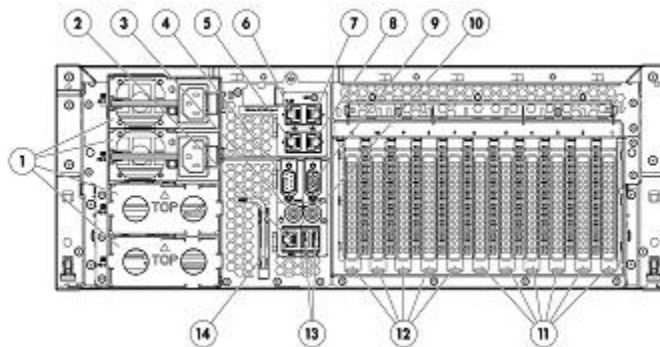
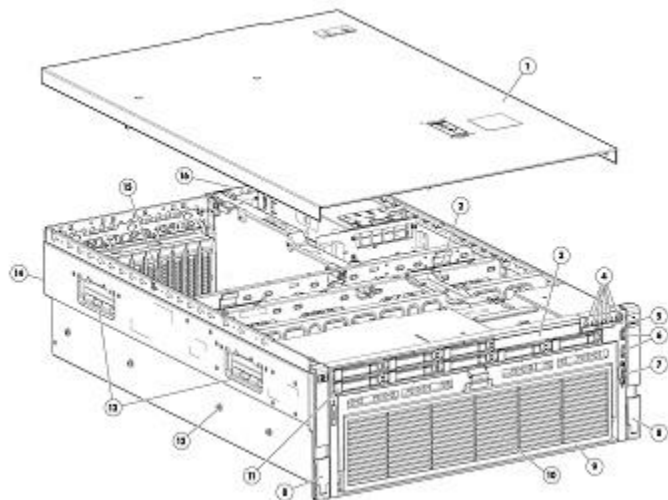


## Overview

**HP ProLiant DL585 Gen7**

Powered by latest AMD Opteron® 4, 8, 12 and 16 core processors, the HP ProLiant DL585 G7 is the most expandable 4P multi-core rack mount server ideal for server virtualization, server consolidation, multi-tiered enterprise application, and corporate infrastructure applications.

**Front View:**

1. Quick Removal Access Panel
2. 4 Hot Plug Redundant Fans Standard on all models
3. Slimline Drive (DVD Drive optional)
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 AMD Opteron processors
11. Support for up to eight hot plug Small Form-Factor (SFF) SAS/ Serial ATA (SATA)/Solid State drives
12. Universal Tool-less "Snap In" Sliding Rail Solution
13. Server Lifting Handles
14. 4U (7" Height) Rack Form Factor
15. Up to eleven available PCI Express/PCI-X Internal Expansion Slots

**Rear View:**

1. Hot Plug Redundant Power supplies (2 or 4 ship 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**

- Support for HP 1.3TB, 1.6TB, 3.2TB, and 6.4TB VE PCIe Workload Accelerators.

## Standard Features

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

**Processor**

Two or four of the following depending on Model

**Sixteen-Core Processors**

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

**Twelve-Core Processors**

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

**Eight-Core Processors**

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

**Four-Core Processor**

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

**NOTE:** Processor wattage references reflect Thermal Design Power (TDP). For more information on TDP and Average CPU Power (ACP) visit: <http://www.amd.com/acp>.

**NOTE:** SmartStart version 8.70B or greater required by 6200 or 6300 series processors. Latest version can be downloaded from the web at <http://www.hp.com/go/foundation>.

**Cache Memory**

16MB Level 3 cache

**Chipset**

AMD SR5690/SP5100

**Upgradeability**

Upgradeable to quad (4) processors

**NOTE:** To upgrade from 2P to 4P the secondary CPU/Memory kit needs to be purchased separately, part number listed in the options section. 4P models already have this kit configured.

