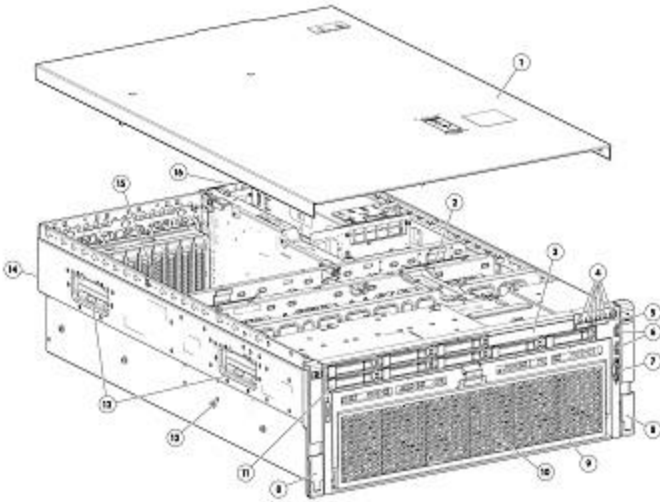


### Overview

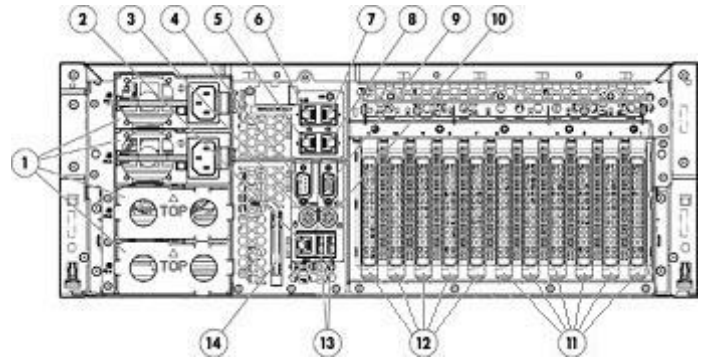
#### HP ProLiant DL580 Generation 7 (G7)

Traditionally, mission-critical RAS (Reliability, Availability and Serviceability) features have been associated with RISC (Reduced Instruction Set Computing) systems. HP has designed an eco-system of RAS functionalities that has raised the bar for the HP ProLiant DL580 G7. The HP ProLiant DL580 G7 continues to deliver best-in-class HP performance, manageability, and reliability features with the latest Intel processor technology and it is the ideal choice for customers that are ready to deploy Large Databases that require scale-up compute processing, large memory and I/O intensive applications.



#### Front View:

1. Quick Removal Access Panel
2. 4 Hot Plug Redundant Fans Standard on all models
3. HP Slim SATA DVD ROM Optical Drive
4. Front Panel LED Display and Power Button
5. Slide-out Systems Insight Display
6. Two front accessible USB 2.0 ports
7. One front video port
8. Quick release levers for fast server access
9. Front accessible Processor and memory drawer
10. Support for up to four Intel® Xeon® Processors
11. Support for up to 8 Small Form-Factor (SFF) SAS, Serial ATA (SATA) or SSD drives
12. Universal Tool-less "Snap In" Sliding Rail Solution
13. Server Lifting Handles
14. 4U (7" Height) Rack Form Factor
15. Up to 11 slots supported; all full-length/full-height



#### Rear View:

1. Hot Plug Redundant Power Supplies (2 or 4 depending on the model)
2. Integrated Lights-Out 3 port
3. Mouse port
4. Serial Port
5. Gigabit NIC Ports
6. Gigabit NIC Ports
7. Gigabit NIC Ports
8. Gigabit NIC Ports
9. Video Port
10. Keyboard port
11. PCI-Express or PCI-X option (slots 1-6)
12. PCI-Express slots (slots 7-11)
13. Two USB ports
14. Service tool

#### What's New

- Updating supported options.

### Standard Features

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

#### Processor

One or more of the following depending on model

#### Ten-Core Processors

Intel® Xeon® E7-4870 (2.40GHz/10-core/30MB/130W) Processor  
 Intel® Xeon® E7-4860 (2.26GHz/10-core/24MB/130W) Processor  
 Intel® Xeon® E7-4850 (2.00GHz/10-core/24MB/130W) Processor  
 Intel® Xeon® E7-8867L (2.13GHz/10-core/30MB/105W) Processor

#### Eight-Core Processors

Intel® Xeon® E7-8837 (2.67GHz/8-core/24MB/130W) Processor  
 Intel® Xeon® E7-4830 (2.13GHz/8-core/24MB/105W) Processor  
 Intel® Xeon® E7-4820 (2.0GHz/8-core/18MB/105W) Processor  
 Intel® Xeon® X7560 (2.26GHz/8-core/24MB/130W) Processor  
 Intel® Xeon® X7550 (2.0GHz/8-core/18MB/130W) Processor  
 Intel® Xeon® L7555 (1.86GHz/8-core/24MB/95W) Processor

#### Six-Core Processors

Intel® Xeon® E7-4807 (1.86GHz/6-core/18MB/95W) Processor  
 Intel® Xeon® E7540 (2.0GHz/6-core/18MB/105W) Processor  
 Intel® Xeon® E7530 (1.86GHz/6-core/12MB/105W) Processor  
 Intel® Xeon® X7542 (2.66GHz/6-core/18MB/130W) Processor

#### Quad-Core Processors

Intel® Xeon® E7520 (1.86GHz/4-core/18MB/95W) Processor

**NOTE:** New Intel Microarchitecture with Intel Virtualization Technology FlexMigration. Industry Standard Intel® 7500 Chipset with four high-speed interconnects up to 6.4GT/s.

#### Cache Memory

One of the following depending on model

30MB (1 x 30MB) Level 3 cache  
**NOTE:** For E7-8867L and E7-4870 Processors

24MB (1 x 24MB) Level 3 cache  
**NOTE:** For E7-8837, E7-4860, E7-4850, E7-4830, X7560, and L7555 Processors.

18MB (1 x 18MB) Level 3 cache  
**NOTE:** For E7-4820, E7-4807, X7550, E7540, X7542, and E7520 Processors.

12MB (1 x 12MB) Level 3 cache  
**NOTE:** For E7530 Processor.

#### Chipset

Industry Standard Intel® 7500 Chipset  
**NOTE:** For more information regarding Intel chipsets, please see the following URL:  
<http://www.intel.com/products/server/chipsets/>

#### Upgradeability

Upgradeable to quad (4) processors

#### Memory Protection

Advanced ECC  
 Double Data Device Correction - DDDC  
**NOTE:** Intel® Xeon® E7-48xx/88xx processor series powered only.  
 Mirrored Memory  
 Online Spare Memory

#### Memory

Type PC3-10600R DIMMs (DDR3)

### Standard Features

|   |   |                  |
|---|---|------------------|
| One of the following depending on Model | Standard (2P Models)                    | 16GB (4 x 4GB)   |
|   | Standard (4P Model - E7540)             | 32GB (8 x 4GB)   |
|   | Standard (4P Models - X7560, X7550)     | 64GB (16 x 4GB)  |
|   | Standard (2P Models - E7-4830, E7-4807) | 64 (8 x 8GB)     |
|   | Standard (4P Models - E7-4870, E7-4850) | 128GB (16 x 8GB) |
|   | Maximum                                 | 2TB (64 x 32GB)* |

\* Intel® Xeon® Processor E7 series powered only, 1TB max on 7500 series

**Network Controller** HP NC375i Integrated Quad Port Gigabit Server Adapter  
**NOTE:** Optional Dual Port 10GbE upgrade (replaces two 1G ports)

### Expansion Slots

**NOTE:** Up to 11 slots supported; all full-length/full-height. Standard: 2 PCI-E 2.0 x8, 3 PCI-E 2.0 x4.

**NOTE:** The primary video controller needs to be located in the Main I/O board slots 7-11 providing video during boot. A video controller installed in an I/O expansion slot 1-6 cannot be the primary controller. It will not have video during boot but will provide video once OS and drives load.

| Expansion Slots (Main I/O Board standard) | Expansion Slot # | Technology       | Width | Connector Width* | Bus / Dev Number** | Form Factor | Notes |
|---|------------------|------------------|-------|------------------|--------------------|-------------|-------|
|   | 1                | N/A              | N/A   | N/A              | N/A                | N/A         | N/A   |
|   | 2                | N/A              | N/A   | N/A              | N/A                | N/A         | N/A   |
|   | 3                | N/A              | N/A   | N/A              | N/A                | N/A         | N/A   |
|   | 4                | N/A              | N/A   | N/A              | N/A                | N/A         |       |
|   | 5                | N/A              | N/A   | N/A              | N/A                | N/A         |       |
|   | 6                | N/A              | N/A   | N/A              | N/A                | N/A         |       |
|   | 7                | PCI Express Gen2 | x4    | x8               | 0/0A               | FH/FL       |       |
|   | 8                | PCI Express Gen2 | x4    | x8               | 0/09               | FH/FL       |       |
|   | 9                | PCI Express Gen2 | x8    | x16              | 0/07               | FH/FL       |       |
|   | 10               | PCI Express Gen2 | x4    | x8               | 0/01               | FH/FL       |       |
|   | 11               | PCI Express Gen2 | x8    | x16              | 0/05               | FH/FL       |       |

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

\*\* Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

FL= Full length; FH = Full height; LP = low-profile.

### Expansion Slots

### Standard Features

| Expansion Slots with IO Expander (combination PCI-X, PCI-e and 300W GPU) | Expansion Slot # | Technology       | Width  | Connector Width* | Bus / Dev Number** | Form Factor | Notes  |
|--|------------------|------------------|--------|------------------|--------------------|-------------|--------|
|  | 1                | PCI-X            | 64-bit | N/A              | 82/01              | FH/FL       | 100MHz |
|  | 2                | PCI-X            | 64-bit | N/A              | 82/02              | FH/FL       | 100MHz |
|  | 3                | PCI Express Gen2 | x16    | x16              | 80/07              | FH/FL       |        |
|  | 4                | PCI Express Gen2 | x4     | x8               | 80/01              | FH/FL       |        |
|  | 5                | N/A              | N/A    | N/A              | N/A                | N/A         | N/A    |
|  | 6                | PCI Express Gen2 | x16    | x16              | 80/03              | FH/FL       |        |
|  | 7                | PCI Express Gen2 | x4     | x8               | 0/0A               | FH/FL       |        |
|  | 8                | PCI Express Gen2 | x4     | x8               | 0/09               | FH/FL       |        |
|  | 9                | PCI Express Gen2 | x8     | x16              | 0/07               | FH/FL       |        |
|  | 10               | PCI Express Gen2 | x4     | x8               | 0/01               | FH/FL       |        |
|  | 11               | PCI Express Gen2 | x8     | x16              | 0/05               | FH/FL       |        |

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

\*\* Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

FL= Full length; FH = Full height; LP = low-profile.

