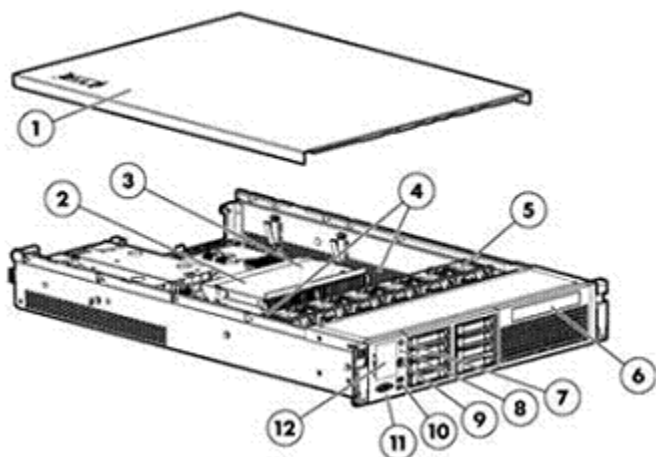
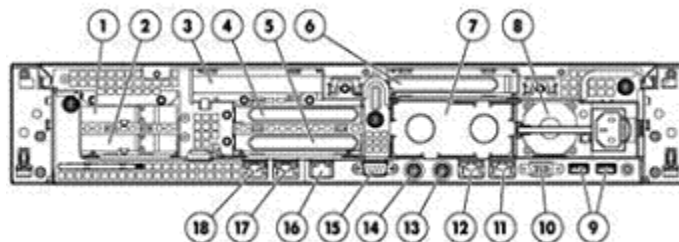


### Overview



#### Front View:

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



#### Rear View:

1. PCI slot 5
2. PCI slot 6
3. PCI slot 4
4. PCI slot 2
5. PCI slot 3
6. PCI slot 1
7. Power supply 2
8. Power supply 1
9. USB connectors (2)
10. Video connector
11. NIC 1 connector
12. NIC 2 connector
13. Mouse connector
14. Keyboard connector
15. Serial connector
16. iLO2 connector
17. NIC 3 connector
18. NIC 4 connector

### At A Glance

The HP ProLiant DL380 G6 Server continues to deliver on its heritage of engineering excellence with increased flexibility and performance, enterprise-class uptime and manageability, 2-socket Intel Xeon performance, and 2U density for a variety of applications.

- **Processors:**

- Up to 2 Quad-Core or Dual-Core Intel® Xeon® processor 5500 sequence)
- Intel® 5520 Chipset

- **Memory:**

- Total of 18 DIMM slots
- Up to 192GB (16GB kits populating 12 DIMM slots), using PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated at 2 DIMMs per Channel in 12 slots

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

**NOTE:** when populating with the 16GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.

- Up to 24GB, using PC3-10600E DDR3 Unbuffered (UDIMM) memory, operating at 1066MHz when fully populated at 2 DIMMs per Channel in 12 slots
- Two DIMMs Per Channel at 1333MHz supported with ROM update via ROM Based Setup Utility (RBSU) for 1333MHz RDIMMs. UDIMM support is only on 12-slot servers.

- **Storage Controller:**



### Overview

- Entry Models: HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
- Base Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
- Performance Models: HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
- High Efficiency: HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
- Available upgrades: 256MB, 512MB with BBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)
- **Internal Drive Support:**
  - Standard (8) small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives
    - Optional second drive cage for additional (8) SFF drive bays (total 16)
    - Optional cage for (6) Large Form Factor SAS/SATA hard drive bays
  - Slimline media bay supporting Optical Drive (ships standard on performance models)  
**NOTE:** The Optical Drive option is not available when you upgrade with the additional 8 SFF drive cage, or in the LFF Models.
- **Network Controller:**
  - Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) with TCP/IP Offload Engine, including support for Accelerated iSCSI
- **Expansion Slots:**
  - Six available PCI-Express Gen2 slots, optional mixed PCI-X / PCI-Express or x16 PCI configurations available (see "Standard Features -Expansion Slots" section for more details)
- **Ports:**
  - USB 2.0 support
  - 5 total ports: (2) ports up front; (2) ports in back; (1) port internal
  - 1 internal Secure Digital (SD) slot
- **Integrated Hypervisors (Optional):**
  - VMware virtualization technology
  - Citrix XenServer virtualization technology
- **Redundancy:**
  - Fully redundant hot plug fans (N+1)
  - Hot plug power supply with optional redundancy (Included in Performance models)
- **Power Sources:**
  - Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
    - HP 1200W CS Platinum Power Supply (optional)
    - HP 1200W CS HE Silver Power Supply (optional)
    - HP 750W CS HE Gold Power Supply (standard on some models)
    - HP 460W CS HE Gold Power Supply (standard on some models)
    - HP 1200W -48V DC Power Supply (optional)
- **Infrastructure Management:**
  - Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
  - HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
  - 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, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
  - HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- **Form Factor:**
  - Rack (2U), (3.5-inch); Depth 27.25 inches (69.98 cm)
- **Operating Systems and Virtualization Software Support for ProLiant Servers:**
  - Supports Windows, RHEL, SLES, OEL, Solaris, NetWare, VMware, and Citrix XenServer
- **Deployment/Serviceability:**
  - System Insight Display on the front bezel for quick and easy server diagnostics
  - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick

### Overview

release levers for fast and easy serviceability

- Tool-less access to all system components for easy in rack serviceability
- Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement

- **Warranty:**

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

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

### 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

#### Quad-Core Processors

- Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
- Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
- Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
- Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
- Intel® Xeon® Processor L5530 (2.40 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)
- Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
- Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)
- Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800)
- Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)
- Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)
- Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800)

#### Dual-Core Processors

- Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)

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

**NOTE:** Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.

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

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

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

#### Cache Memory

One of the following depending on Model

8MB (1 x 8MB) Level 3 cache on the 5500 sequency

**NOTE:** All 5500 sequence processor models have 8M L3 Cache except for those identified below.

4MB (1 x 4MB) Level 3 cache

**NOTE:** For processors E5506/L5506/E5504/E5502.

#### Chipset

Intel® 5520 Chipset

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

#### Upgradeability

Upgradeable to 2 processors (8 cores)

#### Memory Protection

Advanced ECC (multi-bit error protection)

Mirroring mode

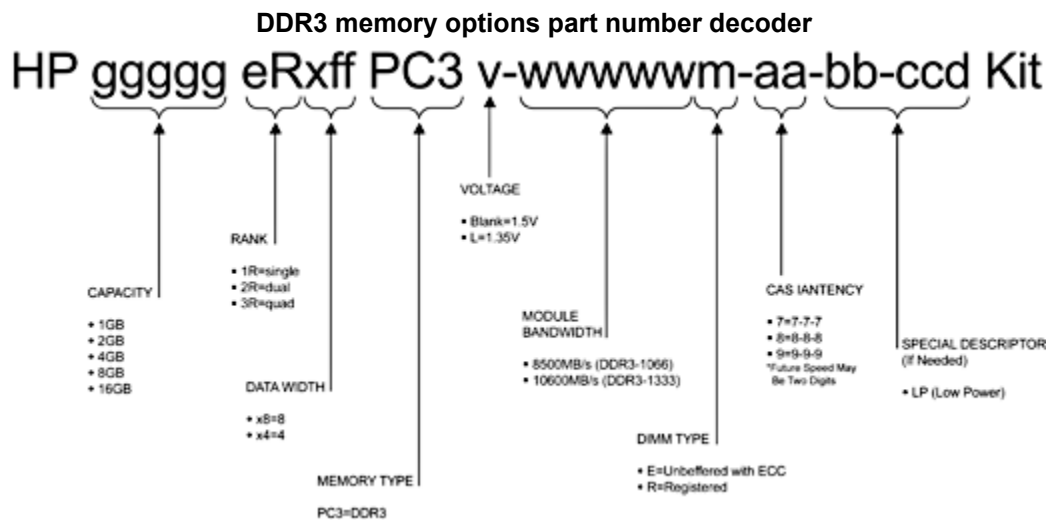
Lockstep mode

### Standard Features

#### Memory

|                                   |                                                          |
|-----------------------------------|----------------------------------------------------------|
| Type                              | DDR3 Registered (RDIMM) and Unbuffered (UDIMM)           |
| Standard (Performance Models)     | 12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs |
| Standard (Base Models)            | 6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs  |
| Standard (Entry Models)           | 4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs  |
| Standard (High Efficiency Models) | 4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs  |
| Maximum (RDIMM)                   | 192 GB (12 x 16 GB) for Registered Memory configurations |
| Maximum (UDIMM)                   | 24 GB (12 x 2 GB) for Unbuffered Memory configurations   |

**NOTE:** If only one processor is installed, only half the DIMM slots are available  
**NOTE:** Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: [www.hp.com/go/ddr3memory-configurator](http://www.hp.com/go/ddr3memory-configurator).



#### Network Controller

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

#### Expansion Slots

**NOTE:** The system board has 2 PCI connectors, but the below riser cards have the actual PCI slots, to which PCI cards attach.

#### Primary Riser (Standard)

| Expansion Slots # | Technology | Bus Width** | Connector Width | Bus Number* | Form Factor                   | Notes |
|-------------------|------------|-------------|-----------------|-------------|-------------------------------|-------|
| 1                 | PCIe Gen2  | X8          | X16             | 7           | Full Length, Full Height Slot |       |
| 2                 | PCIe Gen2  | X4          | X8              | 10          | Half Length, Full Height Slot |       |
| 3                 | PCIe Gen2  | X4          | X8              | 13          | Half Length, Full Height Slot |       |

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

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

#### PCIe Riser

| Expansion | Technology | Bus | Connector | Bus | Form Factor | Notes |
|-----------|------------|-----|-----------|-----|-------------|-------|
|-----------|------------|-----|-----------|-----|-------------|-------|



### Standard Features

| (Optional Secondary) | Slots # | Technology | Width** | Width | Number* | Form Factor                   |
|----------------------|---------|------------|---------|-------|---------|-------------------------------|
|                      | 4       | PCIe Gen2  | X8      | X16   | 16      | Full length, full height slot |
|                      | 5       | PCIe Gen2  | X4      | X8    | 20      | Half length, half height slot |
|                      | 6       | PCIe Gen2  | X4      | X8    | 23      | Half length, half height slot |

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

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

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

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

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

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

| PCIe/PCI-X Riser<br>(Optional Secondary) | Expansion Slots # | Technology     | Bus Width** | Connector Width | Bus Number* | Form Factor                   | Notes |
|------------------------------------------|-------------------|----------------|-------------|-----------------|-------------|-------------------------------|-------|
|                                          | 4                 | PCI-X (133MHz) | 64-bit      | Not applicable  | 19          | Full length, Full height slot |       |
|                                          | 5                 | PCI-E Gen2     | X8          | X16             | 23          | Half Length, Half Height      |       |
|                                          | 6                 | PCI-E Gen2     | X4          | X8              | 27          | Half Length, Half Height      |       |

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

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

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

| x16 PCIe Riser<br>(Optional Primary) | Expansion Slots # | Technology | Bus Width** | Connector Width | Bus Number* | Form Factor                   | Notes                                       |
|--------------------------------------|-------------------|------------|-------------|-----------------|-------------|-------------------------------|---------------------------------------------|
|                                      | 1                 | PCIe Gen2  | x16         | x16             | 13          | Full Length, Full Height slot | Supports up to 150W; single wide cards only |

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

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

| x16 PCIe Riser<br>(Optional Secondary) | Expansion Slots # | Technology | Bus Width** | Connector Width | Bus Number* | Form Factor | Notes |
|----------------------------------------|-------------------|------------|-------------|-----------------|-------------|-------------|-------|
|----------------------------------------|-------------------|------------|-------------|-----------------|-------------|-------------|-------|



### Standard Features

|   |           |     |     |    |                               |                                             |
|---|-----------|-----|-----|----|-------------------------------|---------------------------------------------|
| 4 | PCIe Gen2 | x16 | x16 | 16 | Full Length, Full Height slot | Supports up to 150W; single wide cards only |
|---|-----------|-----|-----|----|-------------------------------|---------------------------------------------|

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

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

### Storage Controller

One of the following depending on Model

|                        |                                                                  |
|------------------------|------------------------------------------------------------------|
| Entry Models           | HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)       |
| Base Models            | HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)      |
| Performance Models     | HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0) |
| High Efficiency Models | HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)       |