**Memory Protection**

Advanced ECC capabilities

## Standard Features

## Online Spare Memory

|   |  |  |
|---|--|--|
| <b>Memory</b><br>One of the following<br>depending on Model | Type   | PC3-10600R Registered DDR3 (1333MHz)     |
|   | Performance Models<br>One of the following<br>depending on Model | 128GB (16x8GB) of PC3-10600R (DDR3-1333) |
|   |  | 64GB (8x8GB) of PC3-10600R (DDR3-1333)   |
|   |  | 64GB (16x4GB) of PC3-10600R (DDR3-1333)  |
|   |  | 32GB (8x4GB) of PC3-10600R (DDR3-1333)   |
| Base Models   | 32GB (4x8GB) of PC3-10600R (DDR3-1333)                           |  |
|   | 32GB (8x4GB) of PC3-10600R (DDR3-1333)                           |  |
| Maximum   | 32GB (8x4GB) of PC3-10600 (DDR3-1333)                            |  |
|   | Maximum  | 1.5TB                                    |

**Network Controller** HP Ethernet 1Gb 4-port 331i-SPI Adapter

**Expansion Slots**

**NOTE:** Up to 11 FL/FH I/O slots. 2 PCI-E 2.0x16 and 3 PCI-E 2.0 x8 slots standard.

**Expansion Slots (Main IO Board standard)**

| Expansion Slots # | Technology  | Bus Width | Connector Width | Form Factor             | Notes |
|-------------------|-------------|-----------|-----------------|-------------------------|-------|
| 1                 | N/A         | N/A       | N/A             | N/A                     |       |
| 2                 | N/A         | N/A       | N/A             | N/A                     |       |
| 3                 | N/A         | N/A       | N/A             | N/A                     |       |
| 4                 | N/A         | N/A       | N/A             | N/A                     |       |
| 5                 | N/A         | N/A       | N/A             | N/A                     |       |
| 6                 | N/A         | N/A       | N/A             | N/A                     |       |
| 7                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 8                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 9                 | PCI-Express | x16       | x16             | Full Length/Full Height |       |
| 10                | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 11                | PCI-Express | x16       | x16             | Full Length/Full Height |       |

**Expansion Slots with IO Expander (combination PCI-X, PCI-e and 300W GPU)**

| Expansion Slots # | Technology  | Bus Width | Connector Width | Form Factor             | Notes |
|-------------------|-------------|-----------|-----------------|-------------------------|-------|
| 1                 | PCI-X       | 64-bit    | N/A             | Full Length/Full Height |       |
| 2                 | PCI-X       | 64-bit    | N/A             | Full Length/Full Height |       |
| 3                 | PCI-Express | x4        | x8              | Full Length/Full Height |       |

## Standard Features

|    |             |     |     |                         |
|----|-------------|-----|-----|-------------------------|
| 4  | PCI-Express | x8  | x16 | Full Length/Full Height |
| 5  | PCI-Express | x8  | x16 | Full Length/Full Height |
| 6  | PCI-Express | x16 | x16 | Full Length/Full Height |
| 7  | PCI-Express | x8  | x16 | Full Length/Full Height |
| 8  | PCI-Express | x8  | x16 | Full Length/Full Height |
| 9  | PCI-Express | x16 | x16 | Full Length/Full Height |
| 10 | PCI-Express | x8  | x16 | Full Length/Full Height |
| 11 | PCI-Express | x16 | x16 | Full Length/Full Height |

## Expansion Slots with I/O Expander (standard PCI-e option)

| Expansion Slots # | Technology  | Bus Width | Connector Width | Form Factor             | Notes |
|-------------------|-------------|-----------|-----------------|-------------------------|-------|
| 1                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 2                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 3                 | PCI-Express | x16       | x16             | Full Length/Full Height |       |
| 4                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 5                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 6                 | PCI-Express | x16       | x16             | Full Length/Full Height |       |
| 7                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 8                 | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 9                 | PCI-Express | x16       | x16             | Full Length/Full Height |       |
| 10                | PCI-Express | x8        | x16             | Full Length/Full Height |       |
| 11                | PCI-Express | x16       | x16             | Full Length/Full Height |       |

**Storage Controller**  
 One of the following

|                    |   |
|--------------------|---|
| Performance Models | HP Smart Array P410i/1G FBWC Controller                   |
| Base Models        | HP Smart Array P410i/512MB FBWC or Zero Memory Controller |

## Standard Features

## depending on Model

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.