### Expansion Slots

| Expansion Slots with I/O Expander (standard PCI-e option) | Expansion Slot # | Technology       | Width | Connector Width* | Bus / Dev Number** | Form Factor | Notes |
|---|------------------|------------------|-------|------------------|--------------------|-------------|-------|
|   | 1                | PCI Express Gen1 | x4    | x8               | 80/00              | FH/FL       |       |
|   | 2                | PCI Express Gen2 | x8    | x16              | 80/09              | FH/FL       |       |
|   | 3                | PCI Express Gen2 | x8    | x16              | 80/07              | FH/FL       |       |
|   | 4                | PCI Express Gen2 | x4    | x8               | 80/01              | FH/FL       |       |
|   | 5                | PCI Express Gen2 | x8    | x16              | 80/05              | FH/FL       |       |
|   | 6                | PCI Express Gen2 | x8    | x16              | 80/03              | FH/FL       |       |
|   | 7                | PCI Express Gen2 | x4    | x8               | 0/0A               | FH/FL       |       |

### Standard Features

|    |                  |    |     |      |       |
|----|------------------|----|-----|------|-------|
| 8  | PCI Express Gen2 | x4 | x8  | 0/09 | FH/FL |
| 9  | PCI Express Gen2 | x8 | x16 | 0/07 | FH/FL |
| 10 | PCI Express Gen2 | x4 | x8  | 0/01 | FH/FL |
| 11 | PCI Express Gen2 | x8 | x16 | 0/05 | FH/FL |

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

\*\* Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

FL= Full length; FH = Full height; LP = low-profile.

### Storage Controller One of the following depending on Model

|   |   |
|---|---|
| Base Models   | HP Smart Array P410i/512 MB FBWC Controller |
| High Performance Models   | HP Smart Array P410i/1G FBWC Controller     |
| The Flash Backed Write Cache (FBWC) increases cache data retention capabilities from two days of existing battery backed write cache (BBWC) to infinite data retention. |   |

- Standard on all Models
- Transportable data protection
- Increases overall controller performance

### Internal Storage Devices

|                           |  |
|---------------------------|--|
| Diskette Drive            | None   |
| Optional Optical Drive    | HP Slim SATA DVD ROM Optical Drive<br><b>NOTE:</b> Standard on Xeon Processor 7500 series models |
| Hard Drives               | None ship standard   |
| Hard Disk Drive Backplane | Internal SAS backplane supports up to eight SFF hard disk drives                                 |

### Maximum Internal Storage

|                       |       |           |
|-----------------------|-------|-----------|
| Hot Plug SFF SAS      | 9.6TB | 8 x 1.2TB |
| Hot Plug SFF SATA     | 8.0TB | 8 x 1TB   |
| Hot Plug SFF SSD      | 960GB | 8 x 120GB |
| Hot Plug SFF SAS SSD  | 6.4TB | 8 x 800GB |
| Hot Plug SFF SATA SSD | 3.2TB | 8 x 400GB |

**NOTE:** There is an extra internal SSD slot available as well.

### Interfaces

|                         |                                      |
|-------------------------|--------------------------------------|
| Serial                  | 1                                    |
| Video                   | 1 front; 1 rear                      |
| Network RJ-45           | 4                                    |
| iLO 3 Remote Management | 1                                    |
| Keyboard                | 1                                    |
| Pointing Device (Mouse) | 1                                    |
| SD Slot                 | 1                                    |
| USB 2.0 Ports           | 6 total: 2 front; 2 rear; 2 internal |

### Industry Standard

|                     |
|---------------------|
| ACPI 2.0. Compliant |
|---------------------|

### Standard Features

|                   |   |
|-------------------|---|
| <b>Compliance</b> | PCIE 2.0 Compliant<br>PXE Support<br>WOL Support<br>Physical Address Extension (PAE) Support<br>Microsoft® Logo certifications<br>USB 2.0 Support |
|-------------------|---|

|                           |  |
|---------------------------|--|
| <b>Server Power Cords</b> | <b>NOTE:</b> If customers require a local power cord, they can check the power cord matrix for the appropriate county specific sku. Please see the following power cord matrix for details:<br><a href="http://www.hp.com/go/powercordmatrix">http://www.hp.com/go/powercordmatrix</a> |
|---------------------------|--|

|  |  |
|--|--|
| <b>Power Supply</b><br>One of the following depending on Model | HP 1200W Common Slot Platinum Hot Plug Power Supply Kit<br><b>NOTE:</b> Supported on the E7-4870, E7-4850, E7-4830 and E7-4807 Models<br>HP 1200W Common Slot Silver Hot Plug Power Supply Kit<br><b>NOTE:</b> Supported on the X7560, X7550, E7540, E7530, E7520 Models<br><b>NOTE:</b> Two Hot Plug Power Supplies ship standard with 2P Models. Four Hot Plug Power Supplies ship standard with 4P Models.<br>Power Supply Requirement Override<br><b>NOTE:</b> The HP ProLiant DL580 G7 does an inventory of the system configuration to determine what level of redundancy the power supply configuration supports based on some configuration assumptions. The level of redundancy will be reported during the system power on. For planning purposes you can use the Power Advisor ( <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> ) which is more accurate to determine the power requirements. Also, there is an RBSU override switch capability that allows the user to override the base setting if the Power Advisor indicates redundancy with their configuration. |
|--|--|

|                    |   |
|--------------------|---|
| <b>System Fans</b> | Four Hot Plug redundant fans standard (3+1) |
|--------------------|---|

|   |  |
|---|--|
| <b>Operating Systems and Virtualization Software Support for ProLiant Servers</b> | <a href="#">Microsoft Windows Server</a><br><a href="#">Red Hat Enterprise Linux (RHEL)</a><br><a href="#">SUSE Linux Enterprise Server (SLES)</a><br><a href="#">Oracle Solaris</a><br><a href="#">VMware</a><br><a href="#">Citrix XenServer</a><br><b>NOTE:</b> 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: <a href="http://www.hp.com/go/ossupport">http://www.hp.com/go/ossupport</a> and our driver download page <a href="http://www.hp.com/support/DL580G7">http://www.hp.com/support/DL580G7</a> |
|---|--|

|                 |  |
|-----------------|--|
| <b>Graphics</b> | Integrated ATI ES1000 with 64MB embedded video SDRAM<br>Max Resolution 1280 x 1024 x 16M color |
|-----------------|--|

|                    |  |
|--------------------|--|
| <b>Form Factor</b> | Rack (4U = 7 inches), ships with Quick Deploy Sliding Rail System, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components.<br>Space saving form factor (4U) provides space efficiencies while providing maximum deployment flexibility. |
|--------------------|--|

|                              |                              |   |
|------------------------------|------------------------------|---|
| <b>HP Insight Management</b> | HP Service Pack for ProLiant | HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) provide a comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, |
|------------------------------|------------------------------|---|

### Standard Features

typically coinciding with new HP server hardware launches. By enabling firmware to be updated online and integrating firmware and system software updates in one operation, HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support for each Service Pack for ProLiant release.

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

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

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

#### HP Insight Foundation

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

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

Customers are urged to use the replacement product, HP Service Pack for ProLiant, instead of Insight Foundation Suite which is found at these location:

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

### Standard Features

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

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

**Intelligent Manageability** HP Systems Insight Manager  
SmartStart  
Redundant ROM  
Remote Flash ROM  
Management Agents  
Integrated Management Log (IML)  
Automatic Server Recovery-2 (ASR-2)  
ROM-Based Setup Utility (RBSU)  
Dynamic Sector Repairing (with Smart Array Controllers)  
Drive Parameter Tracking (with Smart Array Controllers)  
Pre-Failure Warranty (covers processors, SAS hard drives and memory)  
Redundant/adaptive load balancing NIC Support  
Hot Spare Boot

**NOTE:** Upon the event of a failed processor in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).

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

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

**Security** Power-on password  
Keyboard password  
External USB port enable/disable  
Network Server Mode  
Serial interface control  
Administrator's password  
Removable optical drive

**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.



### Standard Features

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

### Optional Features

#### HP Insight management HP Insight Control

HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, see <http://www.hp.com/go/insightcontrol>.

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

#### HP iLO Advanced

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

#### HP Insight Dynamics for ProLiant

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 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>

### Solutions

The ProLiant DL580 G7 server is an enterprise class, 4 socket server designed for maximum scalability and high availability. Its innovative chassis offers unsurpassed flexibility and serviceability in a versatile form factor. Based upon the latest industry standard processing, memory, I/O and networking technologies, the ProLiant DL580 G7 provides the highest levels of performance demanded by today's compute intensive applications. Unparalleled high availability features, including hot-plug and redundant components, guarantee maximum uptime. HP Integrated Lights-Out 3 (iLO3) technology allows remote administration from a standard web browser without ever having to visit the server. Within the 4U dense form factor, it's highly expandable architecture provides maximum application deployment flexibility with the ability to add PCI-Express, PCI-X, 2 - 10GB NICs and battery-backed write cache options. Innovative features, such as the ability to access processors, memory, hard drives, and power supplies while the unit remains secured in the rack, enable rapid response to service events, radically decreasing overall IT costs and server downtime.

### Optional Features

#### Typical Usage:

Space-constrained corporate data centers and service providers  
Network and I/O expandability, inbuilt availability and reliability features, advanced power management capabilities and large internal storage make DL580 G7 ideal for corporate datacenters.

#### Database, Messaging and Business Applications

Large internal storage, refined I/O slots options, high network bandwidth, new DDR3 expandable memory combined with latest Intel 8-core expandable processors in DL580 G7 provide everything necessary for today's database, messaging and business applications.

#### Virtualization and Consolidation

HP's 4S architecture, inbuilt advanced reliability and scalability features make DL580 G7 a perfect platform for virtualization and consolidation solutions. HP's Insight control offerings make it easy to manage, deploy and migrate virtualized servers with VMware or Microsoft® Virtual Server. For more solutions visit: <http://www.hp.com/solutions/proliantdl580>.

---

#### High Performance Clusters

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

---

#### Storage Software

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

Storage software that gets the job done:

- **Data Protection and Recovery Software**  
Whether you're a large enterprise or a smaller business, HP data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.
- **Data Archive and Migration Software**  
HP's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**  
HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**

### Optional Features

HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.

- **Storage Device Management Software**  
Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**  
With HP StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

**NOTE:** For more information available Storage Software including QuickSpecs, please see: [www.hp.com/go/storage/software](http://www.hp.com/go/storage/software).

