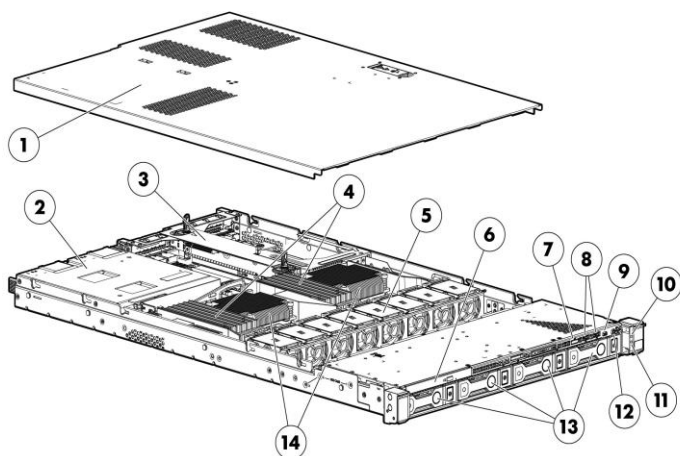


### Overview

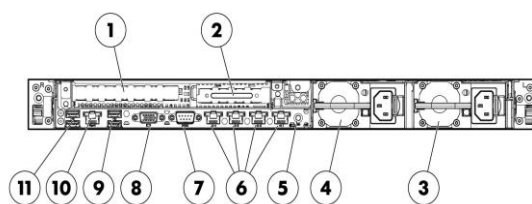
### HP ProLiant DL360e Generation 8 (Gen8)

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.

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+

### Standard Features

**NOTE:** Up to 2 processors supported. Performance/Energy Star Model configurations include two processors with 8 fans.

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

**NOTE:** Turbo 2 indicates the maximum potential bin increments when using Intel® Turbo Boost Technology, with 10, 9, 8, 7, 6, 5, 4, 3, 2 and 1 cores active.

**NOTE:** DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed (options for 1600, 1333, 1066MHz).

**NOTE:** Up to 2 processors supported. Mixing different processor models is not supported.

**NOTE:** For the Intel® C600 Chipset E5-2400 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 SKUs and v# = version number.

#### 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 two processors (20 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 E5-2400 v2, regarding critical details before upgrading. An explanation of requirements and limitations are provided

Up to 12 DIMM slots

**NOTE:** To take advantage of DIMMs 7-12, a second processor must be installed

10 Gigabit networking options via standup card

Up to 8 SFF Hard Drive Bays; or 4 LFF Hard Drive Bays

Redundant Power Supply

Redundant Fan

Optical Drive Bay (8 SFF/4 LFF)

#### 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

|                                                          |                                |                                                                                                              |
|----------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Memory</b><br>One of the following depending on model | Type                           | HP SmartMemory                                                                                               |
|                                                          |                                | DDR3 Load Reduced (LRDIMM), Registered (RDIMM) or Unbuffered (UDIMM)                                         |
|                                                          | DIMM Slots Available           | 12 (6 DIMM slots per processor, 3 channels per processor, 2 DIMMs per channel)                               |
|                                                          | 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: <http://www.hp.com/go/ddr3memory-configurator>.

|                           |                                                                                                                                                               |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Network Controller</b> | HP Ethernet 1Gb 4-port 366i Adapter                                                                                                                           |
|                           | <b>NOTE:</b> 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.

|                      |                                                                                                                                                                                                                                             |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HP Server ROM</b> | 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.

### Standard Features

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: <http://www.hp.com/support/rbsu>.

|                                                                            |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |
|----------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Storage Controller</b><br>One of the following depending on model       | Entry Model - SAS     | HP Dynamic Smart Array B320i Controller<br><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<br><b>NOTE:</b> Provides data transmission speeds up to 3Gb/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |
|                                                                            | Base Models           | HP Dynamic Smart Array B320i/512MB FBWC Controller<br><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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |
| <b>Internal Storage Devices</b><br>One of the following depending on model | Diskette Drive        | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |
|                                                                            | Optical Drive         | Optional<br>DVD-ROM, DVD-RW<br><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<br>4 LFF drive bays total with Optical drive bay.<br><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.<br><b>NOTE:</b> Drive cage changes are not supported.<br><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><br>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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |

### Standard Features

|                                       |                                                                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | 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<br><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                                                                                                                                                               |

|                                     |                                                                                                                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Industry Standard Compliance</b> | ACPI 2.0b Compliant<br>PCIe 3.0<br>PXE Support<br>WOL Support<br>Microsoft® Logo certifications<br>USB 2.0 Compliant |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Server Power Cords</b> | All Pre-configured Models servers ship with a high voltage server to PDU power cord.<br><b>NOTE:</b> 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 (A0K02A). 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. |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                             |                                                                                                                                                                                                                |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power Specifications</b> | To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: <a href="http://www.hp.com/go/hppoweradvisor">http://www.hp.com/go/hppoweradvisor</a> . |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**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)

|                                 |                                                                                                                                                                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Common Slot Power Supply</b> | <b>NOTE:</b> 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 96% (Titanium) 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 and Titanium power supplies are required when enabling HP's Power Discovery Services, a solution that creates an automated, energy-aware network between IT systems and

### Standard Features

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

**NOTE:** The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publicly posts the results on <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: <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 Linux  
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, please visit our OS Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/DL360eGen8>.

#### Graphics

Integrated Matrox G200 video standard

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

HP iLO 4 On System Management Memory

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

#### Form Factor

1U Rack form factor

### Standard Features

|                                         |                                                                      |
|-----------------------------------------|----------------------------------------------------------------------|
| One of the following depending on model | 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   |

|                             |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>On System Management</b> | HP iLO Management Engine | <p>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:</p> <ul style="list-style-type: none"> <li>• <b>HP iLO:</b> The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine</li> <li>• <b>HP Agentless Management:</b> 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.</li> <li>• <b>HP Active Health System:</b> 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.</li> <li>• <b>HP Intelligent Provisioning:</b> Lets customers provision and configure a single server without any separate media. No more SmartStart CDs or Smart Update Firmware DVD are needed. <ul style="list-style-type: none"> <li>○ To start Intelligent Provisioning: <ul style="list-style-type: none"> <li>▪ Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self-test or POST).</li> <li>▪ Please go to the Intelligent Provisioning website at <a href="http://www.hp.com/go/intelligentprovisioning">http://www.hp.com/go/intelligentprovisioning</a> for additional information and to view usage videos.</li> <li>▪ Use the Service Pack for ProLiant (SPP) at <a href="http://www.hp.com/go/spp">http://www.hp.com/go/spp</a> to get firmware and software updates.</li> </ul> </li> </ul> </li> <li>• <b>HP iLO Mobile App:</b> Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <a href="http://www.hp.com/go/ilo/mobileapp">http://www.hp.com/go/ilo/mobileapp</a></li> </ul> |
|                             |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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

|                 |                          |
|-----------------|--------------------------|
| <b>Security</b> | Power-on password        |
|                 | Serial interface control |
|                 | Administrator's password |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Warranty</b> | <p>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.</p> <p><b>NOTE:</b> Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business</p> |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Standard Features

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

### Optional Features

#### HP Insight Management Software

##### HP Insight Control

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

#### High Performance Clusters

##### HP Cluster Platforms

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

##### HP HPC Interconnects

High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when

### Optional Features

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HP Insight Cluster Management Utility | <p>integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools.</p> <p><a href="http://www.hp.com/techservers/clusters/ucp/index.html">http://www.hp.com/techservers/clusters/ucp/index.html</a></p> <p>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.</p> <p><a href="http://www.hp.com/go/cmu">http://www.hp.com/go/cmu</a></p> |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 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: <http://www.hp.com/go/storage/software>.

### 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.

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

### 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:

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

### Optional Features

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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 Simple Configurator

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

### Service and Support

#### Service and Support

##### **HP Technology Services for Industry Standard Servers**

HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

##### **Protect your business beyond warranty with HP Care Pack Services**

HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

#### Optimized Care

##### **Optimized Care: Supports maintaining servers at optimum performance availability**

##### **HP Proactive Care with 24x7 coverage, three year Care Pack Service**

HP Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HP ProLiant server.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

#### Standard Care

##### **Standard Care: Service recommendation that maintains high level of server availability**

##### **Foundation Care 24x7, three-year Care Pack Service**

HP Foundation Care 24x7 connects you to HP 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed; collaborative software included in this Care Pack service provides troubleshooting assistance on industry leading software running on your HP server. Simplify your support experience and make HP your first call for hardware or software questions.