- HP Smart Array P410i standard on all Performance and Base Models
- 1G FBWC standard on all Performance Models
- Transportable data protection
- Increases overall controller performance

**Internal Storage Devices**

|                           |   |
|---------------------------|---|
| Diskette Drive            | None  |
| Optical Drives            | Optional Optical Drive - HP Slim SATA DVD ROM Optical Drive ejectable for security and serviceability |
| Hard Drives               | None standard   |
| Hard Disk Drive Backplane | Internal SAS backplane supports up to eight SFF hard disk drives                                      |
| Drive Bays                | Up to 8 Small Form Factor drive bays total  |

**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 SAS SSD  | 6.4TB | 8 x 800GB |
| Hot Plug SFF SATA SSD | 6.4TB | 8 x 800GB |

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

**Interfaces**

|                          |                                      |
|--------------------------|--------------------------------------|
| Serial                   | 1                                    |
| Video                    | 1 front, 1 rear                      |
| Network RJ-45 (Ethernet) | 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 Compliance**

ACPI 2.0. Compliant  
 PCI 2.0 Compliant  
 PXE Support  
 WOL Support  
 Physical Address Extension (PAE) Support  
 Microsoft® Logo certifications  
 USB 2.0 Support

**Server Power Cords**

**NOTE:** 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:  
<http://www.hp.com/go/powercordmatrix>

## Standard Features

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

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

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

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

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

It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP Power Advisor can be accessed at: [www.hp.com/go/hppoweradvisor](http://www.hp.com/go/hppoweradvisor).

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

Redundant Power: Optional (1+ 1 or n+n redundant) power supplies can be purchased through power supply option kits (See Power Supplies for part numbers).

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

**NOTE:** Two Hot Plug Power Supplies ships standard with 2P Models. Four Hot Plug Power Supplies ship standard with 4P Models.

**System Fans** 4 Hot plug, redundant fans (individually removable)

**Required Cabling** For required cabling information, refer to the HP Web site at: <http://www.hp.com/servers/dl585>

**Operating Systems and Virtualization Software Support for ProLiant** [Microsoft Windows Server](#)  
[Red Hat Enterprise Linux \(RHEL\)](#)  
[SUSE Linux Enterprise Server \(SLES\)](#)

## Standard Features

**Servers**

Oracle Solaris  
VMware  
Citrix XenServer

**NOTE:** For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/DL585G7>

**Graphics**

Integrated ATI RN-50 1600x1280x64K 16M color (32 MB DDR1 memory)

**Form Factor**

Rack (4U = 7 inches), ships with sliding rails and cable management system  
Space saving form factor (4U) provides space efficiencies while providing maximum deployment flexibility

**HP Insight management** 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, 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

## Standard Features

determining the correct updates and order of update deployment.

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

- <http://www.hp.com/go/spp>
- [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 suites, 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: <http://www.hp.com/go/iLO>

**Intelligent  
Manageability**

HP Systems Insight Manager software  
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)



## Standard Features

Pre-Failure Warranty (covers processors, SAS hard drives and memory)  
Redundant/adaptive load balancing NIC Support

**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)

**Security**

Power-on password  
Keyboard password  
Diskette drive control enable/disable  
Diskette boot control enable/disable  
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.

**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.

Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See <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, please visit: <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>

**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

## Optional Features

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

## Solutions

Designed for enterprise customers running compute- or I/O intensive database and transaction applications, as well as data centers using virtualization and consolidation to reduce server sprawl, the rack optimized 4-processor HP ProLiant DL585 G7 server delivers maximum performance and high availability for highly complex, business critical applications. Specifically, the HP ProLiant DL585 G7 would be excellent for running the following types of applications:

**Typical Usage:**

- x86 virtualization and consolidation projects
- Electronic Design Automation (EDA)/Semiconductor
- Financial
- Large database applications
- ERP / CRM
- Petrochemical
- Life Science and Material Science
- Video Rendering

## 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

## Optional Features

accessed or less valuable data to lower cost storage.

- **Storage Resource Management Software (SRM)**  
HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**  
HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**  
Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**  
With HP StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

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

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**HP Proactive Insight experience**

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

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**Factory Express Portfolio for Servers and Storage**

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

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

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

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**HP Simple Configurator**

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

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## Service and Support

### Service and Support

HP Technology Services for Industry Standard Servers

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

Protect your business beyond warranty with HP Care Pack Services

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

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### Optimized Care

#### Supports maintaining servers at optimum performance availability

##### HP Proactive Care with 6 hour call-to-repair commitment, three year Care Pack Service

HP Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. This Care Pack Service combines three years' proactive reporting and advice with our highest level reactive coverage and enhanced escalation management, HP's 24x7, six hour call-to-repair hardware commitment. HP is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. Service includes 24x7 collaborative software support for leading industry standard software running on your HP ProLiant server.