---

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

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

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

---

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

### Service and Support

#### Service and Support

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

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

##### **What HP ProLiant and BladeSystem Services can do for you**

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

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

#### Optimized Care Package

##### **Supports maintaining servers at optimum performance availability**

##### **HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

##### **HP Installation and Startup for SIM (Systems Insight Manager)**

Provides for installation and configuration of the latest version of HP Systems Insight Manager, together with the installation and startup of HP Service Essentials Remote Support Pack

<http://h20195.www2.hp.com/v2/GetPDF.aspx/5982-4143EN.pdf>

##### **3-Year HP 6 hour Call to Repair Response, Proactive Care**

Provides end-to-end infrastructure support solution for business critical applications running on virtualized/x86 infrastructures, enabling the customers to cost effectively build, operate, and continuously improve their IT environment

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

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

#### Standard Care Package

##### **Package that maintains high level of server availability**

##### **HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN>

##### **HP Installation and Startup for SIM (Systems Insight Manager)**

Provides for installation and configuration of the latest version of HP Systems Insight Manager, together with the installation and startup of HP Service Essentials Remote Support Pack

<http://h20195.www2.hp.com/v2/GetPDF.aspx/5982-4143EN.pdf>

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

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request

### Service and Support

to the HP Global Solution Center

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

#### **3 Year HP 24x7 4 hour response, Proactive Care Service**

This service gives you combined reactive and proactive support with enhanced call management to prevent problems.

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

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

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

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6645EEE.pdf>

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

#### **Insight Remote Support**

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

#### **For more information**

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

### Pre-configured Models

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

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

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

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

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

### High Performance Models

|  |  |  |
|--|--|--|
| <p><b>HP ProLiant DL580 G7 E7-4870 4P 128GB-R P410i/1G FBWC 4x1200W HE PS Server</b><br/>643063-xx1</p>      | <p><b>Processor(s)</b><br/>Four of the following depending on model</p> <p><b>Cache Memory</b><br/>One of the following depending on model</p>   | <p>(4) Intel® Xeon® E7-4870 (2.40GHz/10-core/30MB/130W) Processors<br/>(4) Intel® Xeon® E7-4850 (2.00GHz/10-core/24MB/130W) Processors</p> <p>30MB (1 x 30MB) Level 3 cache<br/>24MB (1 x 24MB) Level 3 cache</p>  |
| <p><b>HP ProLiant DL580 G7 E7-4850 4P 128GB-R P410i/1G FBWC 4x1200W HE PS Server</b><br/>643064-xx1</p>      | <p><b>Memory</b><br/>One of the following depending on model</p>   | <p>128GB (16 x 8GB DIMMs) PC3-10600R DIMMs (DDR3) installed in (8) (E7) Memory Cartridges (E7-4870, E7-4850 Models)<br/>64GB (16 x 4GB DIMMs) PC3-10600R DIMMs (DDR3) installed in (8) memory boards (X7560, X7550 Models)<br/>32GB (8 x 4GB DIMMs) PC3-10600R DIMMs (DDR3) installed in (4) memory boards (E7540 Models)</p>  |
| <p><b>HP ProLiant DL580 G7 E7-4870 4P 128GB-R Hot Plug SAS SFF BC NIC 1200W PS Server</b><br/>696729-xx1</p> | <p><b>Network Controller</b><br/><b>Storage Controller</b><br/><b>Hard Drives</b><br/><b>Internal Storage</b></p>  | <p>HP NC375i Integrated Quad Port Gigabit Server Adapter<br/>Embedded HP Smart Array P410i/1G FBWC Controller<br/>None ship standard<br/>Up to 8.0TB of internal storage (SFF SAS)</p>   |
| <p><b>HP ProLiant DL580 G7 E7-4850 4P 128GB-R Hot Plug SAS SFF BC NIC 1200W PS Server</b><br/>696730-xx1</p> | <p><b>Optical Drive</b><br/><b>Power Supply</b><br/>One of the following depending on model<br/><b>Fans</b><br/><b>Integrated Lights Out</b><br/><b>Insight Control</b><br/><b>Form Factor</b><br/><b>Warranty</b></p> | <p>HP Slim SATA DVD ROM Optical Drive<br/>(4) HP 1200W Common Slot Platinum Hot Plug Power Supply Kit (E7-4870, E7-4850 Models)</p> <p>Four Hot Plug redundant fans standard (3+1)<br/>Integrated Lights-Out 3 (iLO 3) ships standard<br/>HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates<br/>Rack 4U<br/>Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response</p> |

### Base Models

|   |   |  |
|---|---|--|
| <p><b>HP ProLiant DL580 G7 E7-4830 2P 64GB-R P410i/512 FBWC 2x1200W HE PS Server</b><br/>643065-xx1</p> | <p><b>Processor(s)</b><br/>Two of the following depending on model<br/>Up to 4 supported</p> <p><b>Cache Memory</b><br/>One of the following depending on model</p> | <p>(2) Intel® Xeon® E7-4830 (2.13GHz/8-core/24MB/105W) Processors<br/>(2) Intel® Xeon® E7-4807 (1.86GHz/6-core/18MB/95W) Processors</p> <p>24MB (1 x 24MB) Level 3 cache</p>                     |
| <p><b>HP ProLiant DL580 G7 E7-4807 2P 64GB-R P410i/512 FBWC 2x1200W HE PS Server</b></p>                | <p><b>Memory</b><br/><b>Network Controller</b></p>  | <p>64GB (8 x 8GB DIMMs) PC3-10600R DIMMs (DDR3) installed in (4) (E7) Memory Cartridges (E7-4830, E7-4807 Models)<br/>HP NC375i Integrated Quad Port Gigabit Server Adapter (643065-xx1) and</p> |

### Pre-configured Models

643066-xx1

**HP ProLiant DL580 G7 E7-4830 2P 64GB-R Hot Plug SAS SFF BC NIC 1200W PS Server**

696731-xx1

**HP ProLiant DL580 G7 E7-4807 2P 64GB-R Hot Plug SAS SFF BC NIC 1200W PS Server**

696732-xx1

**Storage Controller**

**Hard Drives**

**Internal Storage**

**Optical Drive**

**Power Supply**

One of the following depending on model

**Fans**

**Integrated Lights Out**

**Form Factor**

**Warranty**

643066-xx1 Models)

HP Ethernet 1Gb 4-port 331i Integrated Server Adapter (696731-xx1 and 696732-xx1 Models)

Embedded HP Smart Array P410i/512 MB FBWC Controller

None ship standard

Up to 8.0TB of internal storage (SFF SAS)

HP Slim SATA DVD ROM Optical Drive

(2) HP 1200W Common Slot Platinum Hot Plug Power Supply Kit (E7-4830, E7-4807 Models)

Four Hot Plug redundant fans standard (3+1)

Integrated Lights-Out 3 (iLO 3) ships standard

Rack 4U

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

### Country Code Key

xx = 00

xx = 20

xx = 29

xx = 37

xx = 42

xx = AA

US

Brazil

Japan

APD

Europe

PRC



### Configuration Information - Factory Integrated Models

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

**NOTE:** Factory Integrated Models must start with a CTO Server

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

#### Step 1: Base Configuration

|                  |  |
|------------------|--|
| <b>HP Models</b> | <p>HP ProLiant DL580 G7 (E7) Configure-to-order Server <span style="float: right;">643086-B21</span></p> <p><b>Factory Integrated Models ship with:</b></p> <p>HP NC375i Integrated Quad Port Gigabit Server Adapter<br/>           Four HP DL580G7/DL980 G7 (E7) Memory Cartridges<br/>           Five standard PCI-express slots<br/>           HP Smart Array P410i/ Zero Memory Controller<br/>           Four redundant hot-plug fans<br/>           SFF SAS/SATA/SSD drive cage<br/>           HP Integrated Lights-Out 3 (iLO 3) management processor: integrated on system board<br/>           Rack (4U), 7-inch</p> <p><b>NOTE:</b> Power supplies need to be selected separately from Step 2 below.</p> <p><b>NOTE:</b> Customers purchasing the Intel® Xeon® Processor E7 series will need to purchase the HP DL580R07 (E7) CTO Server (PN 643086-B21)</p> |
|                  | <p>HP ProLiant DL580 G7 (E7) BC NIC Configure-to-order Server <span style="float: right;">643086-B22</span></p> <p><b>Factory Integrated Models ship with:</b></p> <p>HP Ethernet 1Gb 4-port 331i Integrated Server Adapter<br/>           Four HP DL580G7/DL980 G7 (E7) Memory Cartridges<br/>           Five standard PCI-express slots<br/>           HP Smart Array P410i/ Zero Memory Controller<br/>           Four redundant hot-plug fans<br/>           SFF SAS/SATA/SSD drive cage<br/>           HP Integrated Lights-Out 3 (iLO 3) management processor: integrated on system board<br/>           Rack (4U), 7-inch</p> <p><b>NOTE:</b> Power supplies need to be selected separately from Step 2 below</p>   |

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

|                      |   |
|----------------------|---|
| <b>HP Processors</b> | <p><b>NOTE:</b> If a 2p configuration is selected, then a single -L21 processor kit should be used. If a 3p configuration is selected, then first processor kit is -L21 and second is -B21. If a 4p configuration is selected, then first processor kit is -L21 and second and third processor kit is -B21.</p> <p><b>NOTE:</b> Intel® Xeon® Processor E7-4800 series processors are supported only in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (PN 643086-B2x) and E7 series pre-configured models)</p> <p><b>Ten-Core Processors</b></p> <p>HP DL580 G7 Intel® Xeon® E7-4870 (2.40GHz/10-core/30MB/130W) FIO 2-processor Kit <span style="float: right;">643067-L21</span></p> <p><b>NOTE:</b> QPI speed is 6.40 GT/s</p> <p>HP DL580 G7 Intel® Xeon® E7-4860 (2.26GHz/10-core/24MB/130W) FIO 2-processor Kit <span style="float: right;">643069-L21</span></p> <p><b>NOTE:</b> QPI speed is 6.40 GT/s</p> <p>HP DL580 G7 Intel® Xeon® E7-4850 (2.00GHz/10-core/24MB/130W) FIO 2-processor <span style="float: right;">643071-L21</span></p> |
|----------------------|---|

### Configuration Information - Factory Integrated Models

Kit

**NOTE:** QPI speed is 6.40 GT/s

HP DL580 G7 Intel® Xeon® E7-8867L (2.13GHz/10-core/30MB/105W) FIO 2-processor Kit 643079-L21

**NOTE:** QPI speed is 6.40 GT/s

#### Eight-Core Processors

HP DL580 G7 Intel® Xeon® E7-8837 (2.67GHz/8-core/24MB/130W) FIO 2-processor Kit 643081-L21

**NOTE:** QPI speed is 6.40 GT/s

HP DL580 G7 Intel® Xeon® E7-4830 (2.13GHz/8-core/24MB/105W) FIO 2-processor Kit 643073-L21

**NOTE:** QPI speed is 6.40 GT/s

HP DL580 G7 Intel® Xeon® E7-4820 (2.0GHz/8-core/18MB/105W) FIO 2-processor Kit 643075-L21

**NOTE:** QPI speed is 5.86 GT/s

#### Six-Core Processors

HP DL580 G7 Intel® Xeon® E7-4807 (1.86GHz/6-core/18MB/95W) FIO 2-processor Kit 643077-L21

**NOTE:** QPI speed is 4.80 GT/s

### HP Memory

#### Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit 500656-B21

**NOTE:** Only supported with the Intel® Xeon® Processor 7500 series processors

HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit 500658-B21

HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit 604504-B21

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

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

HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit 627812-B21

HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit 627814-B21

**NOTE:** PC3L DIMMs are only supported with the Intel® Xeon® E7-48xx/88xx processors and require (E7) memory cartridge.

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

#### Memory Expansion Options

HP DL580G7/DL980G7 (E7) Memory Cartridge 644172-B21

**NOTE:** Four memory cartridges come standard in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (643086-B21), each kit contains one cartridge and a maximum of (8) are supported in the server. See Memory Performance Optimization in the Memory section for configuration guidelines.