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

#### Related Services

##### **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>

##### **Factory Express 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. 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>.

##### **Data Privacy Services**

Protect your data through better media management. HP Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware.

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

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

### Service and Support

#### Get connected to HP to improve your support experience

Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online 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:

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

#### 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*

#### 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.

#### 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><br>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)<br><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<br><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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                   | <b>PCI-Express Slots</b>  | 2 standard (1-FH/HL (250mm), 1-LP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                   | <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>Management</b>         | HP iLO Management Engine (standard)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                   | <b>Form Factor</b>        | Rack (1U)<br><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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                                                            |                     |                                                                             |
|----------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------|
| <b>HP ProLiant DL360e Gen8 E5-2403v2 1P 4GB-R B320i Hot Plug SAS 8 SFF</b> | <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                                                      |

### Pre-configured Models

|                                  |                           |                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>460W PS Svr</b><br>747089-xx1 | <b>Memory</b>             | 4GB (1x4GB) DDR3 RDIMM PC3L-12800R (1600MHz)<br><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<br><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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                     |
|                                  | <b>PCI-Express Slots</b>  | 2 standard (1-FH/HL (250mm), 1-LP)                                                                                                                                                                                                                                                                                                                                                 |
|                                  | <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)<br><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><br>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)<br><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<br><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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                | <b>PCI-Express Slots</b>  | 2 standard (1-FH/HL (250mm), 1-LP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                | <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>Management</b>         | HP iLO Management Engine (standard)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                | <b>Form Factor</b>        | Rack (1U)<br><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 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)<br><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<br><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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                    | <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)<br><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.                                                                                                                                                                                                                                                                       |

### 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)<br><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<br><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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                               | <b>PCI-Express Slots</b>  | 2 standard (1-FH/HL (250mm), 1-LP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                               | <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>Management</b>         | HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                               | <b>Form Factor</b>        | Rack (1U)<br><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 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 |

### Pre-configured Models

|                                                                                                    |                           |                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                    |                           | <p>Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.</p> <p>Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.</p>                                                                                                                  |
| <b>HP ProLiant DL360e Gen8 E5-2407v2 1P 8GB-R B320i/512 Ht Plg SAS 8SFF 460W PS Svr 747090-xx1</b> | <b>Processor</b>          | (1) Intel® Xeon® E5-2407v2 (2.4GHz/4-core/10MB/6.4GT-s QPI/80W, DDR3-1333) Processor                                                                                                                                                                                                                                                                                               |
|                                                                                                    | <b>Cache Memory</b>       | 10MB (1 x 10MB) L3 cache                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                    | <b>Memory</b>             | 8GB (1x8GB) DDR3 RDIMM PC3L-12800R (1600MHz)<br><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/512 MB FBWC Controller<br><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                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                    | <b>Internal Storage</b>   | 8 SFF HDD Bays                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                                    | <b>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                                    | <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)<br><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. |
|                                                                                                    |                           | <p>Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response.</p>                                                                                                                                                                                                                                                                 |

### Performance Models

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

|                                                                                                    |                           |                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HP ProLiant DL360e Gen8 E5-2430 2P 24GB-R P420 Hot Plug 8 SFF 2x460W PS Perf Svr 668815-xx1</b> | <b>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>Cache Memory</b>       | 20MB (1x20MB) Level 3                                                                                                                                                                                                                                |
|                                                                                                    | <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>Optical Drive Bay</b>  | 1; (Optional: DVD-ROM, DVD-RW)                                                                                                                                                                                                                       |
|                                                                                                    | <b>PCI-Express Slots</b>  | 2 standard (1-FH/HL (250mm), 1-LP)                                                                                                                                                                                                                   |
|                                                                                                    | <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>Management</b>         | HP iLO Management Engine (standard) HP Insight Control Standard                                                                                                                                                                                      |
|                                                                                                    | <b>Energy Star</b>        | Meets Energy Star requirements                                                                                                                                                                                                                       |
|                                                                                                    | <b>Form Factor</b>        | Rack (1U)<br><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 |

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

|                  |         |        |
|------------------|---------|--------|
| Country Code Key | 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)

**NOTE:** Rail kits and cable management solutions are optional in CTO. See "Step 3: Choose Additional Factory Integratable Options" for details on ordering.

**NOTE:** The DL360e ships standard with the HP Dynamic Smart Array B120i Controller which provides support for up to 6 SATA drives (greater than 4 drives requires additional cable, PN 675856-B21) and data transmission speeds up to 3Gb/s. Customers requiring SAS support or greater than 6 drives should select either a Smart Array family controller or the SAS Riser FIO kit (PN 661387-B21) that includes HP Dynamic Smart Array B320i Controller Up to 8 SAS drives can be supported with HP Dynamic Smart Array B320i controller.

**NOTE:** When the SAS-enabled riser board with the 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:** Power Supply not included - choose from Power Options section.

**NOTE:** HP Smart Array P222 Controller and HP H222 Host Bus Adapter can be selected with only 4LFF models.

**NOTE:** HP Smart Array P822 Controller and HP H220 Host Bus Adapter can be selected with only 8SFF 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:

### Configuration Information - Factory Integrated Models

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  
 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 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)

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

|                                                                                                |            |
|------------------------------------------------------------------------------------------------|------------|
| 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 |
|-----------------------------------------------------------------------------------|------------|

### Configuration Information - Factory Integrated Models

#### 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)

**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: <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 <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: <http://www.hp.com/go/proliant-energy-efficient>

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

### 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: <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

### Configuration Information - Factory Integrated Models

**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 CS Gold Ht Plg 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.

**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 <http://www.hp.com/products/powercords>

### 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.

|                             |            |
|-----------------------------|------------|
| HP 1U FIO Friction Rail Kit | 663200-B21 |
|-----------------------------|------------|

**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.

|                            |                                                                                                  |        |
|----------------------------|--------------------------------------------------------------------------------------------------|--------|
| <b>HP Insight Software</b> | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | C6N36A |
|----------------------------|--------------------------------------------------------------------------------------------------|--------|

|                                                        |                                                                                    |        |
|--------------------------------------------------------|------------------------------------------------------------------------------------|--------|
| <b>HP Converged Infrastructure Management Software</b> | HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic | E5Y43A |
|--------------------------------------------------------|------------------------------------------------------------------------------------|--------|

### 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 SKUs and v# = version number.

### Core Options

#### 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

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 669324-B21

### Core Options

#### Kit

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) for E5-2xxx series Processors

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: <http://www.hp.com/go/ddr3memory-configurator>.

**NOTE:** 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

**NOTE:** The HP ProLiant DL360e 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.

#### 12G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives

HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759212-B21

HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759210-B21

HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 759208-B21

HP 1.2TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 781518-B21

HP 900GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 785069-B21

HP 600GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 781516-B21

HP 300GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive 785067-B21

HP 1.8TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 512e 3yr Warranty Hard Drive 791034-B21

#### 12G SAS Hot Plug SmartDrive LFF (3.5-inch) Converter Enterprise Drives

HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive 765424-B21

HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive 737394-B21

HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive 737261-B21

#### 12G SAS Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives

HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive 765259-B21

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive 765255-B21

HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive 765257-B21

HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive 765253-B21

### Core Options

#### 6G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives

|                                                                              |            |
|------------------------------------------------------------------------------|------------|
| HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652589-B21 |
| HP 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 |

#### 6G 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 |

#### 6G SAS Hot Plug SmartDrive LFF (3.5-inch) Midline Drives

|                                                                          |            |
|--------------------------------------------------------------------------|------------|
| HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 761477-B21 |
| 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 |
| HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652753-B21 |

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

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

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

|                                                                             |            |
|-----------------------------------------------------------------------------|------------|
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive   | 655710-B21 |
| HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 655708-B21 |

#### 6G SATA Hot Plug SFF (2.5-inch) SC 512e Drives

|                                                                        |            |
|------------------------------------------------------------------------|------------|
| HP 2TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765455-B21 |
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765453-B21 |

#### 6G SATA Hot Plug LFF (3.5-inch) SC 512e Performance Drives

|                                                                                     |            |
|-------------------------------------------------------------------------------------|------------|
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive  | 793667-B21 |
| HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drives | 793665-B21 |

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

[http://h18000.www1.hp.com/products/quickspecs/13021\\_div/13021\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html)  
(Worldwide)