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

### Storage

|                                                          |                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diskette Drive                                           | None Standard                                                                                                                                                                                                                                                                                                                                                              |
| Optical Drive<br>One of the following depending on Model | None Standard on Entry, High Efficiency, and Base Models<br><b>NOTE:</b> No support on LFF HD Models, or when the 2nd SFF drive cage is added (optional drive cage has 8 SFF bays).<br>HP Slim SATA DVD RW Optical Drive Standard on Performance Models<br><b>NOTE:</b> HP 64GB SSD Optical Drive Option Kit available. See options sections below contact HP for details. |
| Hard Drives                                              | None Standard                                                                                                                                                                                                                                                                                                                                                              |

### Maximum Internal Storage

|                  |       |            |
|------------------|-------|------------|
| Hot Plug SFF SAS | 8.0TB | 16 x 500GB |
| Hot Plug LFF SAS | 6.0TB | 6 x 1TB    |

### Interfaces

|                            |                                                                                                                                                                                                                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serial                     | 1                                                                                                                                                                                                                                                                                                  |
| Pointing Device (Mouse)    | 1                                                                                                                                                                                                                                                                                                  |
| Graphics                   | 1                                                                                                                                                                                                                                                                                                  |
| Keyboard                   | 1                                                                                                                                                                                                                                                                                                  |
| VGA                        | 2 (1 front, 1 back)                                                                                                                                                                                                                                                                                |
| Network RJ-45              | 4                                                                                                                                                                                                                                                                                                  |
| iLO remote management port | 1                                                                                                                                                                                                                                                                                                  |
| SD slot                    | 1                                                                                                                                                                                                                                                                                                  |
| USB 2.0 Ports              | 5 total: 2 front, 2 back, 1 internal<br><b>NOTE:</b> Please see the following URL for additional information regarding USB support:<br><a href="http://h18004.www1.hp.com/products/servers/platforms/usb-support.html">http://h18004.www1.hp.com/products/servers/platforms/usb-support.html</a> . |

### Standard Features

#### Graphics

Integrated ATI ES1000, 64MB video standard

- 16 bit color: maximum resolution of 1600 x 1200
- 32 bit color: maximum resolution of 1280 x 1024

**NOTE:** Maximum resolution available via iLO 2 remote console is 1280 x 1024.

#### Form Factor

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

#### HP Insight management software

HP Insight Foundation

Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.

HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems:

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

The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

SmartStart version supported (minimum): SmartStart 8.20

<http://www.hp.com/servers/smartstart>

**NOTE:** In an effort to support reducing our environmental impact, the HP ProLiant Essentials Foundation Pack media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.

ProLiant Onboard Administrator

HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See [www.hp.com/go/ProLiantOA](http://www.hp.com/go/ProLiantOA)

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.

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

### Standard Features

#### HP Insight Dynamics for ProLiant

this service, please visit: <http://www.hp.com/services/insight>.

HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. As a powerfully integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

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

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#### Industry Standard Compliance

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

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#### Security

Power-on password  
Keyboard password  
Diskette drive control  
Diskette boot control  
QuickLock, Network Server Mode  
Parallel and serial interface control  
Administrator's password

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#### Security - Trusted Platform Module

Trusted Platform Module option kit

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

**NOTE:** ProLiant OS pre-installed units will come with the partition required for TPM deployment.  
**NOTE:** The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

### Standard Features

#### Server Power Cords

High voltage power cord ships standard with all part numbers.

**NOTE:** HP ProLiant DL servers no longer ship standard with a 12-foot NEMA 5-15P to C13 power cords (227099-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU 6-foot C-14 to C13 power cord (142258-001). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the 12-foot NEMA 5-15 to C13 power cord (227099-001) must be ordered separately. Also available: 110 volt 6-Foot NEMA 5-15p to C13 (AF556A).

#### UPS and PDU Power Cord Matrix

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

#### Power Supply

HP has a new design for ProLiant power the new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed for highest efficiency to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 94%. There are three Right Size power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP [Power Advisor](#) to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant.

#### Common Slot ProLiant

**NOTE:** Mixing of power supplies in the same server is not supported. All power supplies must be of the same type, all HP 460W, all HP750W, all 1200w 94%, all 1200w 90%, or all -48V DC. If non-matched power supplies are inserted you will get errors and operation will fail.

It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP offers four Power Supply Options:

- HP 460Watts, Common Slot,92% Efficiency
- HP 750Watts, Common Slot, 92% Efficiency
- HP 1200Watts, Common Slot, 94% Efficiency
- HP 1200Watts, Common Slot, 90% Efficiency
- HP 1200Watts, -48V DC, Common Slot

HP's ProLiant Common Slot Power supplies meet multiple Energy Efficiency Initiatives:

- 460W, 92%: Climate Savers Computing Initiative GOLD and ECOS Consulting 80PLUS GOLD
- 750W, 92%: Climate Savers Computing Initiative GOLD and ECOS Consulting 80PLUS GOLD
- 1200W, 94%: Climate Savers Computing Initiative Platinum and ECOS Consulting 80PLUS Platinum
- 1200W, 90%: Climate Savers Computing Initiative Silver and ECOS Consulting 80PLUS Silver
- 1200W, -48V DC: Climate Savers Computing Initiative Bronze and ECOS Consulting 80PLUS Bronze

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

### Standard Features

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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).

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#### System Fans

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

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

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#### Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server  
Microsoft Windows Server Hyper-V  
Red Hat Enterprise Linux (RHEL)  
SUSE Linux Enterprise Server (SLES)  
Oracle Enterprise Linux (OEL)  
Solaris  
NetWare  
VMware  
Citrix XenServer

**NOTE:** For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page [www.hp.com/support/DL380G6](http://www.hp.com/support/DL380G6).

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#### Rack Airflow Requirements

##### Rack 10000 G2 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

**CAUTION:** If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).

**CAUTION:** Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

**NOTE:** For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: [www.hp.com/servers/dl380](http://www.hp.com/servers/dl380).

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### Standard Features

#### Rack Kit

Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.

**NOTE:** High Airflow Inserts (High Air Flow Rack Door Insert for the 7142 Rack (single) - PN: 327281-B21; or High Air Flow Rack Door Insert for the 7142 Rack (6-pack) - PN: 327281-B22) are required to support the HP ProLiant DL380 in 7000 series racks. The DL380 Cable Management Arm is not supported on 7000 series racks.

**NOTE:** Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.

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#### Telco Rack Support

Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions at: <http://www.hp.com/go/rackandpower>

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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, EVA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

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

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#### HP Enterprise Configurator

The HP eConfigure-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.  
<http://www.hp.com/products/configurator>.

### Standard Features

#### Service and Support

HP Care Pack services include coverage for the HP branded hardware options qualified for the server and purchased at the same time or afterward that are internal to the enclosure. This also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions, provides a range of support services designed to meet the varying needs of your business. Whether an SMB, or large global corporation, HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

**Recommended Service** - simplify ProLiant solution implementation, maintenance, and management.

- **Support:** 3-Year 4-Hour response 24x7 Same Business Day Coverage only
- **Deployment Service:** Installation and Start up only

**Enhanced Service** - optimize service level to increase IT performance and availability.

- **Support:** 3-Year Support Plus 24 only

Refer to the information on "Installation & Start-Up" for service on ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet; to be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

**NOTE:** For a complete listing of service offerings and information visit:

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

<http://www.hp.com/go/proliant/carepack>

### *HPC Interconnects*

**NOTE:** High Performance Computing (HPC) interconnect technologies are available for the DL380 under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configurations 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, Gigabit Ethernet or Myrinet Interconnects:

<http://www.hp.com/techservers/clusters/ucp/index.html>

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|                         |                         |                                |
|-------------------------|-------------------------|--------------------------------|
| <b>HPC Interconnect</b> | <b>InfiniBand</b>       | PCI-X and PCI-Express adapters |
|                         | <b>Gigabit Ethernet</b> | Use embedded ports             |
|                         | <b>Myrinet XP</b>       | PCI-X Rev D and Rev E adapters |

### Models

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

|                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>HP DL380 G6 Performance Models</b></p> <p><b>Quad-Core Models</b><br/> <b>HP DL380G6 X5560</b><br/>           491315-xx1<br/> <b>HP DL380G6 X5550</b><br/>           491316-xx1</p> | <p><b>Processor(s)</b><br/> <a href="#">Two of the following depending on Model</a></p> <p><b>Cache Memory</b></p> <p><b>Memory</b></p> <p><b>Network Controller</b></p> <p><b>Storage Controller</b></p> <p><b>Hard Drive</b></p> <p><b>Internal Storage</b></p> <p><b>Optical Drive</b></p> <p><b>Power Supply</b></p> <p><b>Fans</b></p> <p><b>Form Factor</b></p> | <p>(2) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br/>           (2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)</p> <p>8MB (1 x 8MB) Level 3 cache</p> <p>12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs</p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters</p> <p>HP Smart Array P410i/512MB with BBWC</p> <p>None ship standard</p> <p>Standard: 8 SFF SAS/SATA HDD Bays<br/>           Optional: 16 SFF SAS/SATA HDD Bays</p> <p>HP Slim SATA DVD RW drive</p> <p>(2) 750W Hot Plug Power Supplies</p> <p>(6) (N+1 redundancy standard)</p> <p>Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <p><b>HP DL380 G6 Performance Models with ICE standard</b></p> <p><b>Quad-Core Models</b><br/> <b>HP DL380G6 X5560</b><br/>           470065-067 US<br/>           470065-071 APJ<br/>           470065-072 EURO<br/> <b>HP DL380G6 X5550</b><br/>           470065-068 APJ<br/>           470065-069 EURO</p> | <p><b>Processor(s)</b><br/> <a href="#">Two of the following depending on Model</a></p> <p><b>Cache Memory</b></p> <p><b>Memory</b></p> <p><b>Network Controller</b></p> <p><b>Storage Controller</b></p> <p><b>Hard Drive</b></p> <p><b>Internal Storage</b></p> <p><b>Optical Drive</b></p> <p><b>Power Supply</b></p> <p><b>Fans</b></p> <p><b>Insight Control Environment (ICE)</b></p> <p><b>Form Factor</b></p> | <p>(2) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br/>           (2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)</p> <p>8MB (1 x 8MB) Level 3 cache</p> <p>12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs</p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters</p> <p>HP Smart Array P410i/512MB with BBWC</p> <p>None ship standard</p> <p>Standard: 8 SFF SAS/SATA HDD Bays<br/>           Optional: 16 SFF SAS/SATA HDD Bays</p> <p>HP Slim SATA DVD RW drive</p> <p>(2) 750W Hot Plug Power Supplies</p> <p>(6) (N+1 redundancy standard)</p> <p>ICE 24x7 support</p> <p>Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Models

#### HP DL380 G6 Base Models

#### Quad-Core Models

#### HP DL380G6 E5540

491332-xx1

#### HP DL380G6 E5530

491324-xx1

#### HP DL380G6 E5520

491325-xx1

#### Processor(s)

One of the following depending on Model

(1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)

(1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)

(1) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)

#### Cache Memory

8MB (1 x 8MB) Level 3 cache

#### Memory

6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs

#### Network Controller

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters

#### Storage Controller

HP Smart Array P410i/256MB Controller

#### Hard Drive

None ship standard

#### Internal Storage

Standard: 8 SFF SAS/SATA HDD Bays

Optional: 16 SFF SAS/SATA HDD Bays

#### Optical Drive

None ship standard

#### Power Supply

(1) 460W Hot Plug Power Supply

#### Fans

(4) (N+1 redundancy standard)

#### Form Factor

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

#### HP DL380 G6 High Efficiency Models

#### Quad-Core Models

#### HP DL380G6 L5520

491335-xx1

#### Processor(s)

(1) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)

#### Cache Memory

8MB (1 x 8MB) Level 3 cache

#### Memory

4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs

#### Network Controller

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters

#### Storage Controller

HP Smart Array P410i/Zero Memory Controller

#### Hard Drive

None ship standard

#### Internal Storage

Standard: 8 SFF SAS/SATA HDD Bays

Optional: 16 SFF SAS/SATA HDD Bays

#### Optical Drive

None ship standard

#### Power Supply

(1) 460W Hot Plug Power Supply

#### Fans

(4) (N+1 redundancy standard)

