9N45A
HP 3.6kVA 200-240 Volt 12 Outlet WW Monitored Power Distribution Unit	D9N46A
HP 4.9kVA 208 Volt 24 Outlet NA/JP Monitored Power Distribution Unit	D9N47A
HP 7.3kVA 230 Volt 24 Outlet INTL Monitored Power Distribution Unit	D9N48A
HP 8.3kVA 208 Volt 33 Outlet NA Monitored Power Distribution Unit	D9N49A
HP 7.3kVA 230 Volt 36 Outlet INTL Monitored Power Distribution Unit	D9N50A
HP 8.6kVA 208 Volt Three Phase 21 Outlet NA/JP Monitored Power Distribution Unit	D9N51A
HP 5.7kVA 208 Volt Three Phase 21 Outlet NA/JP Dual Voltage Monitored Power Distribution Unit	D9N52A
HP 8.6kVA 208 Volt Three Phase 24 Outlet NA/JP Dual Voltage Monitored Power Distribution Unit	D9N53A
HP 17.3kVA 208 Volt Three Phase 27 Outlet NA/JP Monitored Power Distribution Unit	D9N54A
HP 22kVA 400 Volt Three Phase 33 Outlet INTL Monitored Power Distribution Unit	D9N56A
HP 11kVA 400 Volt Three Phase 33 Outlet INTL Monitored Power Distribution Unit	D9N57A
HP 14.4kVA 208 Volt Three Phase 24 Outlet NA Monitored Power Distribution Unit	D9N58A
HP 17.3kVA 208 Volt Three Phase 24 Outlet NA/JP Monitored Power Distribution Unit	D9N59A
HP 22kVA 400 Volt Three Phase 24 Outlet INTL Monitored Power Distribution Unit	D9N60A
HP 16.6kVA 400 Volt Three Phase 33 Outlet NA Monitored Power Distribution Unit	D9N61A
HP 16.6kVA 400 Volt Three Phase 24 Outlet NA Monitored Power Distribution Unit	D9N62A

### Additional Options

HP 19.9kVA 480 Volt Three Phase 30 Outlet NA Monitored Power Distribution Unit	D9N63A
HP Environmental Sensor for Remote Monitored PDUs	E2D53A

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

[http://h18000.www1.hp.com/products/quickspecs/14669\\_div/14669\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14669_div/14669_div.html)  
(Worldwide)

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#### 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
HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit	AF525A
HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit	AF526A

##### iPDU Extension Bars

HP 5x13 Intelligent PDU Extension Bar G2 Kit	AF547A
HP 5x13 Outlets Power and UID LEDs Pair Standard Extension Bar	AF528A

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

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

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#### 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 11kVA 16A Single Input Three Phase INTL Monitored Power Distribution Unit	AF508A
HP 7.3kVA 32A Single Input Single Phase INTL Monitored Power Distribution Unit	AF510A

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

HP 4.9kVA 24A Single Input Single Phase NA/JP Monitored Power Distribution Unit	AF914A
HP 7.3kVA 32A Single Input Single Phase INTL Monitored Power Distribution Unit	AF915A

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

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

**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).

### Additional Options

#### 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\\_div/14223\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14223_div/14223_div.html)  
(Worldwide)

**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\\_div/14429\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14429_div/14429_div.html)  
(Worldwide)

#### HP USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
HP USB BFR with PVC Free UK Keyboard/Mouse Kit	631344-B21
HP USB BFR with PVC Free FR Keyboard/Mouse Kit	631346-B21
HP USB BFR with PVC Free ES Keyboard/Mouse Kit	631348-B21
HP USB BFR with PVC Free DE Keyboard/Mouse Kit	631358-B21
HP USB BFR with PVC Free JP Keyboard/Mouse Kit	631360-B21
HP USB BFR with PVC Free IT Keyboard/Mouse Kit	631362-B21
HP USB BFR with PVC Free CN Keyboard/Mouse Kit	631364-B21
HP USB BFR with PVC Free AE Keyboard/Mouse Kit	638212-B21
HP USB BFR with PVC Free RU Keyboard/Mouse Kit	638214-B21
HP USB BFR with PVC Free IN Keyboard/Mouse Kit	672097-D63
HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit	672097-373
HP USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33
HP USB BFR with PVC Free PT Keyboard/Mouse Kit	672097-133
HP USB BFR with PVC Free TR Keyboard/Mouse Kit	672097-143
HP USB BFR with PVC Free CZ Keyboard/Mouse Kit	672097-223
HP USB BFR with PVC Free FI Keyboard/Mouse Kit	672097-353
HP USB BFR with PVC Free SE Keyboard/Mouse Kit	672097-103
HP USB BFR with PVC Free CH Keyboard/Mouse Kit	672097-113