#### 12G SAS Hot Plug Value Endurance SFF (2.5-inch) Enterprise Value Solid State Drives

|                                                                                           |            |
|-------------------------------------------------------------------------------------------|------------|
| HP 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762263-B21 |
| HP 800GB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762261-B21 |

#### 12G SAS Hot Plug Value Endurance LFF (3.5-inch) Enterprise Value Solid State Drives

|                                                                                           |            |
|-------------------------------------------------------------------------------------------|------------|
| HP 1.6TB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762272-B21 |
| HP 800GB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762270-B21 |

### Core Options

#### 12G SAS High Endurance Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives

HP 400GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive 741155-B21

**NOTE:** This drive supports Gen8 servers only.

#### 12G SAS Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream H2 Solid State Drives

HP 1.6TB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779176-B21

HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779172-B21

HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779168-B21

HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779164-B21

#### 12G SAS Hot Plug SFF (2.5-inch) SC 512e Drives

HP 2TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive 765466-B21

HP 1TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive 765464-B21

#### 12G SAS Hot Plug LFF (3.5-inch) SC 512e Performance Drives

HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive 793671-B21

HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive 793669-B21

#### 12G SAS Hot Plug SFF (2.5-inch) SC Read/Write Intensive Solid State Drives

HP 1.92TB 12G SAS Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802891-B21

HP 800GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802586-B21

HP 400GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802582-B21

HP 200GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802578-B21

#### 6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives

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

#### 6G SATA 2.5in WI-PLP SCC SSD

HP 1.2TB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804680-B21

HP 800GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804674-B21

HP 400GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804668-B21

HP 200GB 6G SATA Write Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804642-B21

HP 800GB 6G SATA Write Intensive-2 LFF 3.5-in LPC 3yr Wty Solid State Drive 831725-B21

#### 6G SATA 2.5in MU-PLP SCC SSD

HP 1.6TB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804634-B21

HP 800GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804628-B21

HP 480GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 832417-B21

HP 200GB 6G SATA Mixed Use-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804616-B21

#### 6G SATA 2.5in RI-PLP SCC SSD

HP 1.6TB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive 804608-B21

### Core Options

|                                                                                                         |            |
|---------------------------------------------------------------------------------------------------------|------------|
| HP 800GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive                              | 804602-B21 |
| HP 480GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive                              | 804596-B21 |
| HP 240GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive                              | 804590-B21 |
| HP 120GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive                              | 804584-B21 |
| HP 80GB 6G SATA Read Intensive-2 LFF 3.5-in SCC 3yr Wty Solid State Drive                               | 804578-B21 |
| <b>6G SATA 2.5in WI-PLP SC SSD</b>                                                                      |            |
| HP 1.2TB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                              | 804677-B21 |
| HP 800GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                              | 804671-B21 |
| HP 400GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                              | 804665-B21 |
| HP 200GB 6G SATA Write Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                              | 804639-B21 |
| <b>6G SATA 2.5in MU-PLP SC SSD</b>                                                                      |            |
| HP 1.6TB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive                                    | 804631-B21 |
| HP 800GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive                                    | 804625-B21 |
| HP 480GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive                                    | 832414-B21 |
| HP 200GB 6G SATA Mixed Use-2 SFF 2.5-in SC 3yr Wty Solid State Drive                                    | 804613-B21 |
| <b>6G SATA 2.5in RI-PLP SC SSD</b>                                                                      |            |
| HP 1.6TB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                               | 804605-B21 |
| HP 800GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                               | 804599-B21 |
| HP 480GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                               | 804593-B21 |
| HP 240GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                               | 804587-B21 |
| HP 120GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                               | 804581-B21 |
| HP 80GB 6G SATA Read Intensive-2 SFF 2.5-in SC 3yr Wty Solid State Drive                                | 804575-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 Hot Plug Value Endurance LFF (3.5-inch) Converter Enterprise Value G1 Solid State Drives</b> |            |
| HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive         | 756660-B21 |
| HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive         | 756639-B21 |
| HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive         | 756624-B21 |
| <b>6G SATA Hot Plug Value Endurance SFF (2.5-inch) Enterprise Value G1 Solid State Drives</b>           |            |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive            | 756657-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive            | 756636-B21 |
| HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive            | 756621-B21 |
| <b>6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives</b>                             |            |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive                               | 753874-B21 |
| HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive                               | 693687-B21 |

### Core Options

|                                                                                                      |            |
|------------------------------------------------------------------------------------------------------|------------|
| 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>6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives</b>           |            |
| HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive            | 757339-B21 |
| 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 Value 3yr Wty Solid State Drive            | 739898-B21 |
| HP 300GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 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 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive  | 757342-B21 |
| 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 Converter Enterprise Value 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 |
| HP 300GB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 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 Hot Plug Light Endurance SFF (2.5-inch) Enterprise Light G1 Solid State Drives</b>        |            |
| HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive         | 756601-B21 |
| <b>6G SATA Hot Plug Light Endurance LFF (3.5-inch) Enterprise Light G1 Solid State Drives</b>        |            |
| HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Converter ENT Light 3yr Wty G1 Solid State Drive      | 756604-B21 |
| <b>6G SATA Mainstream Endurance 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                        | 691862-B21 |

### Core Options

#### Wty Solid State Drive

#### **6G SATA Mainstream Endurance Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives**

HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive 691860-B21

#### Wty Solid State Drive

HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive 691856-B21

#### Wty Solid State Drive

HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive 691854-B21

#### Wty Solid State Drive

HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive 691852-B21

#### Wty Solid State Drive

#### **6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives**

HP 240GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789135-B21

HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789145-B21

HP 960GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789155-B21

#### **6G SATA Hot Plug LFF (3.5-inch) SC Read Intensive Solid State Drives**

HP 960GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789157-B21

HP 480GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789147-B21

HP 240GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789137-B21

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

[http://h18000.www1.hp.com/products/quickspecs/14038\\_div/14038\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html) (Worldwide)

### 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

HP Ethernet 10Gb 2-port 561T Adapter 716591-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: <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

### Core Options

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

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

#### HP 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:

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

##### HP Common Slot Titanium Power Supply Kits

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

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

##### 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 CS Gold Ht Plg 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 <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.

|                                            |            |
|--------------------------------------------|------------|
| NVIDIA Quadro K4000 PCI-E Graphics Adapter | 730870-B21 |
|--------------------------------------------|------------|

### 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 including 1yr 24x7 Technical Support and Updates Electronic License C6N28ABE

HP Insight Control Server Provisioning Media Kit BD883A

HP Insight Management Media Kit C6N31A

**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 E-LTU E6U59ABE

HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU E6U64ABE

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 Technical Support and Updates E-LTU E6U61ABE

HP Integrated Lights-Out Essentials including 1yr 24x7 Technical Support and Updates E-LTU E6U62ABE

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 for ConvergedSystem 3yr 24x7 Flexible License G2E81A

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

HP 700GB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator 729305-B21

HP 350GB HH/HL High Endurance (HE) PCIe Workload Accelerator 708088-B21

HP 700GB HH/HL High Endurance (HE) PCIe Workload Accelerator 708090-B21

HP 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator 775666-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 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: <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 12Gb 1-port Int SAS Controller 698529-B21

**NOTE:** Supported on 8SFF models only. Cable kit PN: 725598-B21 is mandatorily required with P430 controller on DL360e Gen8.