#### Form Factor

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

### Models

|                                                                                                                            |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>HP DL380 G6 Entry Models</b></p> <p><b>Quad-Core Models</b><br/> <b>HP DL380G6 E5504</b><br/>         491505-xx1</p> | <p><b>Processor(s)</b></p> <p><b>Cache Memory</b></p> <p><b>Memory</b></p> <p><b>Network Controller</b></p> <p><b>Storage Controller</b></p> <p><b>Hard Drive</b></p> <p><b>Internal Storage</b></p> <p><b>Optical Drive</b></p> <p><b>Power Supply</b></p> <p><b>Fans</b></p> <p><b>Form Factor</b></p> | <p>(1) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)</p> <p>4MB (1 x 4MB) Level 3 cache</p> <p>4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs</p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters</p> <p>HP Smart Array P410i/Zero Memory Controller</p> <p>None ship standard</p> <p>Standard: 8 SFF SAS/SATA HDD Bays<br/>         Optional: 16 SFF SAS/SATA HDD Bays</p> <p>None ship standard</p> <p>(1) 460W Hot Plug Power Supply</p> <p>(4) (N+1 redundancy standard)</p> <p>Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)</p> |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                         |                                                                               |                                                                          |
|-------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Country Code Key</b> | <p>XX=00</p> <p>XX=20</p> <p>XX=29</p> <p>XX=37</p> <p>XX=42</p> <p>XX=AA</p> | <p>U.S.</p> <p>Brazil</p> <p>Japan</p> <p>APD</p> <p>Euro</p> <p>PRC</p> |
|-------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|

### 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 CTO product offerings and requirements.

**NOTE:** HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.

**NOTE:** FIO indicates that this option only available as a Factory Installable Option.

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

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HP Models</b> | <p>HP DL380R06 CTO Chassis <span style="float: right;">494329-B21</span></p> <p><b>Factory Integrated Model ships with:</b></p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters<br/>                 Smart Array P410i Controller<br/>                 I/O slots - 3 Slots come standard:</p> <ul style="list-style-type: none"> <li>• Slot 1 - FL/FH x8 PCIE (x16 connector)</li> <li>• Slot 2 - HL/FH x4 PCIE (x8 connector)</li> <li>• Slot 3 - HL/FH x4 PCIE (x8 connector)                         <ul style="list-style-type: none"> <li>○ Additional Slots may be added via selections from the PCI Information and Options subsection</li> </ul> </li> </ul> <p>System Fans - 4 (2 additional fans included with second processor)<br/>                 Drive Cage - 8-SFF (Second SFF drive cage optional)<br/>                 USB - 2 Rear, 2 Front, 1 Internal, 1 SD slot<br/>                 Server Management - (iLO2) (embedded)<br/> <b>NOTE:</b> Power Supply not included - choose from Options section</p> |
|                  | <p>HP DL380R06 LFF CTO Chassis <span style="float: right;">516919-B21</span></p> <p><b>Factory Integrated Model ships with:</b></p> <p>Two HP NC382i Dual Port Multifunction Gigabit Server Adapters<br/>                 Smart Array P410i Controller<br/>                 I/O slots - 3 Slots come standard:</p> <ul style="list-style-type: none"> <li>• Slot 1 - FL/FH x8 PCIE (x16 connector)</li> <li>• Slot 2 - HL/FH x4 PCIE (x8 connector)</li> <li>• Slot 3 - HL/FH x4 PCIE (x8 connector)                         <ul style="list-style-type: none"> <li>○ Additional Slots may be added via selections from the PCI Information and Options subsection</li> </ul> </li> </ul> <p>Drive Cage - 6-LFF<br/>                 System Fans - 4 (2 additional fans included with second processor)<br/>                 USB - 2 Rear, 2 Front, 1 Internal, 1 SD slot<br/>                 Server Management - (iLO2) (embedded)<br/> <b>NOTE:</b> Power Supply not included - choose from Options section</p>                              |

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

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HP Processors</b> | <p><b>Quad-Core Processors</b></p> <p>Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO <span style="float: right;">492136-L21</span></p> <p>Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO <span style="float: right;">492131-L21</span></p> <p>Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800), FIO <span style="float: right;">500089-L21</span></p> <p>Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO <span style="float: right;">492239-L21</span></p> |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Configuration Information - Factory Integrated Models

|                                                                                               |            |
|-----------------------------------------------------------------------------------------------|------------|
| Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 500087-L21 |
| Intel® Xeon® Processor L5530 (2.40 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 578388-L21 |
| Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 492237-L21 |
| Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 492244-L21 |
| Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 492234-L21 |
| Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 492232-L21 |
| Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 500094-L21 |

#### Dual-Core Processors

|                                                                           |            |
|---------------------------------------------------------------------------|------------|
| Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO | 500085-L21 |
|---------------------------------------------------------------------------|------------|

#### HP Memory

##### Registered DIMMs (RDIMMs)

|                                |            |
|--------------------------------|------------|
| HP 2GB 2Rx8 PC3-10600R-9 Kit   | 500656-B21 |
| HP 4GB 2Rx4 PC3-10600R-9 Kit   | 500658-B21 |
| HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| HP 8GB 2Rx4 PC3-8500R-7 Kit    | 516423-B21 |
| HP 8GB 2Rx4 PC3-10600R-9 Kit   | 500662-B21 |
| HP 16GB 4Rx4 PC3-8500R-7 Kit   | 500666-B21 |

##### Unbuffered with ECC DIMMs (UDIMMs)

|                              |            |
|------------------------------|------------|
| HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |

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

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

#### HP Power Supplies

**NOTE:** Refer to HP Power Advisor when selecting a power supply for your configuration, [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor). Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at "[www.hp.com/go/proliant-energy-efficient](http://www.hp.com/go/proliant-energy-efficient)" or [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor)

|                                          |            |
|------------------------------------------|------------|
| HP 460W CS HE Power Supply Kit           | 503296-B21 |
| HP 750W CS HE Power Supply Kit           | 512327-B21 |
| HP 1200W CS HE Power Supply Kit          | 500172-B21 |
| HP 1200W CS Platinum Power Supply Kit    | 578322-B21 |
| HP 1200W-48V DC Common Slot Power Supply | 437573-B21 |

**NOTE:** DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.

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

### Configuration Information - Factory Integrated Models

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

|                                    |                                                                                                                                                                                                                                                                                                                                                                                          |            |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>HP Storage Controllers</b>      | <b>NOTE:</b> If Additional Memory Cache Module or Controller is Required please pick one of the following:                                                                                                                                                                                                                                                                               |            |
|                                    | HP Smart Array P212/256 MB w/ Battery FIO                                                                                                                                                                                                                                                                                                                                                | 491191-B21 |
|                                    | HP Smart Array P410/256 MB w/ Battery FIO                                                                                                                                                                                                                                                                                                                                                | 491195-B21 |
|                                    | HP Smart Array P411/256 MB w/ Battery FIO                                                                                                                                                                                                                                                                                                                                                | 491193-B21 |
|                                    | <b>Optional Upgrades</b>                                                                                                                                                                                                                                                                                                                                                                 |            |
|                                    | HP 256 MB P-series cache module FIO                                                                                                                                                                                                                                                                                                                                                      | 534108-B21 |
|                                    | <b>NOTE:</b> This is an option for the HP Smart Array P410i controller (P410i is standard integrated controller).                                                                                                                                                                                                                                                                        |            |
|                                    | Battery Kit upgrade                                                                                                                                                                                                                                                                                                                                                                      | 462969-B21 |
|                                    | <b>NOTE:</b> This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).                                                                                                                                                                                                                                                                        |            |
|                                    | <b>NOTE:</b> To enable BBWC on the 256MB cache on P410i.                                                                                                                                                                                                                                                                                                                                 |            |
|                                    | 512MB BBWC                                                                                                                                                                                                                                                                                                                                                                               | 462967-B21 |
|                                    | <b>NOTE:</b> This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).                                                                                                                                                                                                                                                                        |            |
|                                    | <b>NOTE:</b> Battery included. When used with the embedded HP Smart Array P410i controller.                                                                                                                                                                                                                                                                                              |            |
|                                    | 512MB Flash Backed Write Cache                                                                                                                                                                                                                                                                                                                                                           | 534916-B21 |
|                                    | <b>NOTE:</b> This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).                                                                                                                                                                                                                                                                        |            |
|                                    | 1G Flash Backed Write Cache                                                                                                                                                                                                                                                                                                                                                              | 534562-B21 |
|                                    | <b>NOTE:</b> This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).                                                                                                                                                                                                                                                                        |            |
| <b>Integrated hypervisor (iHV)</b> | <b>NOTE:</b> HP VMware ESXi free download from <a href="http://www.software.hp.com">www.software.hp.com</a> - select Virtualization                                                                                                                                                                                                                                                      |            |
|                                    | HP ProLiant Virtual Console Full License                                                                                                                                                                                                                                                                                                                                                 | 508293-B21 |
| <b>HP Performance Packs</b>        | The HP ProLiant DL380 performance packs are necessary to configure a HP ProLiant DL380 Performance Model. HP ProLiant DL380 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value.                                                                                                           |            |
|                                    | <ul style="list-style-type: none"> <li>● The performance pack includes:           <ul style="list-style-type: none"> <li>○ 2nd processor</li> <li>○ 750-watt redundant power supply</li> <li>○ 512MB cache module for P410i</li> <li>○ 650 mAh P-Series Battery</li> <li>○ 15P 24in SFP Battery Cable Assy</li> <li>○ One DL380 G6 HP Fan kit (contains qty of 2)</li> </ul> </li> </ul> |            |
|                                    | <b>NOTE:</b> Must also select Slimline SATA DVD RW Optical Drive (481043-B21) to achieve parity to DL380 High Performance Models.                                                                                                                                                                                                                                                        |            |
|                                    | HP DL380G6 2.6 HPM FIO Perf Pack                                                                                                                                                                                                                                                                                                                                                         | 500583-B21 |
|                                    | HP DL380G6 2.8 HPM FIO Perf Pack                                                                                                                                                                                                                                                                                                                                                         | 500584-B21 |

### Step 4: Choose Additional Options for Factory Integration

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

### Core Options

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

|                          |                                                                                                                                                                                                     |            |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>HP Unique Options</b> | HP StorageWorks RDX160 Removable Disk Backup System DL Server Module<br><b>NOTE:</b> Mounts in DL380 G6 second drive cage slot (160GB of Disk Storage)                                              | AP724A     |
|                          | HP StorageWorks RDX320 Removable Disk Backup System DL Server Module<br><b>NOTE:</b> Mounts in DL380 G6 second drive cage slot (320GB of Disk Storage)                                              | AP725A     |
|                          | HP StorageWorks RDX500 Removable Disk Backup System DL Server Module<br><b>NOTE:</b> Mounts in DL380 G6 second drive cage slot (500GB of Disk Storage)                                              | AP726A     |
|                          | HP 8SFF CAGE 380G6<br><b>NOTE:</b> Second drive cage installation replaces internal optical bay.<br><b>NOTE:</b> Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | 516914-B21 |
|                          | HP DL380G6 PCI-E 3 Slot 1x8 2x4 Riser Kit                                                                                                                                                           | 500579-B21 |
|                          | HP Assy Fan Kit                                                                                                                                                                                     | 581031-B21 |

### HP Processors

#### Quad-Core Processors

|                                                                                          |            |
|------------------------------------------------------------------------------------------|------------|
| Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)                     | 492136-B21 |
| Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800)                     | 492131-B21 |
| Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60W, DDR3-800)                     | 500089-B21 |
| Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 492239-B21 |
| Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) | 500087-B21 |
| Intel® Xeon® Processor L5530 (2.40 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) | 578388-B21 |
| Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 492237-B21 |
| Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 492244-B21 |
| Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 492234-B21 |
| Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 492232-B21 |
| Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 500094-B21 |
| <b>Dual-Core Processors</b>                                                              |            |
| Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)                     | 500085-B21 |