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

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### Standard Care

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

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

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

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

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### Related Services

#### HP ProLiant Server Hardware Installation

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

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

#### Factory Express for Servers and storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

#### Data Privacy Services

Protect your data through better media management. HP Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon

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## Service and Support

failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware.

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

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

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

Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit:

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

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### **Parts and Materials**

HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction.

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### **For more information**

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

## Pre-configured Models

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

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

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

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

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

**NOTE:** SmartStart version 8.70B or greater required by 6200 or 6300 series processors. Latest version can be downloaded from the web at <http://www.hp.com/go/foundation>.

## Performance Models

|  |   |   |
|--|---|---|
| <b>HP ProLiant DL585 G7<br/>6386SE 4P 128GB-R<br/>P410i/1GB FBWC<br/>1200W RPS Server<br/>704160-xx1</b> | <b>Processors</b>   | (4) AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W) Processors   |
|  | <b>Cache Memory</b>   | 16MB L3 cache   |
|  | <b>Memory</b>   | 128GB (16x8GB) of PC3-10600R (DDR3-1333)<br><b>NOTE:</b> 48 DIMM slots.                                   |
|  | <b>Network Controller</b>   | HP Ethernet 1Gb 4-port 331i-SPI Adapter   |
|  | <b>Storage Controller</b>   | Embedded HP Smart Array P410i/1G FBWC Controller  |
|  | <b>Hard Drives</b>  | None ship standard  |
|  | <b>Internal Storage</b>   | Up to 9.6TB of internal storage (SFF SAS)   |
|  | <b>Optical Drive</b>  | None ship standard  |
|  | <b>Power Supply</b>   | Four 1200W Platinum Power Supplies standard   |
|  | <b>Fans</b>   | 4 Hot plug, redundant fans (individually removable)   |
|  | <b>Integrated Lights Out</b>  | Integrated Lights-Out 3 (iLO 3) ships standard  |
|  | <b>Insight Control</b>  | HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates |
|  | <b>Form Factor</b>  | 4U Rack   |
| <b>Warranty</b>  | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |   |

|  |   |   |
|--|---|---|
| <b>HP ProLiant DL585 G7<br/>6380 4P 128GB-R<br/>P410i/1GB FBWC<br/>1200W RPS Server<br/>704159-xx1</b> | <b>Processors</b>                           | (4) AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W) Processors             |
|  | <b>Cache Memory</b>                         | 16MB L3 cache   |
|  | <b>Memory</b>                               | 128GB (16x8GB) of PC3-10600R (DDR3-1333)<br><b>NOTE:</b> 48 DIMM slots. |
|  | <b>Network Controller</b>                   | HP Ethernet 1Gb 4-port 331i-SPI Adapter                                 |
|  | <b>Storage Controller</b>                   | Embedded HP Smart Array P410i/1G FBWC Controller                        |
|  | <b>Hard Drives</b>                          | None ship standard  |
|  | <b>Internal Storage</b>                     | Up to 9.6TB of internal storage (SFF SAS)                               |
|  | <b>Optical Drive</b>                        | None ship standard  |
| <b>Power Supply</b>  | Four 1200W Platinum Power Supplies standard |   |

## Pre-configured Models

|                              |   |
|------------------------------|---|
| <b>Fans</b>                  | 4 Hot plug, redundant fans (individually removable)   |
| <b>Integrated Lights Out</b> | Integrated Lights-Out 3 (iLO 3) ships standard  |
| <b>Insight Control</b>       | HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates   |
| <b>Form Factor</b>           | 4U Rack   |
| <b>Warranty</b>              | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