HP Smart Array P430/4GB FBWC 12Gb 1-port Int SAS Controller 698530-B21

#### HP Smart Array P420 Controller

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

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

#### HP Smart Array P431 Controller

HP Smart Array P431/2GB FBWC 12Gb 2-ports Ext SAS Controller 698531-B21

HP Smart Array P431/4GB FBWC 12Gb 2-ports Ext SAS Controller 698532-B21

#### HP Smart Array P421 Controller

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

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

#### HP Smart Array P822 Controller

HP Smart Array P822/2GB FBWC 6Gb 2-ports-Int/4-ports Ext SAS Controller 615418-B21

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

#### Optional Upgrades

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

**NOTE:** This kit includes a cable and cache module that is used in conjunction with the B320i and B120i controller.

HP Secure Encryption No Media E-LTU per Drive D8S85AAE

**NOTE:** This option is available with HP Smart Array P430/P431 controllers only.

HP 1U Gen8 Smart Array Cable Kit 672242-B21

**NOTE:** This cable kit is required when using the P222, P420, P822 Smart Array controllers, and H222, H220 HBAs.

**NOTE:** If P420 is installed in Slot 1 of 8SFF model, this cable is not required.

HP Gen8 2-port SATA Cable Kit 675856-B21

**NOTE:** 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

HP Secure Encryption No Media Flexible License per Drive D8S84A

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

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

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

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

[http://h18000.www1.hp.com/products/quickspecs/14341\\_div/14341\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14341_div/14341_div.html)  
(Smart Array P822 Controller)

[http://h18000.www1.hp.com/products/quickspecs/14343\\_div/14343\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14343_div/14343_div.html)  
(Dynamic Smart Array Controllers)

#### HP Host Bus Adapters

### Additional Options

HP H222 Host Bus Adapter 650926-B21

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

HP H220 Host Bus Adapter 650933-B21

HP H221 PCIe 3.0 SAS Host Bus Adapter 729552-B21

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

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

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

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

#### SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter 412911-B21

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

[http://h18000.www1.hp.com/products/quickspecs/12566\\_div/12566\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html)  
(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

### 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

<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 1U USB Rack-mount Kit A8007B

HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit C0L99A

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

### Additional Options

|                                                           |        |
|-----------------------------------------------------------|--------|
| 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 USB 3.0 External Disk Backup System  | B7B66A |
| HP RDX1000 USB3.0 Internal Disk Backup System  | B7B67A |
| HP RDX1000 USB 3.0 External Disk Backup System | B7B69A |
| HP RDX 2TB USB3.0 External Disk Backup System  | E7X53A |
| HP RDX 2TB USB3.0 Internal Disk Backup System  | E7X52A |

**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>.

#### 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 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 DirectFlow Three Phase UPS

##### Power Unit (1U UPS)

**NOTE:** #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

|                                                                      |        |
|----------------------------------------------------------------------|--------|
| HP R12000 DirectFlow - 1U Rackmount Uninterruptible Power System     | G9Y75A |
| HP R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System | AF478A |

### Additional Options

#### Input/Output Module Options for 1U UPS

**NOTE:** Choose one I/O Module per UPS.

**NOTE:** #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

|                                                                                          |        |
|------------------------------------------------------------------------------------------|--------|
| HP 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module    | AF488A |
| HP 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module      | AF489A |
| HP 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module | AF490A |
| HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module          | AF491A |
| HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module          | AF492A |
| HP 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module      | G9Y76A |

**NOTE:** All Input/Output Modules support dual output outlets except the AF484A.

#### HP Tower UPS

##### HP T750 G4 UPS Models

|                                               |        |
|-----------------------------------------------|--------|
| HP T750 G4 NA/JP Uninterruptible Power System | J2P85A |
| HP T750 G4 INTL Uninterruptible Power System  | J2P88A |

##### HP T1000 G4 UPS Models

|                                                |        |
|------------------------------------------------|--------|
| HP T1000 G4 NA/JP Uninterruptible Power System | J2P86A |
| HP T1000 G4 INTL Uninterruptible Power System  | J2P89A |

##### HP T1500 G4 UPS Models

|                                                |        |
|------------------------------------------------|--------|
| HP T1500 G4 NA/JP Uninterruptible Power System | J2P87A |
| HP T1500 G4 INTL Uninterruptible Power System  | J2P90A |

#### HP Rack/Tower UPS

##### HP R/T2200 G4 UPS Models

|                                                  |        |
|--------------------------------------------------|--------|
| HP R/T2200 G4 NA/JP Uninterruptible Power System | J2R00A |
|--------------------------------------------------|--------|

##### HP R/T3000 G4 UPS Models

|                                                               |        |
|---------------------------------------------------------------|--------|
| HP R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System  | J2R01A |
| HP R/T3000 G4 High Voltage NA/JP Uninterruptible Power System | J2R02A |
| HP R/T3000 G4 High Voltage INTL Uninterruptible Power System  | J2R04A |

#### HP Rack-mountable UPS

##### HP R1500 G4 Uninterruptible Power Supply (UPS)

|                                                 |        |
|-------------------------------------------------|--------|
| HP R1500 G4 NA Uninterruptible Power System     | J2Q99A |
| HP R1500 G4 INTL Uninterruptible Power System   | J2R03A |
| HP R1500 G4 JP/TWN Uninterruptible Power System | J2R05A |

**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 R5000 3U IEC309-32A High Voltage INTL Uninterruptible Power System | AF461A |
| HP R5000 3U L630 High Voltage NA/JP Uninterruptible Power System      | AF460A |

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

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

### Additional Options

(Worldwide)

#### **R7000 Uninterruptible Power System (UPS)**

HP R7000 4U 50A High Voltage NA/JP Uninterruptible Power System AF462A

HP R7000 4U IEC-32A High Voltage INTL Uninterruptible Power System AF463A

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

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

**NOTE:** For additional information on HP Uninterruptible Power Systems please go to:  
<http://www.hp.com/servers/rackups>.

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

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

#### **HP Basic Power Distribution Units (bPDU)**

##### **HP Basic Power Distribution Unit: 1U/OU Version**

HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU H5M54A

HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU H5M56A

##### **HP Basic Power Distribution Unit: Half Height Version**

HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU H5M55A

HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU H5M57A

HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU H5M58A

HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU H5M68A

HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU H5M61A

##### **HP Basic Power Distribution Unit: Mid Height Version**

HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU H5M59A

HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU H5M70A

HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU H5M60A

HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU H5M71A

HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU H5M75A

HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU H5M63A

HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU H5M64A

HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU H5M62A

HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU H5M72A

##### **HP Basic Power Distribution Unit: Full Height Version**

HP 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU H5M73A

HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU H5M67A

##### **HP Basic Power Distribution Unit: 480/277 Volt Version**

HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU H3X08A

##### **HP 277 Volt options for H3X08A**

HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer H3X09A

**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)

### Additional Options

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

#### HP Remote Monitored Power Distribution Units (mPDU)

##### HP Remote Monitored Power Distribution Unit: 1U Version

|                                                                       |        |
|-----------------------------------------------------------------------|--------|
| HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU     | D9N43A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU | D9N46A |
| HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU           | D9N44A |

##### HP Remote Monitored Power Distribution Unit: Half Height Version

|                                                                       |        |
|-----------------------------------------------------------------------|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU | D9N45A |
| HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU           | G9Z05A |
| HP 7.3kVA 230 Volt IEC309 32A Input (12xC13) INTL Monitored PDU       | G9Z06A |

##### HP Remote Monitored Power Distribution Unit: Mid Height Version

|                                                                                         |        |
|-----------------------------------------------------------------------------------------|--------|
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU                       | D9N47A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU                   | D9N48A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU              | D9N51A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU       | D9N52A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU | D9N53A |

|                                                                              |        |
|------------------------------------------------------------------------------|--------|
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU | D9N55A |
|------------------------------------------------------------------------------|--------|

##### HP Remote Monitored Power Distribution Unit: Full Height Version

|                                                                                  |        |
|----------------------------------------------------------------------------------|--------|
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU                 | D9N49A |
| HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU            | D9N50A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU     | D9N57A |
| HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU        | D9N58A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU     | D9N61A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU    | D9N62A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU  | D9N54A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU | D9N59A |
| HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU                         | D9N63A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU     | D9N56A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU    | D9N60A |

##### HP Environmental Sensor for Remote Monitored PDUs

|                                                               |        |
|---------------------------------------------------------------|--------|
| HP Environmental Sensor for Remote Monitored and Managed 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)

#### 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 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF521A |
| HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit  | AF522A |
| HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF523A |

### Additional Options

|                                                                                                                                                                                                                                                                            |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 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 |
| HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit                                                                                                                                                                                             | AF527A |
| 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 |
| <b>IPDU Kits with Standard Extension Bars</b>                                                                                                                                                                                                                              |        |
| 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 |
| <b>IPDU Extension Bars</b>                                                                                                                                                                                                                                                 |        |
| HP 5xC13 Intelligent PDU Extension Bar G2 Kit                                                                                                                                                                                                                              | AF547A |
| HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar                                                                                                                                                                                                            | AF528A |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html">http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html</a> (Worldwide) |        |

### HP Managed Power Distribution Units (maPDU)

#### Half Height Models

|                                                                          |        |
|--------------------------------------------------------------------------|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (7xC13/1xC19) WW Managed PDU | H8B49A |
|--------------------------------------------------------------------------|--------|