### Additional Options

HP USB BFR with PVC Free KR Keyboard/Mouse Kit

672097-KD3

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

[http://h18000.www1.hp.com/products/quickspecs/13972\\_div/13972\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html)  
(Worldwide)

#### **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 UK Monitor

AZ871A

HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor

AZ872A

HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor

AZ873A

HP TFT7600 G2 KVM Console Rackmount Keyboard IT Monitor

AZ874A

HP TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor

AZ875A

HP TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor

AZ876A

HP TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor

AZ877A

HP TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor

AZ878A

HP TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor

AZ879A

HP TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor

AZ880A

HP TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor

AZ881A

HP TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor

AZ882A

HP TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor

AZ883A

HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor

AZ884A

HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor

AZ885A

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

[http://h18000.www1.hp.com/products/quickspecs/13731\\_div/13731\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13731_div/13731_div.html)  
(Worldwide)

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

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

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

AF618A

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

AF619A

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

### Additional Options

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

#### Rail Kits

HP 1U Small Form Factor Ball Bearing Gen8 Rail Kit	663201-B21
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**NOTE:** For SFF models.

**NOTE:** Includes Rack Mounting Gen8 telescoping SFF Ball Bearing Rail Kit which does allow for in rack serviceability. Due to the size and weight of the server two people are required to install the server into the rack. The HP 1U Gen8 Cable Management Arm is optional. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative. **Caution:** HP recommends that a minimum of two people is 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 1U Cable Management Arm for Ball Bearing Gen8 Rail Kit	663203-B21
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**NOTE:** Supports Ball Bearing rail kit only.

HP Rack Cable Management Velcro Clips	379820-B21
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HP 1U Large Form Factor Ball Bearing Gen8 Rail Kit	663202-B21
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**NOTE:** For LFF models.

**NOTE:** Includes Rack Mounting Gen8 telescoping LFF Ball Bearing Rail Kit which does allow for in rack serviceability. Due to the size and weight of the server two people are required to install the server into the rack. The HP 1U Gen8 Cable Management Arm is optional. To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative. **Caution:** HP recommends that a minimum of two people is 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 1U Small Form Factor Easy Install Rail Kit	734807-B21
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**NOTE:** For SFF models.

**NOTE:** Kit contains full extension rails which do allow for in rack serviceability. After the rails are installed the server is aligned with the rails and slid into the rack. The HP 1U Easy Install Cable Management Arm is optional.

**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 1U Large Form Factor Easy Install Rail Kit	734809-B21
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**NOTE:** For LFF models.

**NOTE:** Kit contains full extension rails which do allow for in rack serviceability. After the rails are installed the server is aligned with the rails and slid into the rack. The HP 1U Easy Install Cable Management Arm is optional.

**Caution:** HP recommends that a minimum of two people are required for all Rack Server

### Additional Options

installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HP 1U Cable Management Arm for Easy Install Rail Kit

734811-B21

**NOTE:** Supports Easy Install rail kits only

**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.

### HP USB and SD Options

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 8GB SD Enterprise Mainstream Flash Media Kit

726113-B21

HP 32GB SD Enterprise Mainstream Flash Media Kit

700136-B21

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

[http://h18000.www1.hp.com/products/quickspecs/13971\\_div/13971\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html)