|   |                              |   |
|---|------------------------------|---|
| <b>HP ProLiant DL585 G7<br/>6376 4P 64GB-R<br/>P410i/1GB FBWC<br/>1200W RPS Server<br/>708687-xx1</b> | <b>Processors</b>            | (4) AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W) Processors   |
|   | <b>Cache Memory</b>          | 16MB L3 cache   |
|   | <b>Memory</b>                | 64GB (8x8GB) of PC3-10600R (DDR3-1333)<br><b>NOTE: 48 DIMM slots.</b>                                       |
|   | <b>Network Controller</b>    | HP Ethernet 1Gb 4-port 331i-SPI Adapter   |
|   | <b>Storage Controller</b>    | Embedded HP Smart Array P410i/1G FBWC Controller  |
|   | <b>Hard Drives</b>           | None ship standard  |
|   | <b>Internal Storage</b>      | Up to 9.6TB of internal storage (SFF SAS)   |
|   | <b>Optical Drive</b>         | None ship standard  |
|   | <b>Power Supply</b>          | Four 1200W Platinum Power Supplies standard   |
|   | <b>Fans</b>                  | 4 Hot plug, redundant fans (individually removable)   |
|   | <b>Integrated Lights Out</b> | Integrated Lights-Out 3 (iLO 3) ships standard  |
|   | <b>Insight Control</b>       | HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Update    |
|   | <b>Form Factor</b>           | 4U Rack   |
|   | <b>Warranty</b>              | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

## Base Models

|  |                              |   |
|--|------------------------------|---|
| <b>HP ProLiant DL585 G7<br/>6344 2P 32GB-R<br/>P410i/ZM Hot Plug SAS<br/>SFF 1200W RPS Server<br/>708686-xx1</b> | <b>Processors</b>            | (2) AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W) Processors   |
|  | <b>Cache Memory</b>          | 16MB L3 cache   |
|  | <b>Memory</b>                | 32GB (4x8GB) of PC3-10600R (DDR3-1333)<br><b>NOTE: 24 DIMM slots.</b>                                       |
|  | <b>Network Controller</b>    | HP Ethernet 1Gb 4-port 331i-SPI Adapter   |
|  | <b>Storage Controller</b>    | Embedded HP Smart Array P410i Zero Memory Controller  |
|  | <b>Hard Drives</b>           | None ship standard  |
|  | <b>Internal Storage</b>      | Up to 9.6TB of internal storage (SFF SAS)   |
|  | <b>Optical Drive</b>         | None ship standard  |
|  | <b>Power Supply</b>          | Two 1200W Platinum Power Supplies standard  |
|  | <b>Fans</b>                  | 4 Hot plug, redundant fans (individually removable)   |
|  | <b>Integrated Lights Out</b> | Integrated Lights-Out 3 (iLO 3) ships standard  |
|  | <b>Form Factor</b>           | 4U Rack   |
|  | <b>Warranty</b>              | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |



## Pre-configured Models

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

## Configuration Information - Factory Integrated Models

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

**NOTE:** Configure-to-order (CTO) servers must start with a CTO Chassis.

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

**Step 1: Base Configuration**

|                  |   |            |
|------------------|---|------------|
| <b>HP Models</b> | HP ProLiant DL585 G7 BC NIC Configure-to-order Server                         | 704963-B21 |
|                  | <b>Factory Integrated Models ship with:</b>                                   |            |
|                  | HP Ethernet 1Gb 4-port 331i-SPI Adapter                                       |            |
|                  | Five standard PCI-express slots   |            |
|                  | HP Smart Array P410i/ Zero Memory Controller                                  |            |
|                  | Four redundant hot-plug fans  |            |
|                  | SFF SAS/SATA/SSD drive cage   |            |
|                  | HP Integrated Lights-Out 3 (iLO 3)  |            |
|                  | Rack (4U), 7-inch   |            |
|                  | <b>NOTE:</b> Power supplies need to be selected separately from Step 2 below. |            |

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

|                      |  |            |
|----------------------|--|------------|
| <b>HP Processors</b> | <b>NOTE:</b> If more than two processors are desired, select xxxxxx-L21 and additional processors would be xxxxxx-B21. 3P configurations are not supported |            |
|                      | <b>Sixteen-Core Processors</b>   |            |
|                      | HP DL585 G7 AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W) FIO 2-processor Kit   | 704173-L21 |
|                      | HP DL585 G7 AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W) FIO 2-processor Kit   | 704175-L21 |
|                      | HP DL585 G7 AMD Opteron™ 6378 (2.4GHz/16-core/16MB/115W) FIO 2-processor Kit   | 704177-L21 |
|                      | HP DL585 G7 AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W) FIO 2-processor Kit   | 704179-L21 |
|                      | HP DL585 G7 AMD Opteron™ 6366HE (1.8GHz/16-core/16MB/85W) FIO 2-processor Kit  | 704183-L21 |
|                      | <b>Twelve-Core Processors</b>  |            |
|                      | HP DL585 G7 AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W) FIO 2-processor Kit   | 704185-L21 |
|                      | HP DL585 G7 AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W) FIO 2-processor Kit   | 704187-L21 |
|                      | <b>Eight-Core processors</b>   |            |