### HP Power Supplies

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

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

HP 1200W Common Slot Silver Hot Plug Power Supply Kit 500172-B21

HP 1200W Common Slot Platinum Hot Plug Power Supply Kit 578322-B21

### Configuration Information - Factory Integrated Models

**NOTE:** All power supplies in a server should match. Mixing Platinum and Silver Power Supplies is not supported.

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

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

---

### Step 3: Choose Additional Factory Integratable Options

|                            |  |          |
|----------------------------|--|----------|
| <b>HP Insight Software</b> | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | C6N36A   |
|                            | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License    | C6N36ABE |
|                            | <b>NOTE:</b> The Electronic software license is available in EMEA only.                          |          |

---

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

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

### Core Options

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

|                          |  |            |
|--------------------------|--|------------|
| <b>HP Unique Options</b> | HP DL580 G7 PCI Express Kit<br><b>NOTE:</b> Adds four PCI-E 2.0 x8, one PCI-E 2.0 x4 and one PCI-E 1.1 x4.   | 588137-B21 |
|                          | HP DL580 G7 PCI-X Combo Express Kit<br><b>NOTE:</b> Adds two PCI-E 2.0 x16, one PCI-E 2.0 x4 and two PCI-X.  | 588139-B21 |
|                          | HP DL580G7/DL980G7 (E7) Memory Cartridge<br><b>NOTE:</b> Four memory cartridges come standard in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (643086-B21), each kit contains one cartridge and a maximum of (8) are supported in the server. See Memory Performance Optimization in the Memory section for configuration guidelines. | 644172-B21 |

### HP Processors

#### Ten-Core Processors

|  |            |
|--|------------|
| HP DL580 G7 Intel® Xeon® E7-4870 (2.40GHz/10-core/30MB/130W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s  | 643067-B21 |
| HP DL580 G7 Intel® Xeon® E7-4860 (2.26GHz/10-core/24MB/130W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s  | 643069-B21 |
| HP DL580 G7 Intel® Xeon® E7-4850 (2.00GHz/10-core/24MB/130W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s  | 643071-B21 |
| HP DL580 G7 Intel® Xeon® E7-8867L (2.13GHz/10-core/30MB/105W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s | 643079-B21 |

#### Eight-Core Processors

|  |            |
|--|------------|
| HP DL580 G7 Intel® Xeon® E7-8837 (2.67GHz/8-core/24MB/130W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s | 643081-B21 |
| HP DL580 G7 Intel® Xeon® E7-4830 (2.13GHz/8-core/24MB/105W) Processor Kit<br><b>NOTE:</b> QPI speed is 6.40 GT/s | 643073-B21 |
| HP DL580 G7 Intel® Xeon® E7-4820 (2.0GHz/8-core/18MB/105W) Processor Kit<br><b>NOTE:</b> QPI speed is 5.86 GT/s  | 643075-B21 |

#### Six-Core Processors

|   |            |
|---|------------|
| HP DL580 G7 Intel® Xeon® E7-4807 (1.86GHz/6-core/18MB/95W) Processor Kit<br><b>NOTE:</b> QPI speed is 4.80 GT/s<br><b>NOTE:</b> Above processor kits contain one processor each.<br><b>NOTE:</b> Intel® Xeon® Processor E7-4800 series processors only supported in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (PN 643086-B2x) and E7 series pre-configured models (PNs 6430xx-xx1 & 6967xx-xx1) | 643077-B21 |
|---|------------|

### HP Memory

#### Registered DIMMs (RDIMMs)

|  |            |
|--|------------|
| HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit<br><b>NOTE:</b> Only supported with the Intel® Xeon® Processor 7500 series processors. | 500656-B21 |
| HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit  | 500658-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit   | 604504-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit  | 500662-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit   | 604506-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP   | 627812-B21 |

### Core Options

|  |            |
|--|------------|
| Memory Kit   |            |
| HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit   | 627814-B21 |
| <b>NOTE:</b> PC3L DIMMs are only supported with the Intel® Xeon® Processor E7 series processors and require (E7) memory cartridge.   |            |
| <b>NOTE:</b> PC3L is a low-voltage memory.   |            |
| <b>Memory Expansion Options</b>  |            |
| HP DL580G7/DL980G7 (E7) Memory Cartridge   | 644172-B21 |
| <b>NOTE:</b> Four memory cartridges come standard in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (643086-B21), each kit contains one cartridge and a maximum of (8) are supported in the server. See Memory Performance Optimization in the Memory section for configuration guidelines. |            |

### HP Optical Drives

|  |            |
|--|------------|
| <b>NOTE:</b> Optical drives are ejectable. |            |
| HP Slim 12.7mm SATA DVD-RW Optical Drive   | 481043-B21 |
| HP Slim 12.7mm SATA DVD-ROM Optical Drive  | 481041-B21 |

### HP Hard Drives

|  |            |
|--|------------|
| <b>NOTE:</b> 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.       |            |
| <b>NOTE:</b> Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.   |            |
| <b>SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives</b>   |            |
| HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 718160-B21 |
| HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 619291-B21 |
| HP 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 581286-B21 |
| HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 581284-B21 |
| HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 507127-B21 |
| HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3yr Warranty Hard Drive   | 627117-B21 |
| HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive  | 512547-B21 |
| <b>SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives</b>  |            |
| HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive  | 605835-B21 |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive  | 507610-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18004.www1.hp.com/products/quickspecs/12244_div/12244_div.html">http://h18004.www1.hp.com/products/quickspecs/12244_div/12244_div.html</a> (Worldwide) |            |
| <b>SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives</b>   |            |
| HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive  | 625609-B21 |
| HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive   | 507750-B21 |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:  |            |

### Core Options

[http://h18000.www1.hp.com/products/quickspecs/13121\\_div/13121\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13121_div/13121_div.html)  
(Worldwide)

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

HP 120GB 6G SATA Value Endurance SFF 2.5-in Enterprise Boot 3yr Wty Solid State Drive 728726-B21

HP 80GB 6G SATA Value Endurance SFF 2.5-in Enterprise Boot 3yr Wty Solid State Drive 734366-B21

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

HP 800GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 728743-B21

HP 480GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 728739-B21

HP 600GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 739904-B21

HP 300GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 739894-B21

HP 240GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 728735-B21

#### **6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives**

HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive 730065-B21

HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive 730063-B21

HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive 730061-B21

HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive 730059-B21

#### **6G SAS ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives**

HP 800GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive 690823-B21

HP 400GB 6G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream 3yr Warranty Solid State Drive 690821-B21

HP 200GB 6G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Warranty Solid State Drive 690819-B21

**NOTE:** Cable is not included for Non-hot plug Drives. SSD cable option kit sku: 661778-B21

#### **6G SAS SLC Hot Plug Enterprise Performance Solid State Drives**

HP 400GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive 632494-B21

HP 200GB 6G SAS SLC SFF (2.5-inch) Enterprise Performance 3yr Warranty Solid State Drive 632492-B21

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

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

### HP Networking

#### Gigabit Ethernet Adapters

### Core Options

|  |            |
|--|------------|
| HP NC112T PCI Express Gigabit Server Adapter                         | 503746-B21 |
| HP NC360T PCI-E Dual Port Gigabit Server Adapter                     | 412648-B21 |
| HP NC364T PCI-E Quad Port Gigabit Server Adapter                     | 435508-B21 |
| HP NC365T 4-port Ethernet Server Adapter                             | 593722-B21 |
| HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter             | 394793-B21 |
| HP NC373T PCI-E Multifunction Gigabit Server Adapter                 | 394791-B21 |
| HP NC375T PCI Express Quad Port Gigabit Server Adapter               | 538696-B21 |
| HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter | 458492-B21 |
| HP Ethernet 1Gb 4-port 331T Adapter                                  | 647594-B21 |
| HP Ethernet 1Gb 2-port 332T Adapter                                  | 615732-B21 |
| HP Ethernet 1Gb 2-port 361T Adapter                                  | 652497-B21 |

#### 10 Gigabit Ethernet Adapters

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

|   |            |
|---|------------|
| HP NC523SFP 10Gb 2-port Server Adapter          | 593717-B21 |
| HP NC550SFP Dual Port 10GbE Server Adapter      | 581201-B21 |
| HP NC552SFP 10Gb 2-port Ethernet Server Adapter | 614203-B21 |
| HP Ethernet 10Gb 2-port 530SFP Adapter          | 652503-B21 |
| HP Ethernet 10Gb 2-port 530T Adapter            | 656596-B21 |
| HP Ethernet 10Gb 2-port 560SFP+ Adapter         | 665249-B21 |

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

### HP InfiniBand

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

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

### HP I/O Expansion Options

|   |            |
|---|------------|
| HP DL580 G7 PCI Express Kit   | 588137-B21 |
| <b>NOTE:</b> Adds four PCI-E 2.0 x8, one PCI-E 2.0 x4 and one PCI-E 1.1 x4. |            |
| HP DL580 G7 PCI-X Combo Express Kit   | 588139-B21 |

**NOTE:** Adds two PCI-E 2.0 x16, one PCI-E 2.0 x4 and two PCI-X  
Suggested Slot placement:

1. Slot 3 PCIe2 x 16 (16,8,4,2,1)
2. Slot 6 PCIe2 x 16 (16,8,4,2,1)
3. Slot 9 PCIe2 x 16 (8,4,2,1)
4. Slot 11 PCIe2 x 16 (8,4,2,1)