### Core Options

#### HP Memory

##### Registered DIMMs (RDIMMs)

|                                |            |
|--------------------------------|------------|
| HP 2GB 2Rx8 PC3-10600R-9 Kit   | 500656-B21 |
| HP 4GB 2Rx4 PC3-10600R-9 Kit   | 500658-B21 |
| HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| HP 8GB 2Rx4 PC3-8500R-7 Kit    | 516423-B21 |
| HP 8GB 2Rx4 PC3-10600R-9 Kit   | 500662-B21 |
| HP 16GB 4Rx4 PC3-8500R-7 Kit   | 500666-B21 |

##### Unbuffered with ECC DIMMs (UDIMMs)

|                              |            |
|------------------------------|------------|
| HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |

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

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

#### HP Optical Drives

|                                                                              |            |
|------------------------------------------------------------------------------|------------|
| HP Slim SATA DVD RW Optical Drive                                            | 481043-B21 |
| <b>NOTE:</b> Included in performance models.                                 |            |
| HP Slim SATA DVD-ROM Optical Drive                                           | 481041-B21 |
| HP External USB CD/DVD R/RW Option Drive                                     | FS943AA    |
| <b>NOTE:</b> There is no optical drive support in the LFF Hard Drive models. |            |

#### HP Hard Drives

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

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

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

|                                                                                 |            |
|---------------------------------------------------------------------------------|------------|
| HP 300GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| HP 300GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 492620-B21 |
| HP 146GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |
| HP 146GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 504062-B21 |
| HP 146GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507125-B21 |
| HP 146GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418367-B21 |
| HP 72GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 512545-B21 |
| HP 72GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 418371-B21 |

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

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

### Core Options

|                                                                                                                                                                                                                                                                               |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP 450GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive                                                                                                                                                                                               | 454232-B21 |
| HP 300GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive                                                                                                                                                                                               | 516814-B21 |
| HP 300GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive                                                                                                                                                                                               | 416127-B21 |
| HP 146GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive                                                                                                                                                                                               | 384854-B21 |
| <b>SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives</b>                                                                                                                                                                                                                       |            |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                        | 507610-B21 |
| <b>SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives</b>                                                                                                                                                                                                                       |            |
| HP 1TB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive                                                                                                                                                                                                | 461137-B21 |
| HP 750GB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive                                                                                                                                                                                              | 461135-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html">http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html</a><br>(Worldwide) |            |
| <b>SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives</b>                                                                                                                                                                                                                      |            |
| HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                      | 507750-B21 |
| HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                      | 530888-B21 |
| <b>SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives</b>                                                                                                                                                                                                                      |            |
| HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                        | 507632-B21 |
| HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                        | 454146-B21 |
| HP 750GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                      | 458930-B21 |
| HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                      | 458928-B21 |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive                                                                                                                                                                                                      | 458926-B21 |
| <b>SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives</b>                                                                                                                                                                                                                        |            |
| HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive                                                                                                                                                                                                        | 460355-B21 |
| HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive                                                                                                                                                                                                      | 458924-B21 |
| <b>SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives</b>                                                                                                                                                                                                                        |            |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive                                                                                                                                                                                                        | 571230-B21 |
| HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive                                                                                                                                                                                                        | 458945-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html">http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html</a><br>(Worldwide) |            |
| <b>SATA Hot Plug Midline (MDL) Solid State Drives</b>                                                                                                                                                                                                                         |            |
| HP 60GB 3G SATA 2.5in MDL 1y Wty SSD                                                                                                                                                                                                                                          | 572071-B21 |
| HP 120GB 3G SATA 2.5in MDL 1y Wty SSD                                                                                                                                                                                                                                         | 572073-B21 |
| <b>SATA Hot Plug 3.5" Midline (MDL) Solid State Drives</b>                                                                                                                                                                                                                    |            |
| HP 60GB 3G SATA 3.5in MDL 1y Wty SSD                                                                                                                                                                                                                                          | 570761-B21 |
| HP 120GB 3G SATA 3.5in MDL 1y Wty SSD                                                                                                                                                                                                                                         | 570763-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html">http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html</a><br>(Worldwide) |            |

### Core Options

#### HP Networking

##### Gigabit Ethernet adapters

|                                                                      |            |
|----------------------------------------------------------------------|------------|
| HP NC112T PCIe Gigabit Server Adapter                                | 503746-B21 |
| HP NC360T PCI Express Dual Port Gigabit Server Adapter               | 412648-B21 |
| HP NC364T PCI Express Quad Port Gigabit Server Adapter               | 435508-B21 |
| <b>NOTE:</b> Does not support Windows 2000.                          |            |
| HP NC373F PCI Express Multifunction Gigabit Server Adapter           | 394793-B21 |
| HP NC373T PCI Express Multifunction Gigabit Server Adapter           | 394791-B21 |
| HP NC375T PCI Express Quad Port Gigabit Server Adapter               | 538696-B21 |
| HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter | 458492-B21 |

##### 10 Gigabit Ethernet Adapters

|                                                                                                                                                                            |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP NC522SFP Dual Port 10GbE Server Adapter                                                                                                                                 | 468332-B21 |
| <b>NOTE:</b> A minimum of two gigabyte (2 GB) of server memory is required per each NC522SFP adapter.                                                                      |            |
| <b>NOTE:</b> Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.                 |            |
| HP NC550SFP Dual Port 10GbE Server Adapter                                                                                                                                 | 581201-B21 |
| <b>NOTE:</b> A minimum of two Gigabytes (2 GB) of server memory is required per each NC550SFP adapter.                                                                     |            |
| <b>NOTE:</b> Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.                 |            |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information: <a href="http://www.hp.com/go/ProLiantNICs">www.hp.com/go/ProLiantNICs</a> |            |

#### HP Infiniband

|                                                                                                                                                                                                                                |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP IB 4X QDR PCI-e G2 Dual Port HCA                                                                                                                                                                                            | 517721-B21 |
| HP IB 4X QDR CX-2 PCI-e G2 Dual Port HCA                                                                                                                                                                                       | 592520-B21 |
| HP IB 4X DDR CX-2 PCI-e G2 Dual Port HCA                                                                                                                                                                                       | 592521-B21 |
| HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA                                                                                                                                                                             | 583211-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html">http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html</a> |            |

#### HP I/O Expansion Options

|                                                                |            |
|----------------------------------------------------------------|------------|
| HP DL380G6 PCI-E 3 Slot 1x8 2x4 Riser Kit                      | 500579-B21 |
| HP DL38X PCI-X riser kit (1) PCI-X, (1) x8, (1) x4)            | 494322-B21 |
| HP DL38X (1) x16 PCI-E riser kit                               | 494323-B21 |
| HP DL38X (2) x8 Dual Port Riser Kit                            | 494326-B21 |
| <b>NOTE:</b> This riser card will support Qty 2 of 10Gbe NICs. |            |

#### HP Power Supplies

**CAUTION:** In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail.

|                                                                                                       |            |
|-------------------------------------------------------------------------------------------------------|------------|
| HP 460W CS HE Power Supply Kit                                                                        | 503296-B21 |
| HP 750W CS HE Power Supply Kit                                                                        | 512327-B21 |
| HP 1200W CS HE Power Supply Kit                                                                       | 500172-B21 |
| HP 1200W CS Platinum Power Supply Kit                                                                 | 578322-B21 |
| HP 1200W-48V DC Common Slot Power Supply                                                              | 437573-B21 |
| <b>NOTE:</b> DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers. |            |
| <b>NOTE:</b> Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.        |            |

### Additional Options

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>HP Insight Software</b> | <b>HP Insight Control server deployment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | T9082AAE   |
|                            | <p>HP Insight Control server deployment, Electronic License including 1 year of 24x7 Technical Support and Updates</p> <p><b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.</p> <p><b>NOTE:</b> Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.</p> <p><b>NOTE:</b> 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.</p> <p><b>NOTE:</b> Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at:<br/> <a href="http://www.hp.com/go/insightupdates">http://www.hp.com/go/insightupdates</a>.</p> <p><b>NOTE:</b> For additional license options please see the Insight Control QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html">http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html</a></p> |            |
|                            | <b>HP Insight Control for Linux</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |
|                            | HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | T9084BAE   |
|                            | HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 464423-B22 |
|                            | HP Insight Control for Linux, Media pack (DVD) - No licenses included                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 464422-B22 |
|                            | <p><b>NOTE:</b> Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.</p> <p><b>NOTE:</b> Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at:<br/> <a href="http://www.hp.com/go/insightupdates">http://www.hp.com/go/insightupdates</a>.</p> <p><b>NOTE:</b> Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.</p> <p><b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.</p> <p><b>NOTE:</b> For additional License Kits, including electronic licensing options, please see the QuickSpecs at:<br/> <a href="http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html">http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html</a></p>                                                                                           |            |
|                            | <b>HP Integrated Lights-Out Advanced</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |
|                            | HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 512485-B21 |
|                            | <p><b>NOTE:</b> This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service</p> <p><b>NOTE:</b> For additional license kits, including electronic delivery options, please see the QuickSpecs at:<br/> <a href="http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html">http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |
|                            | <b>HP Insight Rapid Deployment software</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |
|                            | HP Insight Rapid Deployment software No Media 1-Server License including 1 year of 24x7 Technical Support and Updates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 452151-B21 |
|                            | <p><b>NOTE:</b> This license allows 1 server to be deployed and managed via RDP. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |

### Additional Options

Software Technical Support Service

**NOTE:** For additional license kits, including electronic delivery options, please see the QuickSpecs at:

[http://h18000.www1.hp.com/products/quickspecs/11053\\_div/11053\\_div.html](http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.html)

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|                              |                                                                                                                                                                                                     |            |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>HP Drive Cage Options</b> | HP 8SFF CAGE 380G6<br><b>NOTE:</b> Second drive cage installation replaces internal optical bay.<br><b>NOTE:</b> Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | 516914-B21 |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|

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|                          |                                       |            |
|--------------------------|---------------------------------------|------------|
| <b>HP Security - TPM</b> | HP Trusted Platform Module Option Kit | 488069-B21 |
|--------------------------|---------------------------------------|------------|

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### HP Storage Controllers SAS Controllers

#### Smart Array P800 Controller

|                                         |            |
|-----------------------------------------|------------|
| HP Smart Array P800/512 BBWC Controller | 381513-B21 |
|-----------------------------------------|------------|

**NOTE:** The HP ProLiant DL380 G6 does not allow the HP Smart Array P800/512 BBWC Controller to support the internal drives. It is for external drive support only.

#### Smart Array P212 Controller

|                                            |            |
|--------------------------------------------|------------|
| HP Smart Array P212/Zero Memory Controller | 462828-B21 |
|--------------------------------------------|------------|

|                                       |            |
|---------------------------------------|------------|
| HP Smart Array P212/256 MB Controller | 462834-B21 |
|---------------------------------------|------------|

#### Smart Array P410 Controller

|                                       |            |
|---------------------------------------|------------|
| HP Smart Array P410/256 MB Controller | 462862-B21 |
|---------------------------------------|------------|

|                                                 |            |
|-------------------------------------------------|------------|
| HP Smart Array P410/512 MB with BBWC Controller | 462864-B21 |
|-------------------------------------------------|------------|

|                                     |            |
|-------------------------------------|------------|
| HP Smart Array P410/512MB with FBWC | 578230-B21 |
|-------------------------------------|------------|

|                                  |            |
|----------------------------------|------------|
| HP Smart Array P410/1G with FBWC | 572532-B21 |
|----------------------------------|------------|

#### Smart Array P411 Controller

|                                       |            |
|---------------------------------------|------------|
| HP Smart Array P411/256 MB Controller | 462830-B21 |
|---------------------------------------|------------|

|                                                 |            |
|-------------------------------------------------|------------|
| HP Smart Array P411/512 MB with BBWC Controller | 462832-B21 |
|-------------------------------------------------|------------|

|                                                    |            |
|----------------------------------------------------|------------|
| HP Smart Array P411/512MB Flash Backed Write Cache | 578229-B21 |
|----------------------------------------------------|------------|

|                                                 |            |
|-------------------------------------------------|------------|
| HP Smart Array P411/1G Flash Backed Write Cache | 572531-B21 |
|-------------------------------------------------|------------|

#### Smart Array P812 Controller

|                                                      |            |
|------------------------------------------------------|------------|
| HP Smart Array P812/1G Flash Backed Cache Controller | 487204-B21 |
|------------------------------------------------------|------------|