## Configuration Information - Factory Integrated Models

|                          |   |            |
|--------------------------|---|------------|
|                          | HP DL585 G7 AMD Opteron™ 6328 (3.2GHz/8-core/16MB/115W) FIO 2-processor Kit   | 704191-L21 |
|                          | HP DL585 G7 AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W) FIO 2-processor Kit   | 704193-L21 |
|                          | <b>Quad-Core processor</b>  |            |
|                          | HP DL585 G7 AMD Opteron™ 6308 (3.5GHz/4-core/16MB/115W) FIO 2-processor Kit   | 704195-L21 |
| <b>HP Memory</b>         | <b>NOTE:</b> HP Memory selection requires a minimum quantity 2.   |            |
|                          | <b>Registered DIMMs (RDIMMs)</b>  |            |
|                          | HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit   | 593911-B21 |
|                          | HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit  | 604500-B21 |
|                          | HP 4GB (1x4GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11 Memory Kit  | 676331-B21 |
|                          | HP 8GB (1x8GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11 Memory Kit  | 676333-B21 |
|                          | HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit   | 593913-B21 |
|                          | HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit  | 604502-B21 |
|                          | HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit   | 627808-B21 |
|                          | HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit   | 684066-B21 |
|                          | HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit  | 627810-B21 |
|                          | <b>Load Reduced DIMMs(LRDIMMs)</b>  |            |
|                          | HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 Low Voltage Memory Kit   | 647885-B21 |
|                          | <b>NOTE:</b> LRDIMMs are supported on Opteron 6200 and 6300 Series processors only  |            |
| <b>HP Power Supplies</b> | HP 1200W Common Slot Silver Hot Plug Power Supply Kit   | 500172-B21 |
|                          | HP 1200W Common Slot Platinum Hot Plug Power Supply Kit   | 578322-B21 |
|                          | <b>NOTE:</b> Option Kit contains optional power supply, an IEC power cable and PDU IEC cables.  |            |
|                          | <b>NOTE:</b> 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 <a href="http://www.hp.com/products/powercords">http://www.hp.com/products/powercords</a> |            |

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

|                               |   |            |
|-------------------------------|---|------------|
| <b>HP Storage Controllers</b> | HP Smart Array P212/256 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller | 491191-B21 |
|-------------------------------|---|------------|

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## Configuration Information - Factory Integrated Models

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

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### **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 DL585 G7 PCI-E Riser v2 Option Kit<br><b>NOTE:</b> Adds 2 PCI-E 2.0 x16, 4 PCI-E 2.0 x8.<br><b>NOTE:</b> v2 recommended for AMD Opteron 6200 or 6300 processor configurations.                            | 659805-B21 |
|                          | HP DL585 G7 PCI-E/X Riser v2 Option Kit<br><b>NOTE:</b> Adds 1 PCI-E 2.0 x16, 2 PCI-E 2.0 x8, 1 PCI-E 2.0 x4, 2 PCI-X.<br><b>NOTE:</b> v2 recommended for AMD Opteron 6200 or 6300 processor configurations. | 659807-B21 |
|                          | HP DL585 G7 CPU Memory Secondary Upgrade Option<br><b>NOTE:</b> Adds processor sockets 3 and 4 and associated DIMM slots.  | 590489-B21 |