**NOTE:** Slot 9 and 11 are physically a x16 slot but will operate electrically at x8.

### HP Power Supplies

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

|   |            |
|---|------------|
| HP 1200W Common Slot Silver Hot Plug Power Supply Kit   | 500172-B21 |
| HP 1200W Common Slot Platinum Hot Plug Power Supply Kit | 578322-B21 |

### Core Options

**NOTE:** All power supplies in a server should match. Mixing Platinum and Silver Power Supplies is not supported.

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

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



### Additional Options

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

|                            |  |            |
|----------------------------|--|------------|
| <b>HP Insight Software</b> | <b>HP Insight Control</b>  |            |
|                            | HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License  | C6N27A     |
|                            | HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License   | C6N28ABE   |
|                            | <b>NOTE:</b> The Electronic software license is available in EMEA only.  |            |
|                            | HP Insight Control Server Provisioning Media Kit   | BD883A     |
|                            | HP Insight Management Media Kit  | C6N31A     |
|                            | <b>NOTE:</b> Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.   |            |
|                            | <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. |            |
|                            | <b>NOTE:</b> Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <a href="http://www.hp.com/go/insightupdates">http://www.hp.com/go/insightupdates</a> .   |            |
|                            | <b>NOTE:</b> For additional license options please see the 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>  |            |
|                            | <b>HP Integrated Lights-Out (iLO) Advanced for ProLiant</b>  |            |
|                            | HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU   | E6U59ABE   |
|                            | <b>NOTE:</b> The Electronic software license is available in EMEA only.  |            |
|                            | HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU   | E6U64ABE   |
|                            | <b>NOTE:</b> The Electronic software license is available in EMEA only.  |            |
|                            | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License   | 512485-B21 |
|                            | HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates  | BD505A     |
|                            | <b>NOTE:</b> For additional license options please see the QuickSpecs at: <a href="http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html">http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html</a>  |            |
|                            | <b>NOTE:</b> For more information, visit: <a href="http://www.hp.com/go/ilo">http://www.hp.com/go/ilo</a>  |            |

|                                  |  |        |
|----------------------------------|--|--------|
| <b>High Performance Clusters</b> | <b>HP Cluster Management Utility</b>   |        |
|                                  | HP Insight Cluster Management Utility 1yr 24x7 Flexible License  | QL803B |
|                                  | <b>NOTE:</b> This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key.   |        |
|                                  | HP Insight Cluster Management Utility 3yr 24x7 Flexible License  | BD476A |
|                                  | <b>NOTE:</b> These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement. |        |
|                                  | HP Insight Cluster Management Utility Media  | BD477A |
|                                  | <b>NOTE:</b> For additional license kits please see the QuickSpecs at: <a href="http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html">http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html</a>   |        |

### Additional Options

#### HP I/O Accelerator Options

##### Second Generation Accelerators

|  |            |
|--|------------|
| HP 365GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers      | 673642-B21 |
| HP 785GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers      | 673644-B21 |
| HP 1205GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers     | 673646-B21 |
| HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo for ProLiant Servers | 673648-B21 |
| HP 3TB G2 FH/HL PCIe ioDrive2 IO Accelerator for ProLiant Servers    | 721458-B21 |

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

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

#### HP PCIe Workload Accelerator Options

##### Mainstream Endurance (ME) PCIe Workload Accelerators

|  |            |
|--|------------|
| HP 1.4TB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator | 729307-B21 |
| HP 700GB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator | 729305-B21 |

##### High Endurance (HE) PCIe Workload Accelerators

|  |            |
|--|------------|
| HP 700GB HH/HL High Endurance (HE) PCIe Workload Accelerator | 708090-B21 |
| HP 350GB HH/HL High Endurance (HE) PCIe Workload Accelerator | 708088-B21 |

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

[http://h18000.www1.hp.com/products/quickspecs/14528\\_div/14528\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14528_div/14528_div.html) (Worldwide)

#### HP Graphics Options

|                                      |            |
|--------------------------------------|------------|
| HP DL580/DL585/DL980 Power Cable Kit | 631660-B21 |
|--------------------------------------|------------|

**NOTE:** The HP ProLiant DL580 G7 can support up to 4 (225W) or 3(300W) Graphic Cards and/or GPGPU Accelerator Options (x16 PCIE add-in cards in slots 11 and 9 will down-train electrically to x8 PCIE which may result in reduced performance.)

**NOTE:** An option kit will be required per Graphic Card and/or GPGPU Accelerator Options.

**NOTE:** Depending on the number of GPGPUs required, customers will need to purchase the following I/O expansion boards: DL580G7 PCI-X / PCI Express I/O Exp. Kit: PN: 588139-B21 (Adds two PCI-E 2.0 x16, one PCI-E 2.0 x4 and two PCI-X).

#### HP Security

|                                   |            |
|-----------------------------------|------------|
| HP Trusted Platform Module Option | 488069-B21 |
|-----------------------------------|------------|

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

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

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

#### HP Storage Controllers

##### SAS Controllers

##### Smart Array P212 Controller

|  |            |
|--|------------|
| HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller  | 462828-B21 |
| HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462834-B21 |

### Additional Options

#### Smart Array P410 Controller

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

#### Smart Array P411 Controller

|   |            |
|---|------------|
| HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller      | 462830-B21 |
| HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller | 462832-B21 |
| HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller  | 572531-B21 |
| HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller | 578229-B21 |

#### Smart Array P812 Controller

|  |            |
|--|------------|
| HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller | 487204-B21 |
|--|------------|

#### Optional Upgrades

|  |            |
|--|------------|
| HP 512MB P-Series Battery Backed Write Cache Upgrade | 462967-B21 |
|--|------------|

**NOTE:** Supported on HP Smart Array P411 Controller only.

|                           |            |
|---------------------------|------------|
| HP 1GB Flash Backed Cache | 534562-B21 |
|---------------------------|------------|

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

|                                 |            |
|---------------------------------|------------|
| HP 256MB P-series Cache Upgrade | 462968-B21 |
|---------------------------------|------------|

|   |            |
|---|------------|
| HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License | 516471-B21 |
|---|------------|

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

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

[http://h18000.www1.hp.com/products/quickspecs/13203\\_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 HBA

|   |            |
|---|------------|
| HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter | 614988-B21 |
|---|------------|

**NOTE:** This is a 2 x4 External Port HBA

**NOTE:** This is only approved for the HP P2000 G3 SAS Modular Smart Array.

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

[http://h18004.www1.hp.com/products/quickspecs/13651\\_div/13651\\_div.html](http://h18004.www1.hp.com/products/quickspecs/13651_div/13651_div.html)  
(SC08e 6Gb HBA)

#### SCSI HBA

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

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

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

### Additional Options

[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)

|                       |  |        |
|-----------------------|--|--------|
| <b>HP Power Cords</b> | HP C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord       | AF565A |
|                       | HP C13 - DK-2.5A DK 250V 10Amp 1.83m Power Cord        | AF566A |
|                       | HP C13 - CEE-VII EU 250V 10Amp 1.83m Power Cord        | AF568A |
|                       | HP C13 - BS-1363A UK/HK/SG 250V 10Amp 1.83m Power Cord | AF570A |
|                       | HP C13 - CEI-23-50 IT/CL 250V 10Amp 1.83m Power Cord   | AF571A |
|                       | HP C13 - SABS-164 ZA 250V 10Amp 2.5m Power Cord        | AF567A |

### HP Tape Backup

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

|  |        |
|--|--------|
| HP StoreEver LTO-5 Ultrium 3280 SAS Internal Tape Drive  | EH899B |
| <b>NOTE:</b> For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended. |        |
| HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit  | COL99A |
| HP StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive  | EH963A |
| HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive  | EH964A |
| HP StoreEver LTO-6 Ultrium 6250 Internal Tape Drive  | EH969A |
| HP StoreEver LTO-6 Ultrium 6250 External Tape Drive  | EH970A |
| HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader  | COH19A |

### HP Tape Storage Systems

|   |        |
|---|--------|
| <b>HP StoreEver MSL6480</b>   |        |
| HP StoreEver MSL6480 Scalable Base Module   | QU625A |
| <b>NOTE:</b> Please see the QuickSpecs for Technical Specifications and additional information:<br><a href="http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html">http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html</a><br>(Worldwide) |        |

### HP Disk Backup

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

#### HP RDX Removable Disk Backup System

|   |        |
|---|--------|
| HP RDX320 USB3.0 External Disk Backup System  | B7B63A |
| HP RDX500 USB3.0 Internal Disk Backup System  | B7B64A |
| HP RDX500 USB3.0 External Disk Backup System  | B7B66A |
| HP RDX1000 USB3.0 Internal Disk Backup System | B7B67A |
| HP RDX1000 USB3.0 External Disk Backup System | B7B69A |
| HP RDX 2TB USB3.0 Internal Disk Backup System | E7X52A |
| HP RDX 2TB USB3.0 External Disk Backup System | E7X53A |

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

### Additional Options

#### HP Disk Storage Systems Disk Enclosures

HP D2600 w/12 4TB 6G SAS 7.2K LFF Dual Port MDL HDD 48TB Bundle E7W32A

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

[http://h18000.www1.hp.com/products/quickspecs/13404\\_div/13404\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html)  
(Worldwide)

#### HP Storage Options

##### Storage Fibre Channel HBA

**NOTE:** The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

##### Brocade Fibre Channel HBAs

HP 81B 8Gb 1-port PCIe Fibre Channel Host Bus Adapter AP769B

HP 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter AP770B

##### Emulex Fibre Channel HBAs

HP 81E 8Gb 1-port PCIe Fibre Channel Host Bus Adapter AJ762B

HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter AJ763B

HP StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter C8R38A

HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter C8R39A

##### QLogic Fibre Channel HBAs

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

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

HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter QW971A

HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter QW972A

##### Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter BK835A

HP CN1000Q Dual Port Converged Network Adapter BS668A

#### HP Disk Storage Systems Disk Enclosures

HP D2600 Disk Enclosure AJ940A

HP D2700 Disk Enclosure AJ941A

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

[http://h18000.www1.hp.com/products/quickspecs/13404\\_div/13404\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html)  
(Worldwide)

#### HP Data Center Racks

##### HP 11000 G2 Series Racks

HP 11642 1075mm Pallet Universal Rack H6J65A

HP 11642 1075mm Shock Universal Rack H6J66A

HP 11642 1200mm Pallet Universal Rack H6J67A

HP 11642 1200mm Shock Universal Rack H6J68A

HP 11648 1075mm Pallet Universal Rack H6J87A

HP 11648 1075mm Shock Universal Rack H6J88A

HP 11842 1200mm Pallet Universal Rack H6J69A

HP 11842 1200mm Shock Universal Rack H6J70A

##### HP Intelligent Series Rack

HP 636 1075mm Pallet Intelligent Series Rack BW895A

### Additional Options

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

#### HP Location Discovery Services

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

**NOTE:** For additional information regarding the full line of HP Data Center Racks and rack accessories please see the following URL:  
<http://www.hp.com/go/rackandpower>.