#### Optional Upgrades

|                     |            |
|---------------------|------------|
| 256 MB Cache Module | 462968-B21 |
|---------------------|------------|

**NOTE:** Supported on HP Smart Array P212 Controller and as an upgrade on HP Smart Array P410i (Zero Memory).

|            |            |
|------------|------------|
| 512MB BBWC | 462967-B21 |
|------------|------------|

|                             |            |
|-----------------------------|------------|
| 1G Flash Backed Write Cache | 534562-B21 |
|-----------------------------|------------|

**NOTE:** Supported on the Smart Array P410i Controller only.

|                                |            |
|--------------------------------|------------|
| 512MB Flash Backed Write Cache | 534916-B21 |
|--------------------------------|------------|

**NOTE:** Supported on the Smart Array P410i Controller only.

|                     |            |
|---------------------|------------|
| Battery Kit upgrade | 462969-B21 |
|---------------------|------------|

**NOTE:** To enable BBWC on the 256MB cache.

**NOTE:** Supported on HP P410i Smart Array (integrated), HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only.

|                                |            |
|--------------------------------|------------|
| 512MB Flash Backed Write Cache | 534916-B21 |
|--------------------------------|------------|

|                             |            |
|-----------------------------|------------|
| 1G Flash Backed Write Cache | 534562-B21 |
|-----------------------------|------------|

---

### Additional Options

HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support 516471-B21

**NOTE:** This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.

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

[http://h18000.www1.hp.com/products/quickspecs/12616\\_div/12616\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html)  
(Smart Array P800 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13203\\_div/13203\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html)  
(Smart Array P212 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13201\\_div/13201\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html)  
(Smart Array P410 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13202\\_div/13202\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html)  
(Smart Array P411 Controller)

[http://h18000.www1.hp.com/products/quickspecs/13558\\_div/13558\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html)  
(Smart Array P812 Controller)

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

#### SAS Controller Options

HP SAS Expander Card 468406-B21

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

[http://h18004.www1.hp.com/products/quickspecs/13232\\_div/13232\\_div.html](http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html)  
(SAS Expander Card)

#### SAS HBA

HP SC08Ge Host Bus Adapter 488765-B21

**NOTE:** For use with additional 8 SFF drive cage (516914-B21).

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

[http://h18004.www1.hp.com/products/quickspecs/13082\\_div/13082\\_div.html](http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html)  
(SC08Ge HBA)

#### SCSI HBA

HP SC11Xe Host Bus Adapter 412911-B21

**NOTE:** Recommended HBA for SCSI tape drive connect.

**NOTE:** Please see the 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 Power Cords

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

Nema 5-15P to IEC320-C13, North America low voltage (6 ft/2 m) AF556A

Power Cord, Euro, 10A 250 V Straight (6 ft/1.83 m) AF568A

Power Cord, UK, 10A 250 V Straight (6 ft/1.83 m) AF570A

Power Cord, Danish, 10A 250 V Straight (6 ft/1.83 m) AF566A

Power Cord, Swiss, 10A 250 V Straight (6 ft/1.83 m) AF565A

Power Cord, Italian, 10A 250 V Straight (6 ft/1.83 m) AF571A

Power Cord, South Africa, 10A 250 V Straight (8.2 ft/2.5 m) AF567A

### Additional Options

#### HP Tape Storage

**NOTE:** For the complete listing of Tape Drive offerings, please see:  
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For recommended tape drive offerings for this ProLiant server see the following:

#### Tape Drives

##### USB Rack-Mount Tape Solutions

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 160 USB Tape Drive AG703A

**NOTE:** Pre-configured with one DAT 160 USB tape drive.

HP StorageWorks DAT 160 SAS External Tape Drive Q1588A

**NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 320 USB Tape Drive AP835A

##### SAS Rack-Mount Tape Solutions

**NOTE:** HP recommends purchasing the HP Smart Array P212 Controller (462828-B21) for a dedicated SAS HBA for tape.

HP StorageWorks DAT 320 WW SAS Internal Tape Drive AJ830A

**NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive DW085A

**NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive EH847A

**NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

HP StorageWorks 1U SAS Rack-Mount Kit with one LTO-4 Ultrium 1760 EH946A

**NOTE:** Pre-configured with one LTO-4 Ultrium 1760 SAS tape drive.

HP StorageWorks LTO-4 Ultrium 1840 SAS Internal Tape Drive EH860A

**NOTE:** Mounts inside the 3U SAS Rack-Mount Kit (AG576A).

**NOTE:** For an up-to-date listing of the latest O/S and software support details for HP tape drives, please visit: <http://www.hp.com/go/connect>.

##### HP StorageWorks 1/8 G2 Tape Autoloader

HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 SAS Autoloader AH558A

**NOTE:** Requires the HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit.

HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader AK377A

**NOTE:** Requires the HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit (AH166A).

**NOTE:** Please reference the Tape Autoloader QuickSpecs at:

<http://www.hp.com/go/automation> for additional information needed to create a complete solution.

##### HP StorageWorks MSL2024 Tape Library

HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Drive Library AK378A

HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library AH559A

##### HP StorageWorks MSL4048 Tape Library

HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Drive Library AK380A

HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SAS Drive Library AH560A

**NOTE:** Please reference the MSL Tape Library QuickSpecs at:

<http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at:

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

### Additional Options

#### HP Backup & Recovery HP Data Protector Express

|                 |                                                                                                           |         |
|-----------------|-----------------------------------------------------------------------------------------------------------|---------|
| <b>Software</b> | HP Data Protector Express 4.0 SP1 Backup Server                                                           | BB117BA |
|                 | HP Data Protector Express 4.0 SP1 for Microsoft Small Business Server                                     | BB118BA |
|                 | HP Data Protector Express Backup Server 4.0 SP1 Upgrade from Data Protector Express Single Server Edition | BB117BT |

**NOTE:** Only of these Data Protector Express base products is required. For more information on Data Protector Express and to see available options please visit: <http://www.hp.com/go/dataprotectorexpress>

#### HP Disk Backup

##### RDX Removable Disk Backup

|                                                                                                                                                             |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| HP StorageWorks RDX160 Removable Disk Backup System DL Server Module                                                                                        | AP724A |
| <b>NOTE:</b> Mounts in DL380 G6 media bay (160GB of Disk Storage)                                                                                           |        |
| HP StorageWorks RDX320 Removable Disk Backup System DL Server Module                                                                                        | AP725A |
| <b>NOTE:</b> Mounts in DL380 G6 media bay (320GB of Disk Storage)                                                                                           |        |
| HP StorageWorks RDX500 Removable Disk Backup System DL Server Module                                                                                        | AP726A |
| <b>NOTE:</b> Mounts in DL380 G6 media bay (500GB of Disk Storage)                                                                                           |        |
| <b>NOTE:</b> Please see the HP RDX Removable Disk Backup System QuickSpecs for additional information:                                                      |        |
| <a href="http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html">http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html</a> |        |

##### D2D Backup

|                                                                                                                                                          |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| HP StorageWorks D2D2502i Backup System                                                                                                                   | EJ001A |
| <b>NOTE:</b> 2 TB raw capacity/1.5 TB useable capacity.                                                                                                  |        |
| HP StorageWorks D2D2504i Backup System                                                                                                                   | EJ002A |
| <b>NOTE:</b> 4 TB raw capacity/3 TB useable capacity.                                                                                                    |        |
| <b>NOTE:</b> Please see the HP D2D Backup Systems QuickSpecs for additional information: <a href="http://www.hp.com/go/d2d">http://www.hp.com/go/d2d</a> |        |

#### HP StorageWorks Options

##### StorageWorks Fibre Channel HBA

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

##### Brocade Fibre Channel HBAs

|                                                |        |
|------------------------------------------------|--------|
| HP StorageWorks 81B PCI-e FC HBA Single Port   | AP769A |
| HP StorageWorks 82B PCI-e FC HBA Dual Port     | AP770A |
| HP StorageWorks 41B 4Gb PCI-e FC HBA           | AP767A |
| HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA | AP768A |

##### Emulex Fibre Channel HBAs

|                                                   |        |
|---------------------------------------------------|--------|
| HP StorageWorks 81E PCI-e FC HBA Single Port      | AJ762A |
| HP StorageWorks 82E PCI-e FC HBA Dual Port        | AJ763A |
| HP StorageWorks FC2142 4Gb PCI-e HBA              | A8002A |
| HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA | A8003A |

##### QLogic Fibre Channel HBAs

|                                                   |        |
|---------------------------------------------------|--------|
| HP StorageWorks 81Q PCI-e FC HBA Single Port      | AK344A |
| HP StorageWorks 82Q PCI-e FC HBA Dual Port        | AJ764A |
| HP StorageWorks FC1142 4Gb PCI-e HBA              | AE311A |
| HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA | AE312A |

##### StorageWorks SCSI HBA

|                                                                 |        |
|-----------------------------------------------------------------|--------|
| HP U320e SCSI Host Bus Adapter                                  | AH627A |
| <b>NOTE:</b> Recommended HBA for MSL SCSI Tape Library connect. |        |

### Additional Options

#### StorageWorks Converged Network Adapter

HP CN1000E 2P Converged Network Adapter

AW520A

#### HP Modular Smart Array

#### MSA SAN Storage Arrays

HP StorageWorks 50 Modular Smart Array

364430-B21

**NOTE:** Please see the QuickSpecs for additional options and configuration information at:

[http://h18000.www1.hp.com/products/quickspecs/12245\\_div/12245\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html) (Worldwide)

HP StorageWorks 60 Modular Smart Array

418408-B21

**NOTE:** Supports 12 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s.

**NOTE:** Please see the QuickSpecs for additional options and configuration information at:

[http://h18000.www1.hp.com/products/quickspecs/12627\\_div/12627\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html)

HP StorageWorks 70 Modular Smart Array

418800-B21

**NOTE:** Supports 25 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s.

**NOTE:** Please see the QuickSpecs for additional options and configuration information at:

[http://h18000.www1.hp.com/products/quickspecs/12652\\_div/12652\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html)

HP 2012sa Single Controller Modular Smart Array

AJ752A

HP 2012sa Dual Controller Modular Smart Array

AJ753A

**NOTE:** Please see the QuickSpecs for additional options and configuration information at:

[http://h18000.www1.hp.com/products/quickspecs/13045\\_div/13045\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13045_div/13045_div.html) (Worldwide)

#### HP Uninterruptible Power Systems

#### HP Rack-mountable UPS

##### HP R1500 G2 UPS

HP, R1.5kVA UPS, 1U, NA

AF419A

HP, R1.5kVA UPS, 1U, INTL

AF418A

HP, R1.5kVA UPS, 1U, JPN/TW

AF421A

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

[http://h18000.www1.hp.com/products/quickspecs/12507\\_div/12507\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html) (Worldwide)

##### HP R3000v Uninterruptible Power System

HP R3000v UPS

AF444A

**NOTE:** The R3000v is available in China and India only.

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

[http://h18000.www1.hp.com/products/quickspecs/13129\\_div/13129\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html)

**NOTE:** For additional information on HP Uninterruptible Power Systems please go to: [www.hp.com/servers/rackups](http://www.hp.com/servers/rackups).