HP USB BFR with PVC Free Intl Keyboard/Mouse Kit

672097-B33

### HP Care Pack Services

#### Proactive Care

HP 3 year 4 hour 24x7 ProLiant DL360e Proactive Care Service

U6D63E

HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL360e Proactive Care Service

U6D64E

HP 3 year 6 hour Call to Repair 24x7 ProLiant DL360e Proactive Care Service

U6D69E

HP 3 year 6 hour Call to Repair 24x7 w/ Defective Media Retention ProLiant DL360e Proactive Care SVC

U6D70E

HP 3 year 4 hour 24x7 ProLiant DL360e with Insight Control Proactive Care Service

U6G82E

HP 3 year 4 hour 24x7 w/Defective Media Retention DL360e with Insight Control Proactive Care Service

U6G83E

HP 3 year 6 hour Call to Repair 24x7 ProLiant DL360e with Insight Control Proactive Care Service

U6G84E

HP 3 year 6 hour CTR 24x7 w/Defective Media Retention DL360e w/Insight Control Proactive Care SVC

U6G85E

**NOTE:** Collaborative Support plus Proactive services delivered by the onshore, local language Advanced Solution Center (ASC), end-to-end case ownership from a Technical Solution Specialists and Technical Account Manager who remotely delivers firmware/software revision management, proactive scans and incident trend reports. Recommended for customers running a virtualized infrastructure and/or customers who desire an enhanced call support experience.

#### Collaborative Support

### Additional Options

HP 3 year 4 hour 24x7 ProLiant DL360e Collaborative Support	U6D61E
HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL360e Collaborative Support	U6D62E
HP 3 year 6 hour Call to Repair 24x7 ProLiant DL360e Collaborative Support	U6D67E
HP 3 year 6 hour Call to Repair 24x7 w/ Defective Media Retention ProLiant DL360e Collaborative Sup	U6D68E
<b>NOTE:</b> Hardware break/fix plus 24x7 software diagnosis support with collaborative call management for a broad spectrum of 3rd Party software products including O/S and hypervisors. Recommended for customers procuring 3rd party SW O/S and hypervisors from the software vendors directly and deploying them on HP ProLiant servers.	
<b>Proactive Care Personalized Support Option</b>	
HP 3 year ISS ProactiveCare Personalized Support	U6W98E
<b>NOTE:</b> To add an onsite Account Support Manager (ASM) to Proactive Care. ASM is an assigned resource who delivers support planning and brings technical expertise and best practices advices for the customer's environment.	
<b>Installation Services</b>	
HP Install ProLiant DL360e Service	U6E11E
HP Startup ProLiant DL360e Service	U6E13E
<b>NOTE:</b> Reduce the time required to get your system up and running and help minimize disruptions to your business.	

### Memory

#### HP SmartMemory

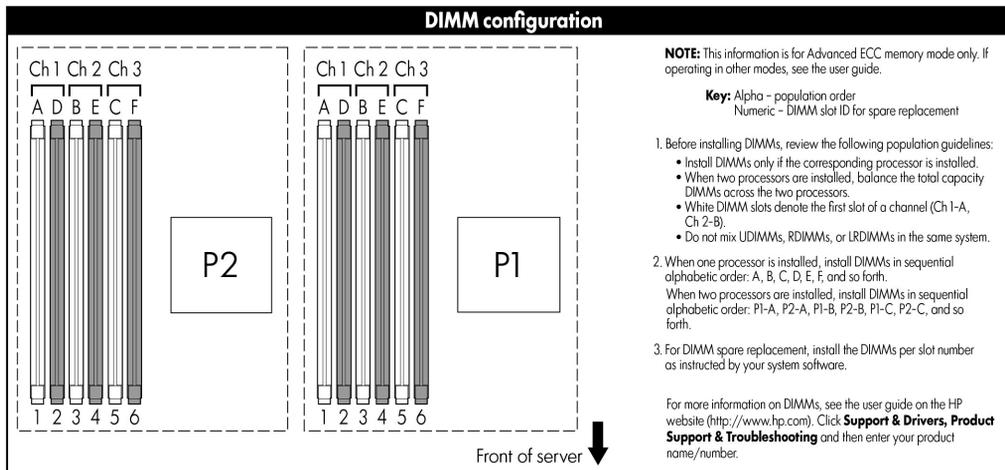
New HP SmartMemory now provides additional protection for your servers. With HP Authentication it can verify that you have true HP Qualified Memory in your HP ProLiant Gen8 server. With HP SmartMemory your new HP ProLiant server can take advantage of additional Gen8 enhancements in performance, durability and future manageability support through HP Active Health System