### HP Power Distribution Units (PDUs)

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

|   |        |
|---|--------|
| HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20) NA/JP Basic PDU                       | H5M55A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU                   | H5M57A |
| HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU                             | H5M58A |
| HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU                       | H5M59A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (20xC13/3xNEMA 5-20R) NA/JP Basic PDU       | H5M63A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU                         | H5M68A |
| HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU                   | H5M70A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU              | H5M62A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU | H5M64A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU            | H5M72A |

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

|   |        |
|---|--------|
| HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU                       | D9N43A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU                   | D9N45A |
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU                       | D9N47A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU       | D9N52A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU                   | D9N48A |
| HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU                   | D9N50A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU              | D9N51A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU | D9N53A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU            | D9N57A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU         | D9N54A |

HP Environmental Sensor for Remote Monitoring PDUs

**NOTE:** The HP Environmental Sensor collects temperature and humidity information in the rack and can be monitored via the local LCD display or remotely using Telnet or a standard web interface. The sensor can also monitor the status of two user supplied contact devices.

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

|   |        |
|---|--------|
| HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF520A |
| HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit  | AF525A |
| HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit  | AF522A |
| HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit    | AF526A |
| HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF523A |
| HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit    | AF527A |

### Additional Options

#### iPDU Extension Bars

HP 5xC13 Intelligent PDU Extension Bar G2 Kit AF547A

**NOTE:** Intelligent Extensions Bars have individually monitored outlets that are also individually switchable for power cycling attached equipment. Each individual C13 outlet has Power Line Communications to support Intelligent Power Discovery when connected to PLC enabled common slot power supplies.

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

**NOTE:** Standard (non-intelligent) Extension Bars are monitored as a single load segment and do not support Intelligent Power Discovery. Standard Extension Bars for HP iPDU's include a blue unit ID LED (UID) which helps associate the load segment being monitored with the Extension bar.

#### Power Discovery Services Enabled power cables for HP iPDU

HP C13 - C14 WW 250V 10Amp IPD 1.37m 5pc Jumper Cord SG509A

HP C13 - C14 WW 250V 10Amp IPD 1.83m 5pc Jumper Cord SG511A

HP C13-C14 8ft 5pc Power Line Communications Power Cable D9Y25A

**NOTE:** For additional information regarding the full line of HP Power Distribution Units, please see the following URL: <http://www.hp.com/go/rackandpower>.

#### HP Rack Mount Consoles and KVM Switches

##### HP TFT7600 G2 KVM Console and Monitor

HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor AZ870A

HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor AZ885A

HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor AZ884A

HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor AZ871A

HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor AZ873A

HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor AZ872A

##### HP KVM Server Console Switches

HP Server Console 0x2x8 Port Analog Switch AF616A

HP Server Console 0x2x16 Port Analog Switch AF617A

HP TAA 0x2x16xKVM Server Console G2 Switch AF626A

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

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

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

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

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

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

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

##### HP KVM Interface Adapters

HP KVM Console USB Interface Adapter AF628A

HP KVM Console USB Virtual Media CAC Interface Adapter AF629A

HP KVM Console Serial/Power G2 Interface Adapter AF625A

**NOTE:** For additional information on the full line of HP KVM Switches and Rack Mount Consoles please see the following URL: <http://www.hp.com/go/rackandpower>.

#### HP Uninterruptible Power Systems (UPS)

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

HP R1.5kVA G3 1U NA Uninterruptible Power System AF469A

HP R1.5kVA G3 1U JP/TW Uninterruptible Power System AF470A

HP R1.5kVA G3 1U INTL Uninterruptible Power System AF471A

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

HP R/T3000 G2 2U L530 Low Voltage NA/JP Uninterruptible Power System AF466A

HP R/T3000 G2 2U L620 High Voltage NA/JP Uninterruptible Power System AF467A

### Additional Options

|  |        |
|--|--------|
| HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System  | AF468A |
| <b>R5000 Uninterruptible Power System (UPS)</b>  |        |
| HP R5KVA 3U IEC309-32A High Voltage INTL Uninterruptible Power System  | AF461A |
| HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System   | AF460A |
| <b>R7000 Uninterruptible Power System (UPS)</b>  |        |
| HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System  | AF462A |
| HP R7KVA 4U IEC-32A High Voltage INTL Uninterruptible Power System   | AF463A |
| <b>NOTE:</b> For additional information on the full line of HP Uninterruptible Power Systems please see the following URL: <a href="http://www.hp.com/go/rackandpower">http://www.hp.com/go/rackandpower</a> . |        |

### HP USB Keyboard and Mouse

|   |            |
|---|------------|
| HP USB BFR with PVC Free IN Keyboard/Mouse Kit      | 672097-D63 |
| HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit | 672097-373 |
| HP USB BFR with PVC Free Intl Keyboard/Mouse Kit    | 672097-B33 |
| HP USB BFR with PVC Free PT Keyboard/Mouse Kit      | 672097-133 |
| HP USB BFR with PVC Free TR Keyboard/Mouse Kit      | 672097-143 |
| HP USB BFR with PVC Free CZ Keyboard/Mouse Kit      | 672097-223 |
| HP USB BFR with PVC Free FI Keyboard/Mouse Kit      | 672097-353 |
| HP USB BFR with PVC Free SE Keyboard/Mouse Kit      | 672097-103 |
| HP USB BFR with PVC Free CH Keyboard/Mouse Kit      | 672097-113 |
| HP USB BFR with PVC Free KR Keyboard/Mouse Kit      | 672097-KD3 |

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13972\\_div/13972\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html)  
 (Worldwide)

### HP USB and SD Options

#### HP Flash Media Kits for USB Drives

**NOTE:** HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software. HP recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HP VMware Getting Started Guide for installation instructions.

|  |            |
|--|------------|
| HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit | 737953-B21 |
|--|------------|

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

|   |            |
|---|------------|
| HP 8GB SD Enterprise Mainstream Flash Media Kit | 726113-B21 |
|---|------------|

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information:  
[http://h18000.www1.hp.com/products/quickspecs/13971\\_div/13971\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html)

#### Other USB and SD Options

|                                     |            |
|-------------------------------------|------------|
| HP USB Standard Keyboard DT528A ABA | DT528A#ABA |
|-------------------------------------|------------|

### HP Care Pack Services

#### Proactive Care

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

|  |        |
|--|--------|
| HP 3 year 4 hour 24x7 ProLiant DL58x Proactive Care Service                                | U2Z68E |
| HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL58x Proactive Care Service | U2Z71E |
| HP 3 year 6 hour Call To Repair 24x7 ProLiant DL58x Proactive Care Service                 | U2Z74E |



### Additional Options

HP 3 year 6 hour Call To Repair 24x7 with Defective Media Retention ProLiant DL58x Proactive Care SVC U2Z77E

#### **Collaborative Support**

**NOTE:** Hardware break/fix plus 24x7 software diagnosis support with collaborative call management for a broad spectrum of 3rd Party software products including O/S and hypervisors. Recommended for customers procuring 3rd party SW O/S and hypervisors from the software vendors directly and deploying them on HP ProLiant servers.

HP 3 year 4 hour 24x7 ProLiant DL58x Collaborative Support U1J48E

HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL58x Collaborative Support U1J51E

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL58x Collaborative Support U1J54E

HP 3 year 6hr Call To Repair 24x7 with Defective Media Retention ProLiant DL58x Collaborative Support U1J57E

#### **Proactive Care Personalized Support Option**

**NOTE:** To add an onsite Account Support Manager (ASM) to Proactive Care. ASM is an assigned resource who delivers support planning and brings technical expertise and best practices advices for the customer's environment.

HP 3 year ISS ProactiveCare Personalized Support U6W98E

#### **Installation Services**

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

HP 3 year 4 hour 24x7 ProLiant D58x Hardware Support U4608E

HP Install ProLiant DL58x Service U4617E

HP Startup ProLiant DL58x Service U4618E

HP Installation and Startup for Insight Control Server Deployment - previously Rapid Deployment Pack U5683E

**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".

#### HP ProLiant DL580 G7

#### Memory Subsystem Architecture

Intel® Xeon® processor E7 and 7500 series memory architecture is designed to take advantage of multiple stages of memory interleaving to reduce latency and increase bandwidth.

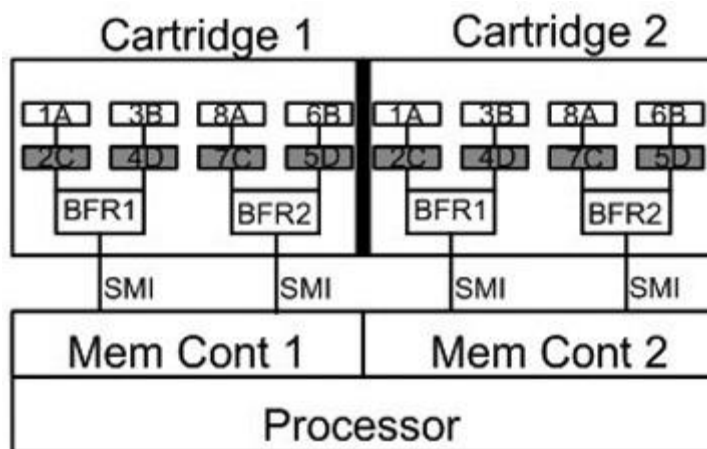
Each processor contains two Memory Controllers as shown in the Processor/Memory interconnect figure below. Each Memory controller has two Scalable Memory Interface (SMI) buses operating in lockstep where each SMI bus connects to a memory buffer. The purpose of the buffer is to convert SMI to DDR3. Each buffer has two DDR3 channels and can support up to four DIMMs for a total of eight DIMMs per cartridge.