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

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

### Additional Options

#### HP Power Distribution Monitored PDUs Units

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

|                                                                |        |
|----------------------------------------------------------------|--------|
| HP 17.3 kVA S2324 Monitored PDU- dual input, 3Ø24A (NA/JPN)    | AF503A |
| HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN) | AF504A |
| HP 16.6 kVA S2140 Monitored PDU- dual input, 1Ø, 40A (NA/JPN)  | AF505A |
| HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN)     | AF506A |
| HP 22.1 kVA S2316 Monitored PDU- dual input, 3Ø, 16A (INTL)    | AF507A |
| HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL)    | AF508A |
| HP 14.7 kVA S2132 Monitored PDU- dual input, 1Ø, 32A (INTL)    | AF509A |
| HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL)   | AF510A |

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

|                                                               |        |
|---------------------------------------------------------------|--------|
| HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN) | AF914A |
| HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL)   | AF915A |

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

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

#### HP Rack Series

##### HP Rack 5000 Series (Graphite Metallic)

|                          |            |
|--------------------------|------------|
| HP 5642 Rack-Unassembled | 358254-B21 |
|--------------------------|------------|

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

[http://h18000.www1.hp.com/products/quickspecs/12074\\_div/12074\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.html)  
(Worldwide)

##### HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

|                                                            |            |
|------------------------------------------------------------|------------|
| S10614 (14U) Rack Cabinet - Shock Pallet                   | 292302-B22 |
| 10642 G2 (42U) Rack Cabinet - Pallet                       | AF001A     |
| 10642 G2 (42U) Rack Cabinet - Shock Pallet                 | AF002A     |
| 10642 G2 (42U) Rack Cabinet - Crated                       | AF003A     |
| 10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet | AF004A     |
| 10636 G2 (36U) Rack Cabinet - Pallet                       | AF011A     |
| 10636 G2 (36U) Rack Cabinet - Shock Pallet                 | AF012A     |
| 10636 G2 (36U) Rack Cabinet - Crated                       | AF013A     |
| 10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet | AF014A     |
| 10622 G2 (22U) Rack Cabinet - Pallet                       | AF021A     |
| 10622 G2 (22U) Rack Cabinet - Shock Pallet                 | AF022A     |
| 10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet     | AF034A     |
| 10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet           | AF038A     |
| 10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet            | AF041A     |
| 10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet      | AF042A     |
| 10647 G2 (47U) Rack Cabinet - Pallet                       | AF031A     |
| 10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet     | AF044A     |

**NOTE:** Due to handling and shipping requirements, AF044A is only orderable through HP Factory Express. It is not for direct sales. Customer site surveys are required before an order is approved. CTO orders may require additional lead time.

|                                                  |        |
|--------------------------------------------------|--------|
| 10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet | AF045A |
|--------------------------------------------------|--------|

### Additional Options

**NOTE:** It is mandatory to use a shock pallet when shipping racks with equipment installed.

**NOTE:** xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).

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

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

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

#### HP Rack Options

#### Keyboards and Monitors

|                                          |        |
|------------------------------------------|--------|
| TFT7600 Rackmount Keyboard Monitor US    | AG052A |
| TFT7600 Rackmount Keyboard Monitor UK    | AG053A |
| TFT7600 Rackmount Keyboard Monitor GR    | AG054A |
| TFT7600 Rackmount Keyboard Monitor FR    | AG055A |
| TFT7600 Rackmount Keyboard Monitor IT    | AG056A |
| TFT7600 Rackmount Keyboard Monitor SP    | AG057A |
| TFT7600 Rackmount Keyboard Monitor DEN   | AG058A |
| TFT7600 Rackmount Keyboard Monitor NOR   | AG059A |
| TFT7600 Rackmount Keyboard Monitor SE/FI | AG060A |
| TFT7600 Rackmount Keyboard Monitor SWI   | AG061A |
| TFT7600 Rackmount Keyboard Monitor PORT  | AG062A |
| TFT7600 Rackmount Keyboard Monitor BEL   | AG063A |
| TFT7600 Rackmount Keyboard Monitor JPN2  | AG064A |
| TFT7600 Rackmount Keyboard Monitor RUS   | AG065A |
| TFT7600 Rackmount Keyboard Monitor INTL  | AG066A |
| HP TAA TFT7600 US Rkmntkybd 17in Monitor | AG067A |
| 1U Rackmount Keyboard with USB, US       | AG072A |
| 1U Rackmount Keyboard with USB, UK       | AG073A |
| 1U Rackmount Keyboard with USB, GR       | AG074A |
| 1U Rackmount Keyboard with USB, FR       | AG075A |
| 1U Rackmount Keyboard with USB, ITL      | AG076A |
| 1U Rackmount Keyboard with USB, SP       | AG077A |
| 1U Rackmount Keyboard with USB, DEN      | AG078A |
| 1U Rackmount Keyboard with USB, NOR      | AG079A |
| 1U Rackmount Keyboard with USB, SE/FI    | AG080A |
| 1U Rackmount Keyboard with USB, SWI      | AG081A |
| 1U Rackmount Keyboard with USB, PORT     | AG082A |
| 1U Rackmount Keyboard with USB, BEL      | AG083A |
| 1U Rackmount Keyboard with USB, JPN2     | AG084A |
| 1U Rackmount Keyboard with USB, RUS      | AG085A |
| 1U Rackmount Keyboard with USB, INTL     | AG086A |

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

#### HP KVM Switch Options

|                                             |        |
|---------------------------------------------|--------|
| 2x1x16 IP Console Switch with Virtual Media | AF601A |
| 4x1x16 IP Console Switch with Virtual Media | AF602A |

### Additional Options

|                                                                                                                                                                                                                                                |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 1x1Ex8 KVM IP Console Switch G2 with Virtual Media and CAC                                                                                                                                                                                     | AF620A     |
| 2x1Ex16 KVM IP Console Switch G2 with Virtual Media and CAC                                                                                                                                                                                    | AF621A     |
| 4x1Ex32 KVM IP Console Switch G2 with Virtual Media and CAC                                                                                                                                                                                    | AF622A     |
| 2x16 Server Console Switch with Virtual Media                                                                                                                                                                                                  | AF600A     |
| 0x2x16 KVM Server Console G2 Switch with Virtual Media and CAC                                                                                                                                                                                 | AF618A     |
| 0x2x32 KVM Server Console G2 Switch with Virtual Media and CAC                                                                                                                                                                                 | AF619A     |
| PS/2 Virtual Media Interface Adapter, 1 pack                                                                                                                                                                                                   | AF604A     |
| <b>NOTE:</b> Requires PS/2 and one USB port on server.                                                                                                                                                                                         |            |
| Server console switch 0x2x8                                                                                                                                                                                                                    | AF616A     |
| Server console switch 0x2x16                                                                                                                                                                                                                   | AF617A     |
| PS/2 Interface Adapter, 1 pack                                                                                                                                                                                                                 | 262588-B21 |
| PS/2 Interface Adapter, 8 pack                                                                                                                                                                                                                 | 262587-B21 |
| <b>NOTE:</b> Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL:<br><a href="http://www.hp.com/go/kvm">http://www.hp.com/go/kvm</a> .                                 |            |
| <b>HP 1x4 Console Switch</b>                                                                                                                                                                                                                   |            |
| HP PS2 Server Console Cable, 6 foot, 2-Pack                                                                                                                                                                                                    | AF611A     |
| HP USB Server Console Cable, 6 foot, 2-Pack                                                                                                                                                                                                    | AF612A     |
| <b>NOTE:</b> Required for supporting USB peripherals.                                                                                                                                                                                          |            |
| <b>NOTE:</b> For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: <a href="http://www.hp.com/go/kvm">http://www.hp.com/go/kvm</a> . |            |
| HP Serial Console Server Options                                                                                                                                                                                                               | AF613A     |
| HP 16 Port Serial Console Server (worldwide)                                                                                                                                                                                                   | AF101A     |
| HP 48 Port Serial Console Server (worldwide)                                                                                                                                                                                                   | AF102A     |
| Serial Adapter, RJ45-DB9 DCE Female, 1 Pack                                                                                                                                                                                                    | AF103A     |
| Serial Adapter, RJ45-DB9 DCE Female, 8 Pack                                                                                                                                                                                                    | AF110A     |
| <b>NOTE:</b> Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: <a href="http://www.hp.com/go/kvm">http://www.hp.com/go/kvm</a> .  |            |
| <b>NOTE:</b> For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: <a href="http://www.hp.com/go/kvm">http://www.hp.com/go/kvm</a> . |            |

### HP USB and SD Options

|                                                                                                                                                                                                                                                                                |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)                                                                                                                                                                                                                        | DC172B     |
| 1.44MB External USB Floppy Drive                                                                                                                                                                                                                                               | DC141B     |
| HP USB 04 Standard Keyboard                                                                                                                                                                                                                                                    | DT528A#ABA |
| HP 4GB SD Flash Media Kit                                                                                                                                                                                                                                                      | 580387-B21 |
| <b>NOTE:</b> Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: <a href="http://www.hp.com/go/proliantvirtualization">http://www.hp.com/go/proliantvirtualization</a> . |            |

## Additional Options

### HP Care Pack Services Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic U4544E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4545E

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

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4546E

### Installation & Start-up Services

Hardware Installation, Electronic U4554E

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic U4555E

Installation and Startup for Essentials Rapid Deployment Pack, Electronic U5683E

### Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4556E

### Support Plus 24

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4557E

Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U6312E

Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U8334E

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

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

### Memory

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

#### DDR3 memory population guidelines

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

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

Some DIMM installation guidelines are summarized below:

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

| DIMM Type ->               | Registered Dimms (RDIMMs) |      |      |                |      |      | Unbuffered with ECC DIMMs (UDIMMs) |                |
|----------------------------|---------------------------|------|------|----------------|------|------|------------------------------------|----------------|
|                            | Dual Rank (2R)            |      |      | Quad Rank (4R) |      |      | Single Rank (1R)                   | Dual Rank (2R) |
| DIMM Rank ->               |                           |      |      |                |      |      |                                    |                |
| DIMM Capacity ->           | 2GB                       | 4GB  | 8GB  | 8GB            | 4GB  | 16GB | 1GB                                | 2GB            |
| DIMM Native Speed (MHz) -> | 1333                      | 1333 | 1067 | 1333           | 1067 | 1067 | 1333                               | 1333           |

#### SLOTS THAT CAN BE POPULATED

|                 |    |    |    |    |    |    |    |    |
|-----------------|----|----|----|----|----|----|----|----|
| 18 slot servers | 18 | 18 | 18 | 18 | 12 | 12 | 12 | 12 |
|-----------------|----|----|----|----|----|----|----|----|

#### MAXIMUM CAPACITY (GB)

|                 |    |    |     |     |    |     |    |    |
|-----------------|----|----|-----|-----|----|-----|----|----|
| 18 slot servers | 36 | 72 | 144 | 144 | 48 | 192 | 12 | 24 |
|-----------------|----|----|-----|-----|----|-----|----|----|

#### POPULATED DIMM SPEED (MHz)

|                    |       |       |      |       |      |      |      |      |
|--------------------|-------|-------|------|-------|------|------|------|------|
| 1 DIMM Per Channel | 1333  | 1333  | 1067 | 1333  | 1067 | 1067 | 1333 | 1333 |
| 2 DIMM Per Channel | 1333* | 1333* | 1067 | 1333* | 800  | 800  | 1333 | 1333 |
| 3 DIMM Per Channel | 800   | 800   | 800  | 800   | *    | n/a  | n/a  | n/a  |

\* - supported with ROM update via ROM Based Setup Utility (RBSU). UDIMM support is only on 12-slot servers

#### NOTES:

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, you still run at 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the

## Memory

other channels, you run at 1066MHz

- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- 95 Watt CPU's are required for 1333MHz DIMM speeds. All other CPU's are capable of up to 1067MHz
- References to the above Mhz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

### DIMM slot and configuration diagrams

#### Basic memory slot & population diagram

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

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

#### Standard memory configuration (1 CPU model)

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

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

#### Standard memory plus optional memory (1 CPU model)

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

### Memory

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

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

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

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

#### UDIMM maximum configuration (1 CPU model)

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

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

### Memory

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

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

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

#### UDIMM maximum configuration

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

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

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

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

### Memory

Following are memory options available from HP:

#### HP Memory

##### Registered DIMMs (RDIMMs)

|                                |            |
|--------------------------------|------------|
| HP 2GB 2Rx8 PC3-10600R-9 Kit   | 500656-B21 |
| HP 4GB 2Rx4 PC3-10600R-9 Kit   | 500658-B21 |
| HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| HP 8GB 2Rx4 PC3-8500R-7 Kit    | 516423-B21 |
| HP 8GB 2Rx4 PC3-10600R-9 Kit   | 500662-B21 |
| HP 16GB 4Rx4 PC3-8500R-7 Kit   | 500666-B21 |

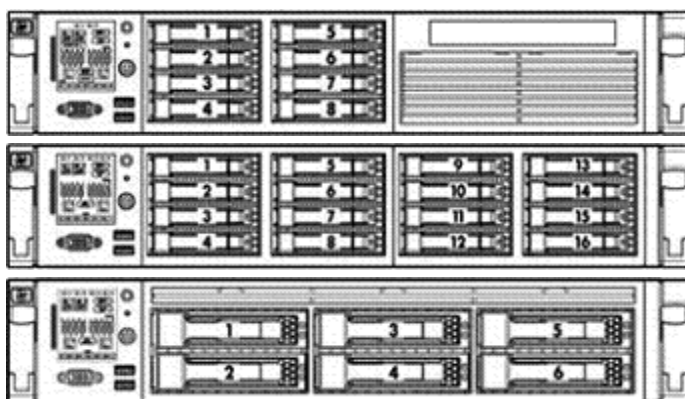
##### Unbuffered with ECC DIMMs (UDIMMs)

|                              |            |
|------------------------------|------------|
| HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |

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

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

### Storage



1-8 Eight SFF SAS hot plug hard drive bays

1-16 Sixteen SFF SAS hot plug hard drive bays  
**NOTE:** This configuration does not support optical drive.