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 Intel® Xeon® E5-2400v2 and E5-2400 family processor socket contains three memory channels per installed processor with two DIMMs per channel for a total of six (6) DIMMs or a grand total of twelve (12) DIMMs for the server. Up to 32GB capacity DIMMs are supported for 384GB of memory (12 DIMM slots x 32GB per DIMM).

#### Memory population guidelines



#### 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.
- A minimum of one DIMM is required per server
- 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
- When two processors are installed, balance the DIMMs across the two processors.
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel. Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor
- Do not mix UDIMMs, RDIMMs or LRDIMMs.
- 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
- 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, memory configuration, and processor model
- The maximum memory capacity is a function of the memory type and number of installed processors
- HP memory from previous generation servers is not compatible with the DL360e Gen8 Server. Certain HP

### Memory

- 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\\_div/14225\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html) (Worldwide)
  - For memory population rules and additional memory guidelines, please see the DL360e Gen8 user guide at <http://www.hp.com/support>
  - There are three (3) Memory channels per processor; six (6) channels per 2 processor server
  - There are two (2) DIMM slots for each memory channel; twelve (12) total slots for 2 processor server

#### Intel Gen8 Supported Memory Bandwidth for HP ProLiant Gen8 Intel® Xeon®E5-2400v2 Series Processor Family

Memory Bandwidth and Capacity								
DIMM Type	Registered DIMMS (RDIMMs)				Load Reduced (LRDIMMs)	Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank	Single Rank	Dual Rank	Single Rank	Dual Rank	Quad Rank (4R)	Single Rank	Dual Rank	Dual Rank
DIMM Capacity	4GB	8GB	8GB	16GB	32GB	2GB	4GB	8GB
DIMM Native Speed (MT/s)	1600	1600	1600	1600	1333	1600	1600	1600
Voltage	LV	LV	Std	LV	Std	LV	LV	LV
SLOTS THAT CAN BE POPULATED								
12 slot servers	12	12	12	12	12	12	12	12
MAXIMUM CAPACITY (GB)*								
12 slot servers	48	96	96	192	384	24	48	96
1 DIMM Per Channel	1600	1600	1600	1600	1333	1600	1600	1600
2 DIMM Per Channel	1600	1600	1600	1600	1333	1600	1600	1600
3 DIMM Per Channel	800	800	800	800	1333	n/a	n/a	n/a

### Memory

Intel Gen8 Supported Memory Bandwidth for HP ProLiant Gen8 Intel® Xeon®E5-2400 Series Processor Family

Memory Bandwidth and Capacity														
DIMM Type	Registered DIMMS (RDIMMs)							Load Reduced (LRDIMMs)	Unbuffered with ECC DIMMs (UDIMMs)					
DIMM Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Single Rank	Dual Rank	Dual Rank	Quad Rank	Single Rank	Single Rank	Dual Rank	Dual Rank	Dual Rank	Dual Rank
DIMM Capacity	4GB	4GB	8GB	8GB	8GB	16GB	16GB	32GB	2GB	2GB	4GB	4GB	8GB	8GB
DIMM Native Speed (MT/s)	1333	1600	1333	1600	1600	1333	1600	1333	1333	1600	1333	1600	1600	1333
Voltage	LV	Std	LV	Std	Std	LV	Std	LV	LV	Std	LV	Std	Std	LV
SLOTS THAT CAN BE POPULATED														
12 slot servers	12	12	12	12	12	12	12	12	12	12	12	12	12	12
MAXIMUM CAPACITY (GB)*														
	48	48	96	96	96	192	192	384	24	24	48	48	96	96
1 DIMM Per Channel	1333	1600	1333	1600	1600	1333	1600	1333***	1333	1600	1333	1600	1600	1333
2 DIMM Per Channel	1333	1600	1333	1600	1600	1333	1600	1333***	1333***	1600	1333***	1600	1600	1333***
3 DIMM Per Channel	1066	1333***	1066**	1333**	1333**	1066**	1333**	1600	n/a	n/a	n/a	n/a	n/a	n/a