- Memory speed is not affected by number of DIMMs or ranks. All DIMMs will run at the highest possible speed for a given processor.
- DDR3 memory speed is a function of the processors QPI bus speed such that
  - Processors with a QPI speed of 6.4GT will run memory at 1066MHz
  - Processors with a QPI speed of 5.6GT will run memory at 978MHz
  - Processors with a QPI speed of 4.8GT will run memory at 800 MHz

#### DIMM Installation guidelines

Each memory cartridge can support up to 8 DIMMs, for a system total of 64 DIMMs. When installing DIMM modules in the Memory Cartridge observe the following minimum guidelines:

- UDIMMs are not supported
- Minimum allowable configuration is two DIMMs per cartridge.
- DIMMs must be installed in pairs with identical characteristics. For configuration simplicity HP recommends using identical part numbered DIMMs throughout when possible.
- DIMM pairs MUST be populated in sequence by letter designation. Install DIMM pair 1A, 8A first followed by DIMM pair 3B, 6B then DIMM pair 2C, 7C and DIMM pair 4D, 5D last.
- Maximum performance is achieved by balancing DIMM pairs by letter groupings across all memory cartridges. Such that the 1A, 8A pair is install in all memory cartridges first (see diagram below) followed by the B pair, C pair and D pair.
- AMP modes Online Sparing and Memory Mirroring have further requirements beyond these listed here. Please refer to the user guide for additional memory configuration requirements.



**Figure 1 Processor/Memory interconnect**

Illustration of how the processor, cartridges and DIMMs are electrically connected.

#### Memory Cartridge population guidelines

### Memory

This server contains 8 memory cartridge slots in the processor memory drawer. Observe the following guidelines:

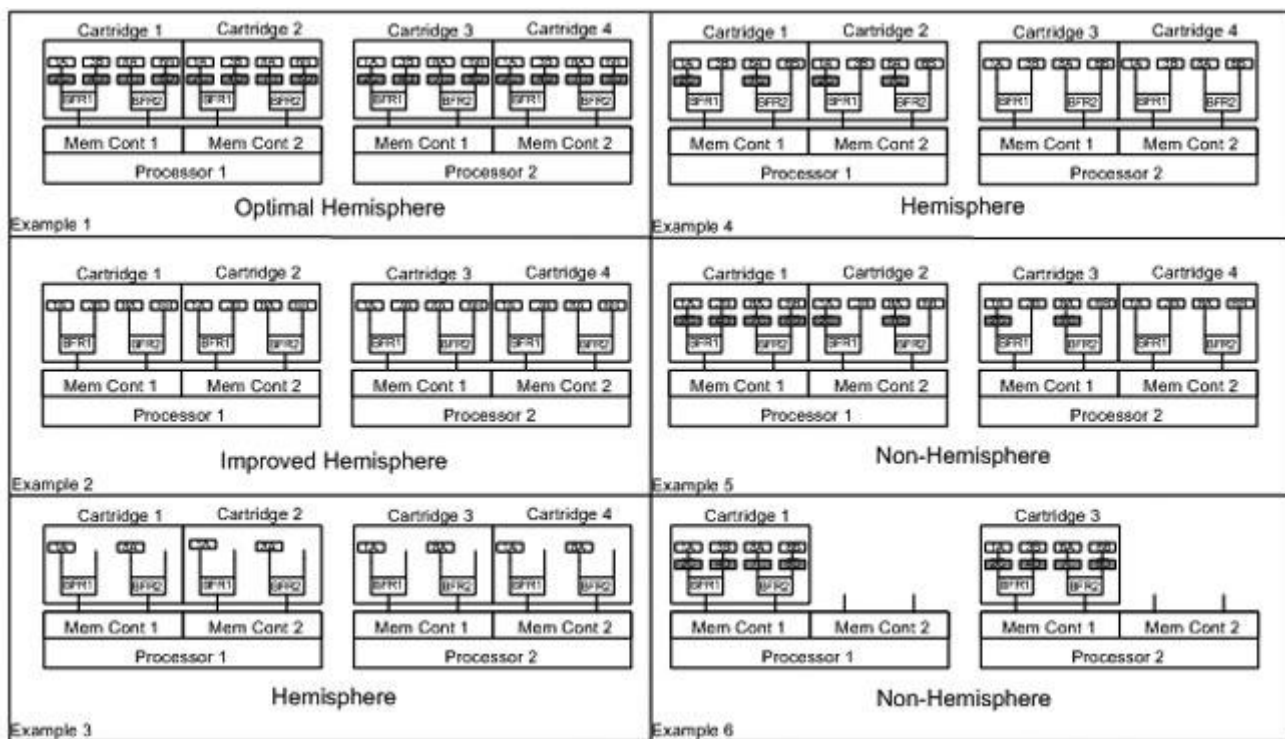
- Populate memory cartridge slots for a processor only if the processor is installed where:
  - Processor 1 connects to cartridge slots 1 and 2.
  - Processor 2 connects to cartridge slots 3 and 4.
  - Processor 3 connects to cartridge slots 5 and 6.
  - Processor 4 connects to cartridge slots 7 and 8.
- Minimum recommended cartridge population is one cartridge per processor. For best performance two cartridges per processor are recommended.
- Processors installed without corresponding memory cartridges will incur high memory access latencies and is not recommended.
- To maximize performance in multi-processor configurations distribute the total memory capacity evenly between all processors.

### Hemisphere mode

The architecture incorporates hemisphere mode, a high performance interleaving technology. Hemisphere mode allows interleaving between the two processor memory controllers internal to each processor.

Hemisphere mode is enabled when all processors in a system have the memory behind both memory controllers populated identically.

- To enable each processor to enter hemisphere mode it must have both cartridges installed, populated with equal memory capacities and follow the DIMM installation guidelines.



**Figure 2 Hemisphere Population Diagram**  
Examples of Hemisphere vs Non-Hemisphere populations.

### Memory Performance Optimization

The DL580 G7 supports 64 DIMMs across four multi-core processors. While there are many DIMM population configurations that can support any desired total memory size, optimal performance can only be achieved when DIMMs are populated to take

### Memory

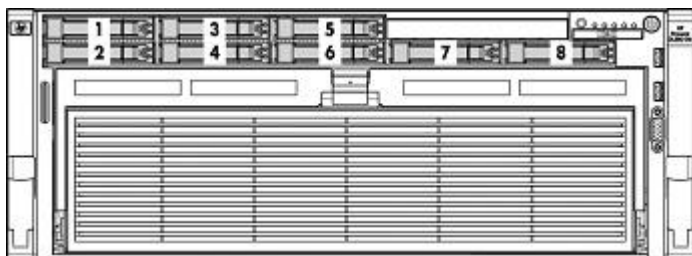
advantage of the architecture. Reference the Figure: Hemisphere Population Diagram to achieve the best performance for a given memory/processor configuration.

- The largest contributor to maximum memory bandwidth performance is to utilize both memory controllers inside the processor. This is achieved by populating both memory cartridges for each installed processor.
- The second largest contributor to performance is to populate each DDR3 channel in each memory cartridge. To achieve this, the minimum DIMM count per cartridge is four. Maximum bandwidth is reached by fully populating all memory cartridges with the maximum number of eight DIMMs per cartridge.
- Best performance is obtained when all installed processors are enabled for Hemisphere mode. HP recommends two memory boards per processor- each one with at least 4 DIMMs- for improved memory bandwidth
- Hemisphere mode is optimum when four or eight DIMMs are installed per cartridge. Hemisphere mode can be reached with two or six DIMMs per cartridge (2 cartridges per processor) but it is not optimal configuration for Hemisphere mode.
- Plan your memory configurations using Identical DIMMs to reach your memory size target taking into account that 32 and 64 DIMM count configurations result in the highest performance. For a 4 processor example:
  - If initial memory target is 64GB then populate a 4 processor system with eight cartridges of 4 - 2GB DIMMs each for a total of 32 DIMMs. Your maximum expansion target is 128GB with 64 2GB DIMMs.
  - For 4GB DIMMs your initial memory target is 128GB using 32 DIMMs. Your maximum expansion target is 256GB with 64 DIMMs.
  - For 8GB DIMMs your initial memory target is 256GB using 32 DIMMs. Your maximum expansion target is 512GB with 64 DIMMs.
  - Maximum system memory capability is reached with an initial memory target of 512GB with 32 - 16GBDIMMs and 2TB with 64 32GB DIMMs.
- The more ranks per DIMM the higher the performance such that Quad rank DIMMs perform better than dual rank DIMMs.

**NOTE:** Memory configurations listed do not apply to "Factory Integrated Models". Only registered (RDIMM) speeds of 1066 or 1333 running at 1066 are supported and must be installed in pairs. UDIMMs are not supported.

| HP Memory | Registered DIMMs (RDIMMs)  |            |
|-----------|--|------------|
|           | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit  | 500656-B21 |
|           | <b>NOTE:</b> Only supported with the Intel® Xeon® Processor 7500 series processors   |            |
|           | HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit  | 500658-B21 |
|           | HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit   | 604504-B21 |
|           | HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit  | 500662-B21 |
|           | HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit   | 604506-B21 |
|           | HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit  | 627812-B21 |
|           | HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit   | 627814-B21 |
|           | <b>NOTE:</b> PC3L DIMMs are only supported with the Intel® Xeon® Processor E7 series processors and require (E7) memory cartridge.   |            |
|           | <b>NOTE:</b> PC3L is a low-voltage memory.   |            |
|           | <b>Memory Expansion Options</b>  |            |
|           | HP DL580G7/DL980G7 (E7) Memory Cartridge   | 644172-B21 |
|           | <b>NOTE:</b> Four memory cartridges come standard in the HP ProLiant DL580 G7 (E7) Configure-to-order Server (643086-B21), each kit contains one cartridge and a maximum of (8) are supported in the server. See Memory Performance Optimization in the Memory section for configuration guidelines. |            |

### Storage



1-8 SFF SAS Internal Drive cage

### Drive Support

|                                   | Quantity Supported | Position Supported | Controller      |
|-----------------------------------|--------------------|--------------------|-----------------|
| <b>Optical Drives</b>             |                    |                    |                 |
| Slimline DVD-ROM drive            | Up to 1            | 1                  | Integrated SATA |
| HP Slim SATA DVD RW Optical Drive | Up to 1            | 1                  | Integrated SATA |

### External Storage

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

### Maximum Storage Capacity - (External SAS Enclosure Attached)

|          |  |
|----------|--|
| Internal | 9.6TB (8 x 1.2TB SFF SAS/SATA Drives)                              |
| External | 960TB (80 MSA60 enclosures x 12 drive bays each x 1TB SATA Drives) |

### Tape and Disk-Based Backup

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

|                            | Position | Recommended Controller   | Controller Part Number |
|----------------------------|----------|--|------------------------|
| <b>HP SCSI Tape Drives</b> | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter | 412911-B21             |
| LTO-1 Ultrium 232          |          |  |                        |
| LTO-2 Ultrium 448          |          |  |                        |
| LTO-3 Ultrium 920          |          |  |                        |
| LTO-3 Ultrium 960          |          |  |                        |
| LTO4 Ultrium 1760          |          |  |                        |
| LTO-4 Ultrium 1840         |          |  |                        |
| DAT 40                     |          |  |                        |
| DAT 72                     |          |  |                        |
| DAT 160                    |          |  |                        |
| 1U Rack-Mount Kit          |          |  |                        |