#### Full Height Models

|                                                                                       |        |
|---------------------------------------------------------------------------------------|--------|
| HP 2.8kVA 120 Volt L5-30 Input (24x NEMA 5-20) NA/JP Managed PDU                      | H8B48A |
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Managed PDU                       | H8B50A |
| HP 7.3kVA 200-240 Volt IEC309 32A Input (20xC13/4xC19) INTL Managed PDU               | H8B51A |
| HP 8.6kVA 208 Volt L15-30 3 Phase Input (18xC13/6xC19) NA/JP Managed PDU              | H8B52A |
| HP 8.6kVA 208 Volt L21-30 3 Phase Input (20xC13/3xC19/1x NEMA 5-20) NA/JP Managed PDU | H8B53A |
| HP 11kVA 400 Volt IEC309 16A 3 Phase Input (21xC13/3xC19) INTL Managed PDU            | H8B54A |
| HP 14.4kVA 208V CS8365C 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU               | H8B55A |
| HP 17.3kVA 208V IEC309 60A 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU            | H8B56A |

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
<http://www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04376673> (Worldwide)

### HP Rack Series

#### HP Intelligent Series Rack

|                                       |        |
|---------------------------------------|--------|
| HP 636 1075mm Pallet Intelligent Rack | BW895A |
| HP 636 1075mm Shock Intelligent Rack  | BW896A |
| HP 642 1075mm Pallet Intelligent Rack | BW903A |
| HP 642 1075mm Shock Intelligent Rack  | BW904A |
| HP 647 1075mm Pallet Intelligent Rack | BW911A |
| HP 647 1075mm Shock Intelligent Rack  | BW912A |

**NOTE:** Please see the QuickSpecs for Technical Specifications such as height, width,

### Additional Options

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 LCD8500 1U Rackmount Console Kit Models

|                                            |        |
|--------------------------------------------|--------|
| HP LCD8500 1U US Rackmount Console Kit     | AF630A |
| HP LCD8500 1U UK Rackmount Console Kit     | AF631A |
| HP LCD8500 1U DE Rackmount Console Kit     | AF632A |
| HP LCD8500 1U FR Rackmount Console Kit     | AF633A |
| HP LCD8500 1U JP Rackmount Console Kit     | AF642A |
| HP LCD8500 1U RU Rackmount Console Kit     | AF643A |
| HP LCD8500 1U INTL Rackmount Console Kit   | AF644A |
| HP LCD8500 1U US TAA Rackmount Console Kit | AF645A |

##### HP LCD8500 1U Rackmount Console Kit Options

|                                            |        |
|--------------------------------------------|--------|
| HP Kit LCD 1.83m Latch Display Port Cable  | G7T29A |
| HP Location Discovery Services LCD8500 Kit | TL052A |
| HP Rack LED Light Kit                      | BW939A |

##### HP Location Discovery Services

**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 36U Location Discovery Kit | BW945A |
| HP 42U Location Discovery Kit | BW946A |
| HP 47U Location Discovery Kit | BW947A |

##### HP USB Keyboard and Mouse

**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 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 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 |

### Additional Options

|                                                |            |
|------------------------------------------------|------------|
| 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 |
| HP USB BFR with PVC Free KR Keyboard/Mouse Kit | 672097-KD3 |

#### HP Server Console Switches

**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 0x1x8 G3 KVM Console Switch                       | AF651A |
| HP 0x2x16 G3 KVM Console Switch                      | AF652A |
| HP TAA 0x2x16 G3 KVM Console Switch                  | AF653A |
| HP USB Remote Access Key for G3 KVM Console Switches | AF650A |

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

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13475\\_div/13475\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html)  
 (Worldwide)

|                                                                        |            |
|------------------------------------------------------------------------|------------|
| HP 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     |
| KVM USB Cnsl Itfc Adapter 1PK ALL                                      | 336047-B21 |

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

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13474\\_div/13474\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html)  
 (Worldwide)

|                                                                     |        |
|---------------------------------------------------------------------|--------|
| HP 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 |

#### Rail Kits

**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 1U Small Form Factor Ball Bearing Rail Kit | 663201-B21 |
|-----------------------------------------------|------------|

**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 Rail Kit | 663203-B21 |
|------------------------------------------------------|------------|

**NOTE:** Supports Ball Bearing rail kit only.

### Additional Options

|                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP Rack Cable Management Velcro Clips                                                                                                                                                                                                                                                                                                                                                                                                     | 379820-B21 |
| HP 1U Large Form Factor Ball Bearing Rail Kit                                                                                                                                                                                                                                                                                                                                                                                             | 663202-B21 |
| <b>NOTE:</b> For LFF models.                                                                                                                                                                                                                                                                                                                                                                                                              |            |
| <b>NOTE:</b> 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. |            |
| <b>Caution:</b> 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 |
| <b>NOTE:</b> For SFF models.                                                                                                                                                                                                                                                                                                                                                                                                              |            |
| <b>NOTE:</b> 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.                                                                                                                                                                                             |            |
| <b>Caution:</b> 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 |
| <b>NOTE:</b> For LFF models.                                                                                                                                                                                                                                                                                                                                                                                                              |            |
| <b>NOTE:</b> 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.                                                                                                                                                                                             |            |
| <b>Caution:</b> 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 Cable Management Arm for Easy Install Rail Kit                                                                                                                                                                                                                                                                                                                                                                                      | 734811-B21 |
| <b>NOTE:</b> Supports Easy Install rail kits only                                                                                                                                                                                                                                                                                                                                                                                         |            |

### HP USB and SD Options

#### HP Flash Media Kits for USB Drives

#### HP Enterprise Mainstream Flash Media Kits for Memory Cards

|                                                                                                                                                                                                                                                                |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP 8GB SD Enterprise Mainstream Flash Media Kit                                                                                                                                                                                                                | 726113-B21 |
| HP 32GB SD Enterprise Mainstream Flash Media Kit                                                                                                                                                                                                               | 700136-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html">http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html</a> |            |
| 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 4-Hour 24x7 with Comprehensive Defective Material Retention DL360e ProactiveCare Service   | U9B02E |
| HP 3 year 4-Hour 24x7 w/Comprehensive Defective MaterialRetention DL360e w/IC ProactiveCare Service  | U9B13E |
| 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 |

**NOTE:** Collaborative Support plus Proactive services delivered by the onshore, local

### Additional Options

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.

#### Foundation Care

|                                                                                                    |        |
|----------------------------------------------------------------------------------------------------|--------|
| HP 3 year 24x7 DL360e Foundation Care Service                                                      | U2GL2E |
| HP 3 year 24x7 with Defective Media Retention DL360e Foundation Care Service                       | U2GL3E |
| HP 3 year 24x7 with Comprehensive Defective Material Retention DL360e Foundation Care Service      | U2GL4E |
| HP 3 year 24x7 DL360e w/IC Foundation Care Service                                                 | U2HY4E |
| HP 3 year 24x7 with Defective Media Retention DL360e w/IC Foundation Care Service                  | U2HY5E |
| HP 3 year 24x7 with Comprehensive Defective Material Retention DL360e w/IC Foundation Care Service | U2HY6E |

#### Installation Services

**NOTE:** Reduce the time required to get your system up and running and help minimize disruptions to your business.

|                                               |        |
|-----------------------------------------------|--------|
| HP Installation ProLiant DL160/DL360e Service | U6E11E |
| HP Startup ProLiant DL160/DL360e Service      | U6E13E |

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

### Memory

#### HP SmartMemory

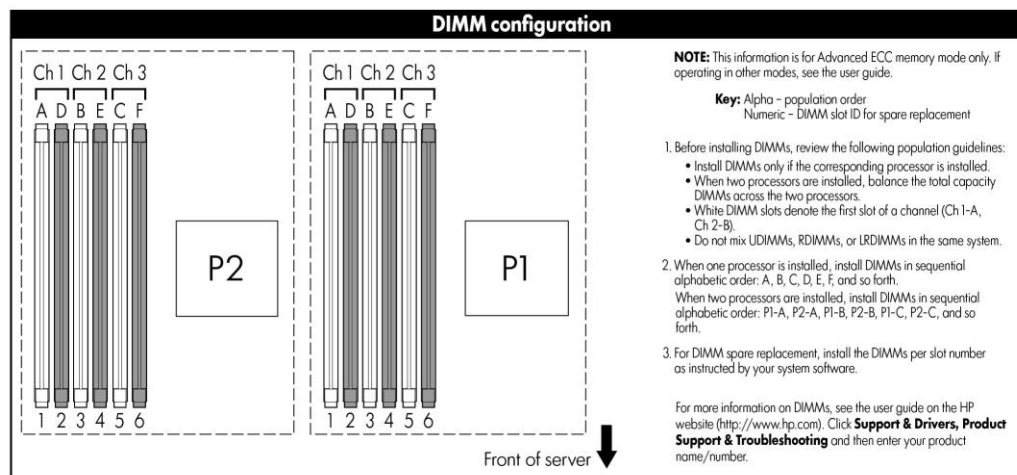
New HP SmartMemory now provides additional protection for your servers. With HP Authentication it can verify that you have true HP Qualified Memory in your HP ProLiant Gen8 server. With HP SmartMemory your new HP ProLiant server can take advantage of additional Gen8 enhancements in performance, durability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