**NOTE:** To realize the performance memory capabilities listed above HP SmartMemory is required.

\*Maximum capacity will vary based on individual server platform qualification schedule

\*\*LRDIMM enables 2 DIMMs per channel. HP SmartMemory supports up to 2DPC@1333 at 1.35V. Third party memory may only support up to 2DPC@1066 at 1.5V.

\*\*\* For UDIMMs, HP SmartMemory supports 2DPC@1333 at 1.35V. Third party memory may only support up to 2DPC@1066 at 1.5V.

#### DIMM slot and configuration diagrams

##### Basic memory slot & population diagram

- Population order; looking from the front of your server CPU#1 is on right side and CPU#2 is on the left. See the population order by alphabetic and numeric progression below.

CPU #1 IS PROCESSOR ON RIGHT - LOOKING FROM FRONT OF SERVER						
CPU 1			CPU 2			CPU 1
Chnl 1	Slot #	population order	Slot #	population order		
	1	A	1	1	A	
	2	D	4	2	D	4
CPU 1			CPU 2			CPU 2
Chnl 2	Slot #	population order	Slot #	population order		
	3	B	2	3	B	
	4	E	5	4	E	5

### Memory

	CPU 1			CPU 2			
	Slot #	population order		Slot #	population order		CPU 3
Chnl 3	5	C	3	5	C	3	
	6	F	6	6	F	6	

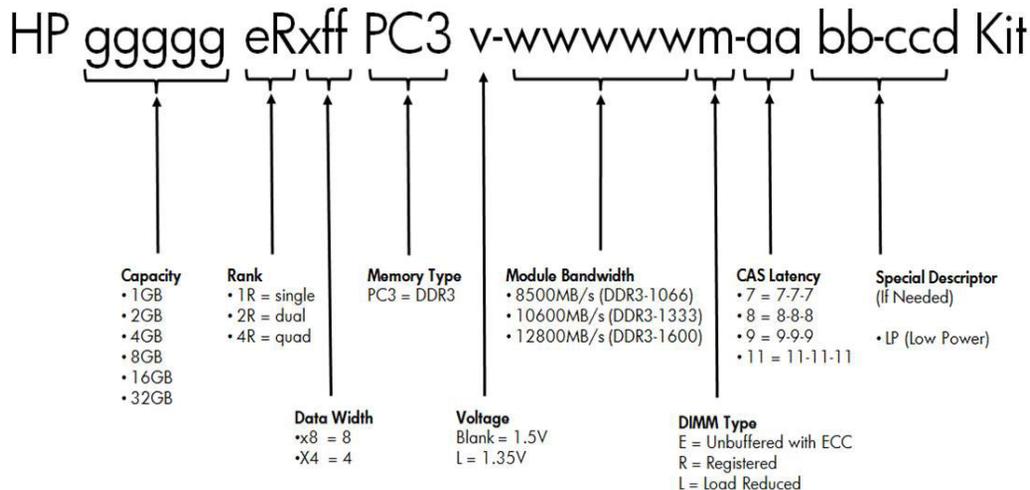
### Memory Speed by Processor Model

Processor Models	Supported Memory Speeds
E5-2470, E5-2450,	1600/1333/1066MHz
E5-2440, E5-2430, E5-2420, E5-2450L,	1333/1066MHz
E5-2407, E5-2403, E5-2430L,	1066MHz
E5-2430v2, E5-2430Lv2, E5-2420v2, E5-2440v2, E5-2450v2, E5-2470v2, E5-2450Lv2,	1600/1333/1066MHz
E5-2407v2, E5-2403v2,	1333/1066MHz