### Storage

#### 3U Rack-Mount Kit

|  |          |              |     |
|--|----------|--------------|-----|
| <b>HP USB Tape Drives</b><br>DAT 40<br>DAT 72<br>DAT 160<br>DAT 320<br>1U USB Rack-Mount Kit | External | USB 2.0 Port | N/A |
|--|----------|--------------|-----|

|   |          |   |            |
|---|----------|---|------------|
| <b>HP SAS Tape Drives</b><br>DAT 160<br>DAT 320<br>LTO-2 Ultrium 448<br>LTO-3 Ultrium 920<br>LTO-4 Ultrium 1760<br>LTO-4 Ultrium 1840<br>LTO-5 Ultrium 3000<br>LTO-5 Ultrium 3280<br>1U Rack-Mount Kit<br>3U Rack-Mount Kit | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B21 |
|---|----------|---|------------|

|  |          |  |            |
|--|----------|--|------------|
| <b>HP SCSI Tape Autoloaders</b><br>DAT 72x10 Autoloader<br>1/8 G2 Autoloader | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter | 412911-B21 |
|--|----------|--|------------|

|  |          |   |            |
|--|----------|---|------------|
| <b>HP SAS Tape Autoloaders and Libraries</b><br>1/8 G2 Autoloader<br>MSL2024<br>MSL4048<br>MSL8096 | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B21 |
|--|----------|---|------------|

|  |          |   |  |
|--|----------|---|--|
| <b>HP Fibre Channel Tape Libraries</b><br>MSL2024<br>MSL4048<br>MSL8096<br>MSL6000 | External | Please consult the EBS connectivity matrix at: <a href="http://www.hp.com/go/ebs">http://www.hp.com/go/ebs</a> for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpec. |  |
|--|----------|---|--|

|  |          |              |     |
|--|----------|--------------|-----|
| <b>HP USB RDX Removable Disk Backup System</b><br>RDX160<br>RDX320<br>RDX500<br>RDX750<br>RDX1TB | External | USB 2.0 port | N/A |
|--|----------|--------------|-----|

|   |          |   |  |
|---|----------|---|--|
| <b>HP D2D Backup Systems, iSCSI</b><br>D2D2500i<br>D2D4000i | External | Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended. |  |
|---|----------|---|--|

### Storage

**HP D2D Backup Systems,  
Fibre Channel**  
D2D4000fc

External

Direct server attach is not supported, requires connection via SAN fabric. See: <http://www.hp.com/storage/SPOCK>

### Power Specifications

| <b>HP 1200W Common Slot Silver Hot Plug Power Supply Kit</b> |            |            |            |            |            |            |            |
|--|------------|------------|------------|------------|------------|------------|------------|
| Part Number  | 500172-B21 |            |            |            |            |            |            |
| Input Voltage Range ( V rms )                                | 100 to 240 |            |            |            |            |            |            |
| Frequency Range (Nominal) ( Hz )                             | 50/60      |            |            |            |            |            |            |
| Nominal Input Voltage ( Vrms )                               | <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 Rating                          | 800        | 900        | 1200       | 1200       | 1200       | 1200       | 1200       |
| Nominal Input Current ( A rms )                              | 9.7        | 9.0        | 7.0        | 6.8        | 6.4        | 6.1        | 5.9        |
| Maximum Rated Input Wattage Rating ( Watts )                 | 930        | 1034       | 1348       | 1348       | 1348       | 1348       | 1348       |
| Maximum Rated VA ( Volt-Amp )                                | 970        | 1079       | 1406       | 1406       | 1406       | 1406       | 1406       |
| Efficiency ( % )   | 86         | 86         | 89         | 89         | 89         | 89         | 89         |
| Power Factor   | 0.97       |            |            |            |            |            |            |
| Leakage Current ( mA )                                       | 0.42       | 0.50       | 0.83       | 0.87       | 0.92       | 0.96       | 1.00       |
| Maximum Inrush Current ( A peak )                            | 30         |            |            |            |            |            |            |
| Maximum Inrush Current duration ( mS )                       | 20         |            |            |            |            |            |            |
| Maximum British Thermal Unit Rating ( BTU-Hr )               | 3174       | 3530       | 4600       | 4600       | 4600       | 4600       | 4600       |

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

**NOTE:** To review typical system power ratings use the HP Power Advisor which is available online located at url: [www.hp.com/go/proliant-energy-efficient](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)  | 6.94" x 19.0" x 27.55" (17.6cm x 48.3cm x 70.0cm)   |   |  |
|   | <b>Weight</b><br>(approximate)   | Maximum   | 100.0 lb (45.4 kg)                                    |  |
|   |  | (all hard drives, power supplies, DIMMs and processors installed)   |   |  |
|   |  | Minimum   | 66.0 lb (30.0 kg)                                     |  |
|   |  | (one hard drive, two power supplies, four DIMMs, and two processors installed)  |   |  |
|   | <b>Input Requirements</b><br>(per power supply)  | Rated Line Voltage  | 100 - 127 VAC,<br>200 - 240 VAC                       |  |
|   |  | Rated Input Current   | 12 A (at 100 VAC),<br>8 A (at 200 VAC)                |  |
|   |  | Rated Input Frequency   | 50 to 60 Hz   |  |
|   |  | Rated Input Power   | 1161 W (at 100 VAC),<br>1598 W (at 240 VAC)           |  |
|   | <b>BTU Rating</b>  | Maximum   | 3960 BTU/hr (at 100 VAC),<br>5450 BTU/hr (at 200 VAC) |  |
| <b>Power Specifications</b>                   | <p><b>NOTE:</b> To review typical system power ratings use the HP Power Advisor 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></p> <p>- Click on the system of interest. Example: DL580 G7</p> <p>- Follow the instructions of the next screens.</p> |   |   |  |
| <b>Power Supply Output</b> (per power supply) | Rated Steady-State Power   | 910 W (low line),<br>1300 W (high line)   |   |  |
|   | Maximum Peak Power   | 910 W (low line),<br>1300 W (high line)   |   |  |
| <b>System Inlet Temperature</b>               | Operating  | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.<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</b><br>(non-condensing)  | Operating  | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.   |   |  |
|   | Non-operating  | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.   |   |  |
| <b>Altitude</b>                               | Operating  | 3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).   |   |  |

### Technical Specifications

|                                       |  |   |
|---------------------------------------|--|---|
|                                       | 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). |   |
|                                       | Idle   |   |
|                                       | L WAd  | 6.4 B (with PCI-E)  |
|                                       | L pAm  | NA dBA  |
|                                       | Operating  |   |
|                                       | L WAd  | 6.8 B (with PCI-E)  |
|                                       | L pAm  | NA dBA  |
| <b>Emissions Classification (EMC)</b> | <b>FCC Rating</b>  | Class A   |
|                                       | <b>Normative Standards</b>   | CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1 |

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

|   |  |  |
|---|--|--|
| <b>Integrated Lights-Out 3 (iLO 3) integrated on system board</b>   | <b>Architecture</b>                                    | PCI Express based health and remote management ASIC                |
|   | <b>Processor</b>                                       | PCI Express RISC processor core running at 250MHz                  |
|   | <b>Upgradeability</b>                                  | Option firmware upgradeable via Flash ROM.                         |
|   | <b>Interfaces</b>                                      | One Ethernet Sideband connection (10/100/1000 Mb/s)                |
|   |  | One Ethernet network connection (10/100Mb/s)                       |
|   | <b>Memory</b>  | 128-MB RAM with ECC  |
|   | <b>Operating System Support</b>                        | Microsoft Windows 2008 R2  |
|   |  | Microsoft Windows 2008 (32 bit and 64 bit)                         |
|   |  | Microsoft Windows Server 2008 Standard Edition (32bit and 64bit)   |
|   |  | Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit) |
| Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Extended Systems Standard Edition, Enterprise Edition |  |  |
| Red Hat Enterprise Linux 5.4 (32 bit and 64 bit)  |  |  |
| SUSE LINUX Enterprise Server 11 (32bit and 64bit)   |  |  |
| SUSE LINUX Enterprise Server 10 (32bit and 64bit)   |  |  |
| VMware ESX 4.0  |  |  |
| VMware ESX 3.5.0  |  |  |
| <b>Client System Support</b>  | Solaris  |  |
|   | Microsoft Windows 7                                    |  |
|   | Microsoft Windows XP Professional Edition              |  |
|   | Microsoft Windows Vista Business and Ultimate Editions |  |
|   | Red Hat Enterprise Desktop 5.00                        |  |

### Technical Specifications

|                                       |   |
|---------------------------------------|---|
|                                       | SUSE Linux Enterprise Desktop 11  |
|                                       | SUSE Linux Enterprise Desktop 10  |
| <b>Client Browser Support</b>         | Microsoft Internet Explorer 8   |
|                                       | Microsoft Internet Explorer 7   |
|                                       | Microsoft Internet Explorer 6   |
|                                       | Firefox 3.5 (on supported Windows and Linux systems)  |
|                                       | Firefox 3.0 (on supported Windows and Linux systems)  |
| <b>Command Line Support</b>           | Secure Shell and serial port access   |
|                                       | Secure Socket Layer   |
|                                       | Secure Shell version 2  |
| <b>Security</b>                       | Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface                           |
|                                       | AES encryption of video   |
|                                       | RC4 encryption of video   |
| <b>Directory Support Services</b>     | Active Directory v1.0 (Windows 2003)  |
| <b>Driver Support</b>                 | HP ProLiant iLO3 Management Controller Driver Package   |
| <b>Management protocols supported</b> | SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML |

### Smart Array P410i Controller

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

### Technical Specifications

RAID 0 (Striping), RAID 1 (Mirroring)

|  |                              |   |         |
|--|------------------------------|---|---------|
| <b>HP NC375i Integrated Quad Port Gigabit Server Adapter</b> | <b>Network Interface</b>     | 10Base-T/100Base-TX/1000Base-TX                 |         |
|  | <b>Compatibility</b>         | IEEE 802.3 10Base-T                             |         |
|  |                              | IEEE 802.3ab 1000Base-T                         |         |
|  |                              | 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 2.0 x8                              |         |
|  | <b>Controller</b>            | Qlogic/NetXen NX3031                            |         |
|  | <b>Network Transfer Rate</b> | 10Base-T (Full-Duplex)                          | 20 Mb/s |
| 100Base-TX (Full-Duplex)                                     |                              | 200 Mb/s  |         |
| 1000Base-TX (Full-Duplex)                                    |                              | 2000 Mb/s                                       |         |
| <b>Connector</b>   | 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)  |         |
|  | 1000Base-TX                  | 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> |
|---|---|--|

© Copyright 2014 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Unix is a registered trademark of The Open Group.

Intel, the Intel logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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