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

### 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)

- 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

| DIMM Type                | Registered DIMMS (RDIMMs) |           |             |           | Unbuffered with ECC DIMMs (UDIMMs) |           |           |
|--------------------------|---------------------------|-----------|-------------|-----------|------------------------------------|-----------|-----------|
| DIMM Rank                | Single Rank               | Dual Rank | Single Rank | Dual Rank | Single Rank                        | Dual Rank | Dual Rank |
| DIMM Capacity            | 4GB                       | 8GB       | 8GB         | 16GB      | 2GB                                | 4GB       | 8GB       |
| DIMM Native Speed (MT/s) | 1600                      | 1600      | 1600        | 1600      | 1600                               | 1600      | 1600      |
| Voltage                  | LV                        | LV        | LV          | LV        | LV                                 | LV        | LV        |
| 12 slot servers          | 12                        | 12        | 12          | 12        | 12                                 | 12        | 12        |
| 12 slot servers          | 48                        | 96        | 96          | 192       | 24                                 | 48        | 96        |
| 1 DIMM Per Channel       | 1600                      | 1600      | 1600        | 1600      | 1600                               | 1600      | 1600      |
| 2 DIMM Per Channel       | 1600                      | 1600      | 1600        | 1600      | 1600                               | 1600      | 1600      |
| 3 DIMM Per Channel       | 800                       | 800       | 800         | 800       | n/a                                | n/a       | n/a       |

#### 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 | Dual Rank |
| DIMM Capacity                 | 4GB                       | 4GB         | 8GB       | 8GB       | 8GB         | 16GB      | 16GB      | 32GB      | 2GB                    | 2GB                                | 4GB       | 4GB       | 8GB       | 8GB       | 8GB       |
| DIMM Native Speed (MT/s)      | 1333                      | 1600        | 1333      | 1600      | 1600        | 1333      | 1600      | 1333      | 1333                   | 1600                               | 1333      | 1600      | 1600      | 1600      | 1333      |
| Voltage                       | LV                        | Std         | LV        | Std       | Std         | LV        | Std       | LV        | LV                     | Std                                | LV        | Std       | 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        | 12        |
| MAXIMUM CAPACITY (GB)*        |                           |             |           |           |             |           |           |           |                        |                                    |           |           |           |           |           |
|                               | 48                        | 48          | 96        | 96        | 96          | 192       | 192       | 384       | 24                     | 24                                 | 48        | 48        | 96        | 96        | 96        |
| 1 DIMM Per Channel            | 1333                      | 1600        | 1333      | 1600      | 1600        | 1333      | 1600      | 1333**    | 1333                   | 1600                               | 1333      | 1600      | 1600      | 1600      | 1333      |
| 2 DIMM Per Channel            | 1333                      | 1600        | 1333      | 1600      | 1600        | 1333      | 1600      | 1333**    | 1333***                | 1600                               | 1333***   | 1600      | 1600      | 1600      | 1333***   |
| 3 DIMM                        | 1066#                     | 1333##      | 1066#     | 1333##    | 1333##      | 1066#     | 1333##    | 1066      | n/a                    | n/a                                | n/a       | n/a       | n/a       | n/a       | n/a       |

# QuickSpecs

## HP ProLiant DL360e Generation 8 (Gen8)

## Memory

[illegible]

**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.

# For HP SmartMemory, RDIMM support 3DPC@ DDR3-1066 at 1.35V. Third party memory may only support up to 3DPC@DDR3-1066 at 1.5V.

```
## RBSU setting required.
```

## 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  |                  |   |       |
|                                                             | Slot # | population order |   | Slot # | population order |   | CPU 1 |
| Chnl 1                                                      | 1      | A                | 1 | 1      | A                | 1 |       |
|                                                             | 2      | D                | 4 | 2      | D                | 4 |       |
|                                                             | CPU 1  |                  |   | CPU 2  |                  |   |       |
|                                                             | Slot # | population order |   | Slot # | population order |   | CPU 2 |
| Chnl 2                                                      | 3      | B                | 2 | 3      | B                | 2 |       |
|                                                             | 4      | E                | 5 | 4      | E                | 5 |       |
|                                                             | 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

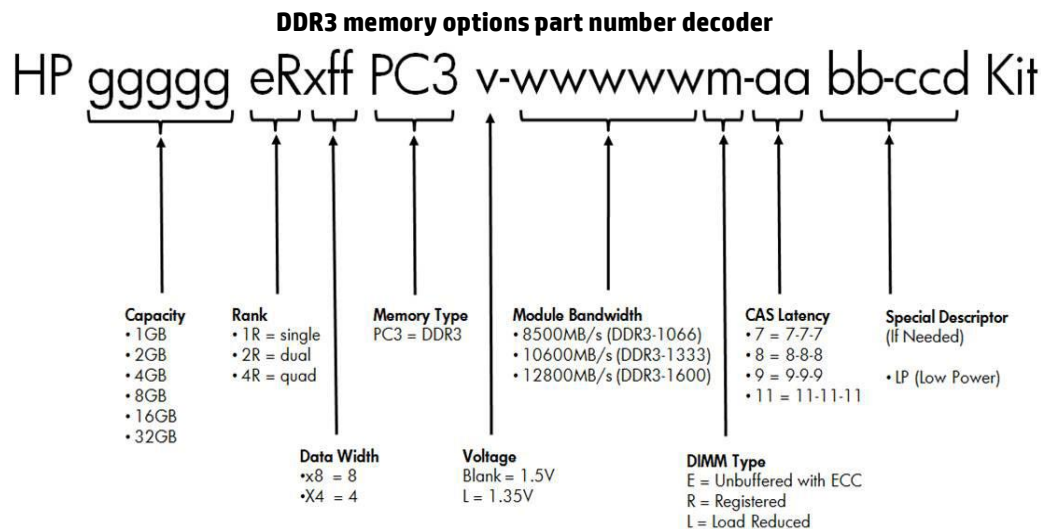
| Processor Models                                                               | Supported Memory Speeds |
|--------------------------------------------------------------------------------|-------------------------|
| E5-2470, E5-2450,                                                              | 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)                               |

### Memory

|            |              |                        |                 |
|------------|--------------|------------------------|-----------------|
| E5-2407v2, | 8GB (1x8GB)  | 184GB (11x16GB, 1x8GB) | 384GB (12x32GB) |
| E5-2430,   | 24GB (6x4GB) | 120GB (6x16GB, 6x4GB)  | 384GB (12x32GB) |



### 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 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 |
| <b>NOTE:</b> 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 |

### Memory

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

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)

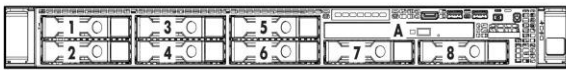
HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit 647903-B21