1-6 Six LFF SAS hot plug hard drive bays  
**NOTE:** This configuration does not support optical drive.

### Drive Support

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

#### Hard Drives

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

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

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

|                     | Quantity Supported | Position Supported | Controller                                 |
|---------------------|--------------------|--------------------|--------------------------------------------|
| 300GB 3G SAS 10K DP | Up to 8            | 1-8                | HP Smart Array P800/512 BBWC Controller    |
| 300GB 6G SAS 10K DP |                    |                    | HP Smart Array P212/Zero Memory Controller |
| 146GB 6G SAS 10K DP |                    |                    | HP Smart Array P212/ 256 MB Controller     |
| 146GB 6G SAS 15K DP |                    |                    | HP Smart Array P410/256 MB Controller      |
| 146GB 3G SAS 15K DP |                    |                    | HP Smart Array P410/512 MB BBWC Controller |
| 146GB 3G SAS 10K DP |                    |                    | HP Smart Array P411/256 MB Controller      |
| 72GB 6G SAS 15K DP  |                    |                    | HP Smart Array P411/512 MB BBWC Controller |
| 72GB 3G SAS 15K DP  |                    |                    |                                            |

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

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

|                     | Quantity Supported | Position Supported | Controller                                 |
|---------------------|--------------------|--------------------|--------------------------------------------|
| 600GB 6G SAS 15K DP | Up to 6            | 1-6                | HP Smart Array P800/512 BBWC Controller    |
| 450GB 6G SAS 15K DP |                    |                    | HP Smart Array P212/Zero Memory Controller |
| 450GB 3G SAS 15K DP |                    |                    | HP Smart Array P212/ 256 MB Controller     |
| 300GB 6G SAS 15K DP |                    |                    | HP Smart Array P410/256 MB Controller      |
| 300GB 3G SAS 15K DP |                    |                    | HP Smart Array P410/512 MB BBWC Controller |

### Storage

146GB 3G SAS 15K DP

HP Smart Array P411/256 MB Controller  
HP Smart Array P411/512 MB BBWC Controller

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

|                      | Quantity Supported | Position Supported | Controller                                                                                                                                                                                                                                                                                                    |
|----------------------|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500GB 6G SAS 7.2K DP | Up to 8            | 1-8                | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

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

|                      | Quantity Supported | Position Supported | Controller                                                                                                                                                                                                                                                                                                    |
|----------------------|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1TB 3G SAS 7.2K DP   | Up to 6            | 1-6                | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |
| 750GB 3G SAS 7.2K DP |                    |                    |                                                                                                                                                                                                                                                                                                               |

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

|                    | Quantity Supported | Position Supported | Controller                                                                                                                                                                                                                                                                                                    |
|--------------------|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500GB 3G SATA 7.2K | Up to 8            | 1-8                | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |
| 160GB 3G SATA 7.2K |                    |                    |                                                                                                                                                                                                                                                                                                               |

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

|                    | Quantity Supported | Position Supported | Controller                                                                                                                                                                                                                                                                                                    |
|--------------------|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2TB 3G SATA 7.2K   | Up to 6            | 1-6                | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |
| 1TB 3G SATA 7.2K   |                    |                    |                                                                                                                                                                                                                                                                                                               |
| 750GB 3G SATA 7.2K |                    |                    |                                                                                                                                                                                                                                                                                                               |
| 500GB 3G SATA 7.2K |                    |                    |                                                                                                                                                                                                                                                                                                               |
| 250GB 3G SATA 7.2K |                    |                    |                                                                                                                                                                                                                                                                                                               |

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

|                      | Quantity Supported | Position Supported | Controller                                                                                                                                                                                                                                                                                                    |
|----------------------|--------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 250GB 3G SATA 5.4K   | Up to 8            | 1-8                | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |
| 120GB 1.5G SATA 5.4K |                    |                    |                                                                                                                                                                                                                                                                                                               |

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

#### SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives



### Storage

|                    | Quantity Supported | Position Supported | Controller                                 |
|--------------------|--------------------|--------------------|--------------------------------------------|
| 250GB 3G SATA 7.2K | Up to 6            | 1-6                | HP Smart Array P800/512 BBWC Controller    |
| 160GB 3G SATA 7.2K |                    |                    | HP Smart Array P212/Zero Memory Controller |
|                    |                    |                    | HP Smart Array P212/ 256 MB Controller     |
|                    |                    |                    | HP Smart Array P410/256 MB Controller      |
|                    |                    |                    | HP Smart Array P410/512 MB BBWC Controller |
|                    |                    |                    | HP Smart Array P411/256 MB Controller      |
|                    |                    |                    | HP Smart Array P411/512 MB BBWC Controller |

#### SATA Hot Plug Midline (MDL) Solid State Drives

|                     | Quantity Supported | Position Supported | Controller                                 |
|---------------------|--------------------|--------------------|--------------------------------------------|
| 60GB 3.0G SATA SSD  | Up to 8            | 1-8                | HP Smart Array P212/Zero Memory Controller |
| 120GB 3.0G SATA SSD |                    |                    | HP Smart Array P212/ 256 MB Controller     |
|                     |                    |                    | HP Smart Array P410/256 MB Controller      |
|                     |                    |                    | HP Smart Array P410/512 MB BBWC Controller |
|                     |                    |                    | HP Smart Array P411/256 MB Controller      |
|                     |                    |                    | HP Smart Array P411/512 MB BBWC Controller |

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

|                     | Quantity Supported | Position Supported | Controller                                 |
|---------------------|--------------------|--------------------|--------------------------------------------|
| 60GB 3.0G SATA SSD  | Up to 6            | 1-6                | HP Smart Array P212/Zero Memory Controller |
| 120GB 3.0G SATA SSD |                    |                    | HP Smart Array P212/ 256 MB Controller     |
|                     |                    |                    | HP Smart Array P410/256 MB Controller      |
|                     |                    |                    | HP Smart Array P410/512 MB BBWC Controller |
|                     |                    |                    | HP Smart Array P411/256 MB Controller      |
|                     |                    |                    | HP Smart Array P411/512 MB BBWC Controller |

### External Storage

|                                          | Quantity Supported | Position Supported | Host Controller or Adapter                 |
|------------------------------------------|--------------------|--------------------|--------------------------------------------|
| 50 Modular Smart Array                   | Up to 4            | External           | HP Smart Array P800/512 BBWC Controller    |
| 60 Modular Smart Array                   | Up to 4            | External           | HP Smart Array P212/Zero Memory Controller |
|                                          |                    |                    | HP Smart Array P212/ 256 MB Controller     |
| 70 Modular Smart Array                   | Up to 8            | External           | HP Smart Array P800/512 BBWC Controller    |
|                                          |                    |                    | HP Smart Array P411/256 MB Controller      |
|                                          |                    |                    | HP Smart Array P411/512 MB BBWC Controller |
| 70 Modular Smart Array                   | Up to 2            | External           | HP Smart Array P212/Zero Memory Controller |
|                                          |                    |                    | HP Smart Array P212/ 256 MB Controller     |
| 70 Modular Smart Array                   | Up to 4            | External           | HP Smart Array P800/512 BBWC Controller    |
|                                          |                    |                    | HP Smart Array P411/256 MB Controller      |
|                                          |                    |                    | HP Smart Array P411/512 MB BBWC Controller |
| HP 2000sa Modular Smart Array Controller | Up to 4            | External           | HP SC08Ge Host Bus Adapter                 |

## Storage

### Maximum Storage Capacity - (with MSA50, SAS HDD)

|          |                                                           |
|----------|-----------------------------------------------------------|
| Internal | 8.0TB (16 x 500GB SAS SFF with addition 8 SFF drive cage) |
| External | 5.0TB (20 x 250GB SAS SFF)                                |
| Total    | 13.0TB                                                    |

### Maximum Storage Capacity - (with MSA50, SATA HDD)

|          |                                                              |
|----------|--------------------------------------------------------------|
| Internal | 8.0TB (16 x 500GB SATA SFF with additional 8 SFF drive cage) |
| External | 5.0TB (20 x 250GB SATA SFF)                                  |
| Total    | 13.0TB                                                       |

## Tape and Disk-Based Backup

**NOTE:** For a complete listing of compatible tape and disk-based backup offerings, please visit: [www.hp.com/go/connect](http://www.hp.com/go/connect).

|                                                                                                                                                                                                                                                            | Position Supported | Controller                                 | Part Number |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------|-------------|
| <b>HP StorageWorks SCSI Tape Drives, External</b><br>LTO-1 Ultrium 232<br>LTO-2 Ultrium 448<br>LTO-3 Ultrium 960<br>LTO-3 Ultrium 920<br>LTO-4 Ultrium 1760<br>LTO-4 Ultrium 1840<br>DAT 40<br>DAT 72<br>DAT 160<br>1U Rack-Mount Kit<br>3U Rack-Mount Kit | External           | HP SC11Xe Host Bus Adapter                 | 412911-B21  |
| <b>HP StorageWorks USB Tape Drives, External</b><br>DAT 40 USB<br>DAT 72 USB<br>DAT 160 USB<br>DAT 320 USB<br>1U Rack-Mount Kit                                                                                                                            | External           | USB 2.0 Port                               | N/A         |
| <b>HP StorageWorks SAS Tape Drives, External</b><br>DAT 160 SAS<br>DAT 320 USB<br>LTO-2 Ultrium 448 SAS<br>LTO-3 Ultrium 920 SAS<br>LTO-4 Ultrium 1760 SAS<br>LTO-4 Ultrium 1840 SAS<br>1U Rack-Mount Kit<br>3U Rack-Mount Kit                             | External           | HP Smart Array P212/Zero Memory Controller | 462828-B21  |
| <b>HP StorageWorks SCSI Tape Automation, External</b><br>DAT 72x10 Autoloader<br>1/8 G2 Autoloader                                                                                                                                                         | External           | HP SC11Xe Host Bus Adapter                 | 412911-B21  |

## Storage

MSL2024  
MSL4048  
MSL8096  
MSL6000

**HP StorageWorks SAS Tape Automation, External**      External      HP Smart Array P212/Zero Memory Controller      462828-B21

**External**

1/8 G2 Autoloader  
MSL2024  
MSL4048  
MSL8096

**NOTE:** Please visit: <http://www.hp.com/go/connect> for details about minimum SAS controller firmware version and SAS cabling requirements.