### Standard and Maximum Memory Capacity (Pre-configured Models)

Pre Configured Models	Standard Memory	Maximum Memory Plus Optional Memory	Standard Memory Replaced with Optional Memory
E5-2403, E5-2403v2, E5-2403, E5-2403, E5-2407,	4GB (1x4GB)	180GB (11x16GB, 1x4GB)	384GB (12x32GB)
E5-2407,	8GB (2x4GB)	168GB (10x16GB, 2x4GB)	384GB (12x32GB)
E5-2430,	24GB (6x4GB)	120GB (6x16GB, 6x4GB)	384GB (12x32GB)

### DDR3 memory options part number decoder



### HP Memory

**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:

### Memory

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

**NOTE:** HP memory from previous generation servers are not fully compatible with the DL360e Gen8 Server.

#### Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713981-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713983-B21

HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

**NOTE:** The above memory is supported by the E5-2400 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647893-B21

HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647895-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647897-B21

HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647899-B21

HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 690802-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647901-B21

HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 672631-B21

**NOTE:** The above memory is supported by the E5-2400 series Processors.

#### Unbuffered with ECC DIMMs (UDIMM)

HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713975-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713977-B21

HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713979-B21

**NOTE:** The above memory is supported by the E5-2400 v2 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669320-B21

HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647905-B21

HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669322-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647907-B21

### Memory

HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669324-B21

HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647909-B21

**NOTE:** The above memory is supported by the E5-2400 series Processors.

#### **Load Reduced DIMMs (LRDIMMs)**

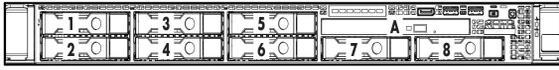
HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit 647903-B21

**NOTE:** The above memory is supported by the E5-2400 v2 and E5-2400 series Processors.

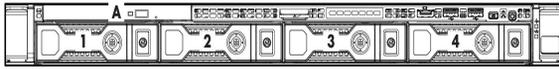
**NOTE:** All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).

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

### Storage



- A Optional DVD-ROM/DVD-RW
- 1-8 8 x SFF SATA/SAS/SSD Hot Pluggable Hard Drive Bays



- A Optional DVD-ROM/DVD-RW
- 1-4 4 x LFF SATA/SAS/SSD Hot Pluggable Hard Drives Bays

### External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
D2600 Disk Enclosure	Up to 4	External	HP Smart Array P222/512MB FBWC Controller
	Up to 8	External	HP Smart Array P421/1GB FBWC Controller HP Smart Array P421/2GB FBWC Controller
D2700 Disk Enclosure	Up to 2	External	HP Smart Array P222/512MB FBWC Controller
	Up to 4	External	HP Smart Array P421/1GB FBWC Controller HP Smart Array P421/2GB FBWC Controller

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (H x W x D)</b>	8 SFF	1.7 x 17.1 x 27.5 inches (4.32 x 43.46 x 69.9 cm)
		4 LFF	1.7 x 17.1 x 29.5 inches (4.32 x 43.46 x 75.0 cm)
<b>Weight</b>	<b>Maximum</b>	8 SFF	17.14 kg
		4 LFF	17.40 kg
	<b>Minimum</b>	8 SFF	13.20 kg
		4 LFF	13.65 kg
<b>Input Requirements</b> (for Standard 460W PSU, see power specifications tables for detail on 460W, 750W and 1200W power supplies)	<b>Rated Line Voltage</b>		100 to 120 VAC 200 to 240 VAC
	<b>Rated Input Current</b>		4.5 Amps (at 120VAC) to 2.2 Amps (at 240 VAC)
	<b>Rated Input Frequency</b>		50 to 60 Hz
<b>BTU Rating</b>	<b>Maximum</b>		1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)
<b>Power Supply Output</b> (per power supply)	<b>Rated Steady-State Power</b>		460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
			750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC)
	<b>Maximum Peak Power</b>		460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
			750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC)
<b>System Inlet Temperature</b>	<b>Operating</b>		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).
	<b>Non-operating</b>		-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
<b>Relative Humidity</b> (non-condensing)	<b>Operating</b>		10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	<b>Non-operating</b>		5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
<b>Altitude</b>	<b>Operating</b>		3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	<b>Non-operating</b>		9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
<b>Acoustic Noise</b>			Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when