**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: <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

|                                                                                                                                  |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                   |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| System Unit                                                                                                                      | Dimensions (H x W x D)                                                                                                                                                                                                                                                            | 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) |
| Weight                                                                                                                           | Maximum                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                           | 8 SFF (17.14 kg)                                  |
|                                                                                                                                  |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                           | 4 LFF (17.40 kg)                                  |
|                                                                                                                                  | Minimum                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                           | 8 SFF (13.20kg)                                   |
|                                                                                                                                  |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                           | 4 LFF (13.65kg)                                   |
| Input Requirements<br>(for Standard 460W PSU, see power specifications tables for detail on 460W, 750W and 1200W power supplies) | Rated Line Voltage                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                           | 100 to 120 VAC<br>200 to 240 VAC                  |
|                                                                                                                                  | Rated Input Current                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                           | 4.5 Amps (at 120VAC) to 2.2 Amps (at 240 VAC)     |
|                                                                                                                                  | Rated Input Frequency                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                           | 50 to 60 Hz                                       |
| BTU Rating                                                                                                                       | Maximum                                                                                                                                                                                                                                                                           | 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)                                                                                                                                                                                                                                                                                                                                                                             |                                                   |
| Power Supply Output<br>(per power supply)                                                                                        | Rated Steady-State Power                                                                                                                                                                                                                                                          | 460 W (at 100 to 120 VAC),<br>460 W (at 200 to 240 VAC)                                                                                                                                                                                                                                                                                                                                                                   |                                                   |
|                                                                                                                                  |                                                                                                                                                                                                                                                                                   | 750 W (at 100 to 120 VAC),<br>750 W (at 200 to 240 VAC)                                                                                                                                                                                                                                                                                                                                                                   |                                                   |
|                                                                                                                                  | Maximum Peak Power                                                                                                                                                                                                                                                                | 460 W (at 100 to 120 VAC),<br>460 W (at 200 to 240 VAC)                                                                                                                                                                                                                                                                                                                                                                   |                                                   |
|                                                                                                                                  |                                                                                                                                                                                                                                                                                   | 750 W (at 100 to 120 VAC),<br>750 W (at 200 to 240 VAC)                                                                                                                                                                                                                                                                                                                                                                   |                                                   |
| System Inlet Temperature                                                                                                         | Operating                                                                                                                                                                                                                                                                         | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 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.<br>System performance may be reduced if operating with a fan fault or above 30°C (86°F). |                                                   |
|                                                                                                                                  | Non-operating                                                                                                                                                                                                                                                                     | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).                                                                                                                                                                                                                                                                                                                                                |                                                   |
| Relative Humidity<br>(non-condensing)                                                                                            | Operating                                                                                                                                                                                                                                                                         | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.                                                                                                                                                                                                                                                                                                                             |                                                   |
|                                                                                                                                  | Non-operating                                                                                                                                                                                                                                                                     | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.                                                                                                                                                                                                                                                                                                                           |                                                   |
| Altitude                                                                                                                         | Operating                                                                                                                                                                                                                                                                         | 3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).                                                                                                                                                                                                                                                             |                                                   |
|                                                                                                                                  | Non-operating                                                                                                                                                                                                                                                                     | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).                                                                                                                                                                                                                                                                                                                                    |                                                   |
| Acoustic Noise                                                                                                                   | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and |                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                   |

### Technical Specifications

declared in accordance with ISO 9296 (ECMA 109).

#### Idle

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

#### Operating

|      |                                                                                     |
|------|-------------------------------------------------------------------------------------|
| LWAd | (1P non-redundant) 4.7 B Average Bystander<br>(2P redundant) 5.0B Average Bystander |
| LpAm | (1P non-redundant) 33 dBA<br>(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)<br>RAID 1+0 (Striping & Mirroring) |

#### HP Dynamic Smart Array B320i 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>                                     | 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<br>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)<br>RAID 1+0 (Striping & Mirroring)<br>RAID 5 with optional 512MB FBWC |

**NOTE:** 512 MB cache is required to enable RAID 5 support.

### Technical Specifications

**NOTE:** SAS mode requires purchase of SAS license key. For more information please visit <http://www.hp.com/go/saslicense>

|                                                          |                                                         |                                                              |                                                |
|----------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------|
| HP Smart Array P420Controller                            | Dimensions                                              | Low Profile PCIe Form Factor                                 |                                                |
|                                                          | Disk Drive and Enclosure Interface - transfer rate      | 6Gb/s SAS (Serial Attached SCSI)                             |                                                |
|                                                          |                                                         | 3Gb/s SATA (Serial ATA)                                      |                                                |
|                                                          | SAS Connectors                                          | 2 internal 4X connectors                                     |                                                |
|                                                          | Cache Memory Speed                                      | DDR2-800MHz with 40 or 72-bit wide bus                       |                                                |
|                                                          | Server Interface                                        | x4 PCIe 2.0 provides 2GB/s maximum bandwidth                 |                                                |
|                                                          | SAS Speed                                               | 8 6Gb/s SAS links provide 4.8GB/s maximum bandwidth          |                                                |
|                                                          | Cache Memory                                            | Zero Memory RAID has no cache memory                         |                                                |
|                                                          |                                                         | 40-bit 256MB ECC protected cache (battery upgrade available) |                                                |
|                                                          |                                                         | 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC                |                                                |
| Zero Memory, Up to 2 logical volumes (8 physical drives) |                                                         |                                                              |                                                |
| Logical Drives Supported                                 | Up to 64 logical drives with cache                      |                                                              |                                                |
| Host Memory Addressing                                   | 64-bit, supporting greater than 4GB server memory space |                                                              |                                                |
| RAID Support                                             | RAID 6, 60 (Advanced Data Guarding)                     |                                                              |                                                |
|                                                          | RAID 5, 50 (Distributed Data Guarding)                  |                                                              |                                                |
|                                                          |                                                         |                                                              |                                                |
| HP Ethernet 1Gb 4-port 331FLR Adapter                    | Network Interface Compatibility                         | 10Base-T/100Base-TX/1000Base-TX                              |                                                |
|                                                          |                                                         | IEEE 802.3 10Base-T                                          |                                                |
|                                                          |                                                         | IEEE 802.3ab 1000Base-T                                      |                                                |
|                                                          |                                                         | IEEE 802.3u 100Base-TX                                       |                                                |
|                                                          |                                                         | IEEE 1588, IEEE 802.1AS                                      |                                                |
|                                                          |                                                         | IEEE 802.3az - Energy Efficient Ethernet (EEE)               |                                                |
|                                                          | Data Transfer Method                                    | PCI Express, four lanes (x4)                                 |                                                |
|                                                          | Controller                                              | Intel I350 Powerville                                        |                                                |
|                                                          | Network Transfer Rate                                   | 10Base-T (Half-Duplex)                                       | 10 Mb/s per port, 40 Mb/s Combined             |
|                                                          |                                                         | 10Base-T (Full-Duplex)                                       | 20 Mb/s per port, 80 Mb/S Combined             |
|                                                          |                                                         | 100Base-TX (Half-Duplex)                                     | 100 Mb/s per port, 400 Mb/s Combined           |
|                                                          |                                                         | 100Base-TX (Full-Duplex)                                     | 200 Mb/s per port, 800 Mb/s Combined           |
|                                                          |                                                         | 1000Base-TX (Half and Full-Duplex)                           | 1000Mb/s per port, 4000 Mb/s Combined          |
|                                                          | Connector                                               | Four RJ-45                                                   |                                                |
|                                                          | Cable Support                                           | 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> | 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. |
|---------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These