**HP StorageWorks Fibre Tape Automation, External**      External      Please consult the EBS connectivity matrix at: <http://www.hp.com/go/ebs> for detailed connectivity information.      N/A

**External**

MSL2024  
MSL4048  
MSL8096  
MSL6000

**HP StorageWorks RDX Removable Disk Backup System**      Internal      USB 2.0      N/A

**Backup System**

RDX160  
RDX320  
RDX500

**NOTE:** RDX160 (AP724A), RDX320 (AP725A), or RDX500 (AP726A) are required for mounting inside a HP ProLiant DL380 G6.

**HP StorageWorks D2D Backup Systems**      External      Embedded Network Controller      N/A

**Backup Systems**

D2D2500i  
D2D4000i

### Power Specifications

|                                              |            |            |            |            |            |            |            |
|----------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>HP 460W Power Supply</b>                  |            |            |            |            |            |            |            |
| <b>Part Number - AC 460W PSU</b>             | 503296-B21 |            |            |            |            |            |            |
| <b>Input Voltage Range (Vrms)</b>            | 100 to 240 |            |            |            |            |            |            |
| <b>Frequency Range (Nominal) (Hz)</b>        | 50/60      |            |            |            |            |            |            |
| <b>Nominal Input Voltage (Vrms)</b>          | <b>100</b> | <b>120</b> | <b>200</b> | <b>208</b> | <b>220</b> | <b>230</b> | <b>240</b> |
| Maximum Rated Output Wattage                 | 460        | 460        | 460        | 460        | 460        | 460        | 460        |
| Nominal Input Current (A rms)                | 5.5        | 4.5        | 2.6        | 2.5        | 2.4        | 2.3        | 2.2        |
| Max Rated Input Wattage Rating (Watts)       | 526        | 520        | 505        | 505        | 503        | 503        | 503        |
| Max. Rated VA (Volt-Amp)                     | 548        | 542        | 527        | 527        | 524        | 524        | 524        |
| Efficiency (%) at Max. Rated Output Wattage  | 87.5       | 88.5       | 91         | 91         | 91.5       | 91.5       | 91.5       |
| Power Factor                                 | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       |
| Leakage Current (mA)                         | 0.42       | 0.50       | 0.83       | 0.87       | 0.92       | 0.96       | 1.00       |
| Max. Inrush Current (A peak)                 | 30         | 30         | 30         | 30         | 30         | 30         | 30         |
| Max. Inrush Current duration (mS)            | 20         | 20         | 20         | 20         | 20         | 20         | 20         |
| Maximum British Thermal Unit Rating (BTU-Hr) | 1794       | 1773       | 1725       | 1725       | 1715       | 1715       | 1715       |

|                                              |            |            |            |            |            |            |            |
|----------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>HP 750W Power Supply</b>                  |            |            |            |            |            |            |            |
| <b>Part Number - AC 750W PSU</b>             | 512327-B21 |            |            |            |            |            |            |
| <b>Input Voltage Range (Vrms)</b>            | 100 to 240 |            |            |            |            |            |            |
| <b>Frequency Range (Nominal) (Hz)</b>        | 50/60      |            |            |            |            |            |            |
| <b>Nominal Input Voltage (Vrms)</b>          | <b>100</b> | <b>120</b> | <b>200</b> | <b>208</b> | <b>220</b> | <b>230</b> | <b>240</b> |
| Maximum Rated Output Wattage                 | 750        | 750        | 750        | 750        | 750        | 750        | 750        |
| Nominal Input Current (A rms)                | 8.9        | 7.4        | 4.3        | 4.1        | 3.9        | 3.7        | 3.6        |
| Max Rated Input Wattage Rating (Watts)       | 857        | 847        | 824        | 825        | 820        | 820        | 820        |
| Max. Rated VA (Volt-Amp)                     | 894        | 884        | 859        | 859        | 854        | 854        | 854        |
| Efficiency (%) at Max. Rated Output Wattage  | 87.5       | 88.5       | 91         | 91         | 91.5       | 91.5       | 91.5       |
| Power Factor                                 | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       |
| Leakage Current (mA)                         | 0.42       | 0.50       | 0.83       | 0.87       | 0.92       | 0.96       | 1.00       |
| Max. Inrush Current (A peak)                 | 30         | 30         | 30         | 30         | 30         | 30         | 30         |
| Max. Inrush Current duration (mS)            | 20         | 20         | 20         | 20         | 20         | 20         | 20         |
| Maximum British Thermal Unit Rating (BTU-Hr) | 2925       | 2892       | 2812       | 2812       | 2797       | 2797       | 2797       |

### Power Specifications

|                                                   |            |            |            |            |            |            |            |
|---------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>HP 1200W Power Supply<br/>Part Number - AC</b> | 500172-B21 |            |            |            |            |            |            |
| <b>Operational Input Voltage<br/>Range (Vrms)</b> | 100 to 240 |            |            |            |            |            |            |
| <b>Frequency Range (Nominal)<br/>(Hz)</b>         | 50/60      |            |            |            |            |            |            |
| <b>Nominal Input Voltage (Vrms)</b>               | <b>100</b> | <b>120</b> | <b>200</b> | <b>208</b> | <b>220</b> | <b>230</b> | <b>240</b> |
| Maximum Rated Output Wattage                      | 800        | 900        | 1200       | 1200       | 1200       | 1200       | 1200       |
| Nominal Input Current (A rms)                     | 9.7        | 9.0        | 7.0        | 6.8        | 6.4        | 9.1        | 5.9        |
| Max Rated Input Wattage Rating<br>(Watts)         | 930        | 1034       | 1348       | 1348       | 1348       | 1348       | 1348       |
| Max. Rated VA (Volt-Amp)                          | 970        | 1079       | 1406       | 1406       | 1406       | 1406       | 1406       |
| Efficiency (%) at Max. Rated<br>Output Wattage    | 86         | 87         | 89         | 89         | 89         | 89         | 89         |
| Power Factor                                      | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       |
| Leakage Current (mA)                              | 0.42       | 0.50       | 0.83       | 0.87       | 0.92       | 0.96       | 1.00       |
| Max. Inrush Current (A peak)                      | 30         | 30         | 30         | 30         | 30         | 30         | 30         |
| Max. Inrush Current duration<br>(mS)              | 20         | 20         | 20         | 20         | 20         | 20         | 20         |
| Maximum British Thermal Unit<br>Rating (BTU-Hr)   | 3174       | 3530       | 4600       | 4600       | 4600       | 4600       | 4600       |

|                                                   |            |            |            |            |            |            |            |
|---------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| <b>HP 1200W Power Supply<br/>Part Number - AC</b> | 578322-B21 |            |            |            |            |            |            |
| <b>Operational Input Voltage<br/>Range (Vrms)</b> | 100 to 240 |            |            |            |            |            |            |
| <b>Frequency Range (Nominal)<br/>(Hz)</b>         | 50/60      |            |            |            |            |            |            |
| <b>Nominal Input Voltage (Vrms)</b>               | <b>100</b> | <b>120</b> | <b>200</b> | <b>208</b> | <b>220</b> | <b>230</b> | <b>240</b> |
| Maximum Rated Output Wattage                      | 800        | 900        | 1200       | 1200       | 1200       | 1200       | 1200       |
| Nominal Input Current (A rms)                     | 9.3        | 8.6        | 6.7        | 6.5        | 6.1        | 5.8        | 5.6        |
| Max Rated Input Wattage Rating<br>(Watts)         | 899        | 989        | 1290       | 1290       | 1290       | 1290       | 1290       |
| Max. Rated VA (Volt-Amp)                          | 927        | 1031       | 1345       | 1345       | 1345       | 1345       | 1345       |
| Efficiency (%) at Max. Rated<br>Output Wattage    | 90         | 91         | 93         | 93         | 93         | 93         | 93         |
| Power Factor                                      | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       | 0.97       |
| Leakage Current (mA)                              | 0.42       | 0.50       | 0.83       | 0.87       | 0.92       | 0.96       | 1.00       |
| Max. Inrush Current (A peak)                      | 30         | 30         | 30         | 30         | 30         | 30         | 30         |
| Max. Inrush Current duration<br>(mS)              | 20         | 20         | 20         | 20         | 20         | 20         | 20         |
| Maximum British Thermal Unit<br>Rating (BTU-Hr)   | 3033       | 3375       | 4403       | 4403       | 4403       | 4403       | 4403       |

### Power Specifications

|                                              |            |           |           |
|----------------------------------------------|------------|-----------|-----------|
| HP 1200W -48VDC Power Supply Part Number     | 437573-B21 |           |           |
| Input Voltage Range (DCV)                    | 36-72      |           |           |
| Frequency Range (Nominal) (Hz)               | DC         |           |           |
| Nominal Input Voltage (VDC)                  | <b>36</b>  | <b>48</b> | <b>72</b> |
| Maximum Rated Output Wattage                 | 1200       | 1200      | 1200      |
| Nominal Input Current (ACD)                  | 38         | 28        | 19        |
| Max Rated Input Wattage Rating (Watts)       | 1380       | 1350      | 1365      |
| Max. Rated VA (Volt-Amp)                     | 1380       | 1350      | 1365      |
| Efficiency (%) at Max. Rated Output Wattage  | 87         | 89        | 88        |
| Power Factor                                 | N/A        | N/A       | N/A       |
| Leakage Current (mA)                         | N/A        | N/A       | N/A       |
| Max. Inrush Current (A peak)                 | 20         | 25        | 35        |
| Max. Inrush Current duration (mS)            | 1          | 1         | 3         |
| Maximum British Thermal Unit Rating (BTU-Hr) | 4713       | 4610      | 4662      |

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

### Technical Specifications

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

### Technical Specifications

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 900 W (at 120 VAC),<br>1200 W (at 200 to 240 VAC)<br>For 750 W Power Supply:<br>750 W (at 100 to 120 VAC),<br>750 W (at 200 to 240 VAC)<br>For 460 W Power Supply:<br>460 W (at 100 to 120 VAC),<br>460 W (at 200 to 240 VAC)                                                                                                                                                                                           |
| <b>System Inlet Temperature</b>           | Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.<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).                                                                                                                                                                                                                                                                                                                                              |
| <b>Relative Humidity (non-condensing)</b> | Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.                                                                                                                                                                                                                                                                                                                           |
|                                           | Non-operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.                                                                                                                                                                                                                                                                                                                         |
| <b>Altitude</b>                           | Operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).                                                                                                                                                                                                                                                           |
|                                           | Non-operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).                                                                                                                                                                                                                                                                                                                                  |
| <b>Acoustic Noise</b>                     | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).<br><b>NOTE:</b> The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                           | <b>Idle</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>1P SKU</b> <b>2P SKU</b>                                                                                                                                                                                                                                                                                                                                                                                             |
|                                           | LWAd                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4.1 B                              4.7 B                                                                                                                                                                                                                                                                                                                                                                                |
|                                           | LpAm                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 22 dBA                          28 dBA                                                                                                                                                                                                                                                                                                                                                                                  |
|                                           | <b>Operating</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>1P SKU</b> <b>2P SKU</b>                                                                                                                                                                                                                                                                                                                                                                                             |
|                                           | LWAd                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4.1 B                              4.7 B                                                                                                                                                                                                                                                                                                                                                                                |
|                                           | LpAm                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 22 dBA                          28 dBA                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Emissions Classification (EMC)</b>     | 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                                                                                                                                                                                                                                                                                 |

### Technical Specifications

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

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

|                                     |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Smart Array P410i Controller</b> | <b>Dimensions</b> (not including bracket)                 | Low Profile PCIe Form Factor<br>7.5 in x 9.5 in x 2.25 in (19.05 cm x 24.13 cm x 5.72 cm)                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                     | <b>Disk Drive and Enclosure Interface - transfer rate</b> | 6Gb/s SAS (Serial Attached SCSI)<br>3Gb/s SATA (Serial ATA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                     | <b>SAS Connectors</b>                                     | 2 internal (Mini-SAS) x8 wide port connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                     | <b>Cache Memory Speed</b>                                 | DDR2-533MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                     | <b>Server Interface</b>                                   | x8 2.5G PCIe 2.0 provides 2GB/s maximum bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                     | <b>SAS Speed</b>                                          | x8 3G SAS provides 2.4GB/s maximum bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                     | <b>Cache Memory</b>                                       | 40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                     | <b>Logical Drives Supported</b>                           | Up to 64 logical drives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                     | <b>Maximum Logical Drive Capacity</b>                     | Greater than 2TB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                     | <b>Host Memory Addressing</b>                             | 64-bit, supporting greater than 4GB server memory space                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                     | <b>RAID Support</b>                                       | RAID 6, 6+0 (Advanced Data Guarding)<br><b>NOTE:</b> RAID 6, 6+0 can be enabled with either <ul style="list-style-type: none"> <li>• Minimum of 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades</li> <li>• Minimum of 512 MB BBWC and Smart Array Advanced Pack License key option upgrades</li> </ul> RAID 5, 5+0 (Distributed Data Guarding)<br><b>NOTE:</b> The 256 MB is required to enable RAID 5, 5+0 support of the Smart Array P410i<br>RAID 1+0 (Striping & Mirroring)<br>RAID 0 (Striping) |
|                                     | <b>Upgradeable Firmware</b>                               | Upgradeable Firmware with Recovery ROM feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Technical Specifications

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

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

### *Technical Specifications*

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