### Technical Specifications

the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

#### Idle

LWAd	(1P non-redundant) 4.7 B Average Bystander (2P redundant) 5.0B Average Bystander
LpAm	(1P non-redundant) 33dBA (2P redundant) 35 dBA

#### Operating

LWAd	(1P non-redundant) 4.7 B Average Bystander (2P redundant) 5.0B Average Bystander
LpAm	(1P non-redundant) 33 dBA (2P redundant) 35 dBA

#### Emissions Classification (EMC)

FCC Rating	Class A
Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

**NOTE:** Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

#### HP Dynamic Smart Array B120i Controller

<b>Dimensions</b>	Embedded
<b>Disk Drive and Enclosure Interface - Transfer rate</b>	Up to 6Gb/s SATA (Serial ATA)
<b>SAS Connectors</b>	6 internal SATA connectors
<b>Server Interface</b>	x4 PCIe 2.0
<b>SAS Speed</b>	6Gb/s SATA links
<b>Cache Memory</b>	Zero Memory RAID has no cache memory
<b>Logical Drives Supported</b>	Up to 8 logical volumes (6 physical drives)
<b>Host Memory Addressing</b>	64-bit, supporting greater than 4GB server memory space
<b>RAID Support</b>	RAID 0 (Striping), RAID 1 (Mirroring) RAID 1+0 (Striping & Mirroring)

### Technical Specifications

<b>HP Dynamic Smart Array B320i Controller</b>	<b>Dimensions</b>	Embedded
	<b>Disk Drive and Enclosure Interface - Transfer rate</b>	Up to 6Gb/s SATA (Serial ATA)
	<b>SAS Connectors</b>	2 internal x4 connectors
	<b>Server Interface</b>	x4 PCIe 2.0
	<b>SAS Speed</b>	6Gb/s SAS links
	<b>Cache Memory</b>	Zero Memory RAID has no cache memory optional 40-bit 512MB ECC protected Flash Backed Write Cache (FBWC)
	<b>Logical Drives Supported</b>	Zero Memory, Up to 2 logical volumes (6 physical drives)
	<b>Host Memory Addressing</b>	64-bit, supporting greater than 4GB server memory space
	<b>RAID Support</b>	RAID 0 (Striping), RAID 1 (Mirroring) RAID 1+0 (Striping & Mirroring) RAID 5 with optional 512MB FBWC <b>NOTE:</b> 512 MB cache is required to enable RAID 5 support. <b>NOTE:</b> SAS mode requires purchase of SAS license key. For more information please visit <a href="http://www.hp.com/go/saslicense">www.hp.com/go/saslicense</a>

<b>HP Smart Array P420 Controller</b>	<b>Dimensions</b>	Low Profile PCIe Form Factor
	<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, 60 (Advanced Data Guarding) RAID 5, 50 (Distributed Data Guarding)

### Technical Specifications

<b>HP Ethernet 1Gb 4-port 366i Adapter</b>	<b>Network Interface</b>	10Base-T/100Base-TX/1000Base-TX		
	<b>Compatibility</b>	IEEE 802.3 10Base-T		
		IEEE 802.3ab 1000Base-T		
	<b>Data Transfer Method</b>	IEEE 802.3u 100Base-TX		
		IEEE 1588, IEEE 802.1AS		
	<b>Controller</b>	IEEE 802.3az - Energy Efficient Ethernet (EEE)		
		PCI Express, four lanes (x4)		
	<b>Number of Ports</b>	Intel I350 Powerville		
	<b>Network Transfer Rate</b>	4		
		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		
<b>Connector</b>	1000Base-TX (Half and Full-Duplex)	200 Mb/s per port, 800 Mb/s Combined		
	1000Base-TX (Half and Full-Duplex)	1000Mb/s per port, 4000 Mb/s Combined		
<b>Cable Support</b>	Four RJ-45			
	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)		
	10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)		

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

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