### Technical Specifications

instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

### Summary of Changes

| Date        | Version History       | Action  | Description of Change                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17-Aug-2015 | From Version 47 to 48 | Added   | New Solid State Drives offering was added to HP Hard Drives section.                                                                                                                                                                                                                                                                                                                                                                   |
| 01-Jun-2015 | From Version 46 to 47 | Added   | New Hard Drives were added to Core Options.                                                                                                                                                                                                                                                                                                                                                                                            |
|             |                       | Removed | Obsolete SKUs were removed from Configuration Information - Factory Integrated Models, Core Options, and Additional Options.                                                                                                                                                                                                                                                                                                           |
| 30-Mar-2015 | From Version 45 to 46 | Added   | New Hard Drives added to Core Options.                                                                                                                                                                                                                                                                                                                                                                                                 |
| 09-Feb-2015 | From Version 44 to 45 | Added   | New Hard Drives, DirectFlow UPS, Rack and Tower G4 Models, LCD8500 1U Rackmount Models and Options were added to the Additional Options section.                                                                                                                                                                                                                                                                                       |
|             |                       | Changed | HP Uninterruptible Power Systems, HP Rack Options, and HP Care Pack Services in Additional Options section were revised.                                                                                                                                                                                                                                                                                                               |
| 01-Dec-2014 | From Version 43 to 44 | Added   | HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive and HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive were added to HP Hard Drives.                                                                                                                                                                                                        |
|             |                       | Removed | Proactive Care Services (U6D69E, U6D70E, U6G84E, and U6G85E) and Proactive Care Personalized Support Option were removed from HP Care Pack Services.                                                                                                                                                                                                                                                                                   |
| 01-Nov-2014 | From Version 42 to 43 | Changed | Service and Support section was revised.                                                                                                                                                                                                                                                                                                                                                                                               |
| 29-Sep-2014 | From Version 41 to 42 | Added   | New Solid State Drives were added.<br>HP Managed Power Distribution Units (maPDU) was added to Additional Options.                                                                                                                                                                                                                                                                                                                     |
|             |                       | Changed | Service and Support section was revised.<br>HP Hard Drives was revised in Core Options section.<br>Memory section was revised.                                                                                                                                                                                                                                                                                                         |
|             |                       | Removed | HP Power Distribution Units was removed from Additional Options.                                                                                                                                                                                                                                                                                                                                                                       |
| 09-Sep-2014 | From Version 40 to 41 | Changed | Memory section was revised.                                                                                                                                                                                                                                                                                                                                                                                                            |
| 18-Aug-2014 | From Version 39 to 40 | Added   | New Hard Drives were added.<br>HP Remote mPDUs half height were added.                                                                                                                                                                                                                                                                                                                                                                 |
|             |                       | Changed | Configuration Information - Factory Integrated Models, Core Options, Additional Options, and Memory sections were revised.                                                                                                                                                                                                                                                                                                             |
| 16-Jun-2014 | From Version 37 to 39 | Changed | Hard Drives, Insight Software, I/O Expansion Options, Cable Options, Power Distribution Units, and USB and SD Options were revised.                                                                                                                                                                                                                                                                                                    |
| 25-Apr-2014 | From Version 36 to 37 | Changed | Changes made throughout the entire QuickSpecs.                                                                                                                                                                                                                                                                                                                                                                                         |
| 22-Jan-2014 | From Version 35 to 36 | Changed | The link in the Note was corrected in the Standard Features/ Upgradeability section.                                                                                                                                                                                                                                                                                                                                                   |
| 13-Jan-2014 | From Version 34 to 35 | Changed | Changes made to the North America and Canada versions only.                                                                                                                                                                                                                                                                                                                                                                            |
| 09-Jan-2014 | From Version 33 to 34 | Changed | Changes made throughout the entire QuickSpecs.                                                                                                                                                                                                                                                                                                                                                                                         |
| 16-Dec-2013 | From Version 32 to 33 | Changed | Changes made to the North America and Canada versions only.                                                                                                                                                                                                                                                                                                                                                                            |
| 15-Nov-2013 | From Version 31 to 32 | Changed | Minor change made to the Core Options/ Hard Drives Section.                                                                                                                                                                                                                                                                                                                                                                            |
| 11-Oct-2013 | From Version 30 to 31 | Added   | Converged Infrastructure Management Software was added<br>HP 600GB 6G SATA Value Endurance SFF and LFF SC Enterprise Value Solid State Drives and HP 300GB 6G SATA Value Endurance SFF and LFF SC Enterprise Value Solid State Drives were added to Hard Drives<br>HP Remote Monitoring Power Distribution Units was added to Additional Options<br>HP 8GB SD Enterprise Mainstream Flash Media Kit was added to HP USB and SD Options |
| 20-Sep-2013 | From Version 28 to 30 | Changed | HP Dynamic Smart Array B120i Controller in Technical Specifications was revised.                                                                                                                                                                                                                                                                                                                                                       |

### Summary of Changes

|             |                       |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-----------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10-Sep-2013 | From Version 27 to 28 | Changed | Changes made to the following sections:<br>Standard Features - HP Insight Management<br>Optional Features - High Performance Clusters<br>Pre-configured Models<br>Memory<br>Core Options - HP Hard Drives                                                                                                                                                                                                                                                                    |
| 08-Jul-2013 | From Version 26 to 27 | Removed | Notes removed from the HP Storage Controllers section.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12-Jun-2013 | From Version 25 to 26 | Changed | Changes made to the North America and Canada versions only.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 31-May-2013 | From Version 24 to 25 | Changed | Changes made to the North America and Canada versions only.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 27-May-2013 | From Version 23 to 24 | Changed | Changes made in the following sections:<br>Standard Features: Processor, Maximum Internal Storage<br>Core Options: HP Hard Drives, HP InfiniBand,<br>Additional Options: HP I/O Accelerator Options, HP Tape Backup,<br>Added HP Basic Power Distribution Units                                                                                                                                                                                                              |
| 29-Apr-2013 | From Version 22 to 23 | Changed | Technical Specifications: Updated HP Dynamic Smart Array B120i Controller section.                                                                                                                                                                                                                                                                                                                                                                                           |
| 25-Mar-2013 | From Version 21 to 22 | Added   | Configuration Information: Added NOTE to HP Power Supplies<br>Core Options: Added NOTE to HP Power Supplies                                                                                                                                                                                                                                                                                                                                                                  |
|             |                       | Removed | Additional Options: Removed 641027-B21, 600279-B21 and 600282-B21 from the HP I/O Accelerator Options section.                                                                                                                                                                                                                                                                                                                                                               |
| 15-Mar-2013 | From Version 20 to 21 | Changed | Changes made to the North America and Canada versions only.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 05-Mar-2013 | From Version 19 to 20 | Added   | Optional Features: Added HP Proactive Insight experience section.                                                                                                                                                                                                                                                                                                                                                                                                            |
| 19-Feb-2013 | From Version 18 to 19 | Changed | Changes made in the following sections:<br>Standard Features: Maximum Internal Storage<br>Optional Features: HP Insight Management, Added Storage Software<br>Models section<br>Configuration Information: Step 2 - HP I/O Expansion Options, Step 3 - added HP Insight Software<br>Core Options: Hard Drives, HP Networking<br>Additional Options: Changes made in the Insight Control, HP Tape Backup, HP Care Pack Services                                               |
| 21-Dec-2012 | From Version 17 to 18 | Changed | Additional Options: in HP Cable Options = changed HP Premier Flex LC/LC Multi-mode OM4 5 fiber 5m Cable to a 2 fiber 5m Cable.                                                                                                                                                                                                                                                                                                                                               |
| 14-Dec-2012 | From Version 16 to 17 | Changed | Configuration Information - Factory Integrated Models: in Step 1 change to note.<br>Additional Options: changes made in HP Storage Controllers                                                                                                                                                                                                                                                                                                                               |
| 07-Dec-2012 | From Version 15 to 16 | Removed | Removed the HP Backup & Recovery Software, HP Disk Backup, and HP Disk Storage Systems from the Additional Options section.                                                                                                                                                                                                                                                                                                                                                  |
|             |                       | Changed | Standard Features: Graphics, On System Management<br>Optional Features: HP Insight Management<br>Pre-Configured Models: Corrected a note location within SKU 668812-xx1<br>Configuration Information: Step 1 - Added Notes, Step 2 - HP Power Supplies section changes<br>Core Options: Optical Drives, HP Hard Drives, HP Power Supplies<br>Additional Options: Completely revised the HP Insight Software section, HP Rack Series, HP Rack Options & HP Care Pack Services |
| 02-Nov-2012 | From Version 14 to 15 | Changed | Change was made in the Technical Specifications section.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 19-Oct-2012 | From Version 12 to 14 | Changed | Change made to SKU description in Additional Options section.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 07-Sep-2012 | From Version 11 to 12 | Changed | Change made in the Models and Configuration Information                                                                                                                                                                                                                                                                                                                                                                                                                      |

### Summary of Changes

|             |                       |         |                                                                                                                            |
|-------------|-----------------------|---------|----------------------------------------------------------------------------------------------------------------------------|
|             |                       |         | section only.                                                                                                              |
| 05-Sep-2012 | From Version 10 to 11 | Changed | Change made in the Technical Specifications section only.                                                                  |
| 31-Aug-2012 | From Version 9 to 10  | Changed | Note Change made in the Models, Configuration Information and Additional Options sections.                                 |
| 27-Aug-2012 | From Version 8 to 9   | Changed | Change made in Standard Features section.                                                                                  |
| 22-Aug-2012 | From Version 7 to 8   | Changed | Changes made Technical Specifications.                                                                                     |
| 17-Aug-2012 | From Version 6 to 7   | Changed | Changes made throughout the QuickSpecs.                                                                                    |
| 03-Jul-2012 | From Version 5 to 6   | Changed | Change made in the Additional Options section.                                                                             |
| 26-Jun-2012 | From Version 4 to 5   | Changed | Changes made in Pre-Configured Models, Configuration Information, Core Options and Additional Options and Memory sections. |
| 19-Jun-2012 | From Version 3 to 4   | Changed | Corrected the order of the processors in the Standard Features and Core Options sections.                                  |
| 15-Jun-2012 | From Version 2 to 3   | Changed | Made changes in Standard Features, Pre-Configured Models, Configuration Information, Core Options and Additional Options.  |
| 08-Jun-2012 | From Version 1 to 2   | Changed | Added Care Pack Services.                                                                                                  |

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