**HP Processors**

**NOTE:** Processor kits contain two processors each.

**Sixteen Core Processors**

|  |            |
|--|------------|
| HP DL585 G7 AMD Opteron™ 6386SE (2.8GHz/16-core/16MB/140W) 2-processor Kit | 704173-B21 |
| HP DL585 G7 AMD Opteron™ 6380 (2.5GHz/16-core/16MB/115W) 2-processor Kit   | 704175-B21 |
| HP DL585 G7 AMD Opteron™ 6378 (2.4GHz/16-core/16MB/115W) 2-processor Kit   | 704177-B21 |
| HP DL585 G7 AMD Opteron™ 6376 (2.3GHz/16-core/16MB/115W) 2-processor Kit   | 704179-B21 |
| HP DL585 G7 AMD Opteron™ 6366HE (1.8GHz/16-core/16MB/85W) 2-processor Kit  | 704183-B21 |

**Twelve-Core Processors**

|  |            |
|--|------------|
| HP DL585 G7 AMD Opteron™ 6348 (2.8GHz/12-core/16MB/115W) 2-processor Kit | 704185-B21 |
| HP DL585 G7 AMD Opteron™ 6344 (2.6GHz/12-core/16MB/115W) 2-processor Kit | 704187-B21 |

**Eight-Core Processors**

|   |            |
|---|------------|
| HP DL585 G7 AMD Opteron™ 6328 (3.2GHz/8-core/16MB/115W) 2-processor Kit | 704191-B21 |
| HP DL585 G7 AMD Opteron™ 6320 (2.8GHz/8-core/16MB/115W) 2-processor Kit | 704193-B21 |

**Quad-Core processor**

|   |            |
|---|------------|
| HP DL585 G7 AMD Opteron™ 6308 (3.5GHz/4-core/16MB/115W) 2-processor Kit | 704195-B21 |
|---|------------|

**HP Memory**

**NOTE:** DIMM banks are active only when the corresponding processor socket is populated.

**NOTE:** Memory must be installed in like-pairs, i.e. two of the same size.

**Registered DIMMs (RDIMMs)**

|  |            |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit            | 593911-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit | 604500-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11 Memory Kit           | 676331-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11                      | 676333-B21 |

## Core Options

|  |            |
|--|------------|
| Memory Kit   |            |
| HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit            | 593913-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit | 604502-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit      | 627808-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit        | 684066-B21 |
| HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit       | 627810-B21 |

**Load Reduced DIMMs(LRDIMMs)**

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

**NOTE:** LRDIMMs are supported on Opteron 6200 and 6300 Series processors only

**Upgrade Options**

|   |            |
|---|------------|
| HP DL585 G7 CPU Memory Secondary Upgrade Option | 590489-B21 |
|---|------------|

**NOTE:** Adds processor sockets 3 and 4 and associated DIMM slots.

**HP Optical Drives**

**NOTE:** Optical drives are ejectable.

|   |            |
|---|------------|
| HP Slim 12.7mm SATA DVD-ROM Optical Drive | 481041-B21 |
| HP Slim 12.7mm SATA DVD-RW Optical Drive  | 481043-B21 |

**HP Hard Drives**

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

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

**12G SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives**

|  |            |
|--|------------|
| HP 600GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive | 785103-B21 |
| HP 450GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive | 785101-B21 |
| HP 300GB 12G SAS 15K rpm SFF (2.5-inch) Enterprise 3yr Warranty Hard Drive | 785099-B21 |

**6G SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives**

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

## Core Options

|   |            |
|---|------------|
| HP 300GB 6G SAS 15K rpm SFF (2.5-inch) Hot Plug Enterprise 3yr Warranty Hard Drive  | 627117-B21 |
| HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |

**6G SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives**

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

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

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

**12G SAS Hot Plug ME SFF (2.5-inch) Enterprise Mainstream SSD**

|  |            |
|--|------------|
| HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive | 741144-B21 |
| HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive | 741140-B21 |
| HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in Enterprise Mainstream 3yr Wty Solid State Drive | 741136-B21 |

**12G SAS Hot Plug HE SFF (2.5-inch) Enterprise Performance SSD**

|   |            |
|---|------------|
| HP 800GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive | 741157-B21 |
| HP 400GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive | 741153-B21 |
| HP 200GB 12G SAS High Endurance SFF 2.5-in Enterprise Performance 3yr Wty Solid State Drive | 741148-B21 |

**3G SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives**

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

**NOTE:** SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information:

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

**6G SATA VE SFF (2.5-inch) EV G1 SSD**

|   |            |
|---|------------|
| HP 480GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty G1 Solid State Drive | 756666-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty G1 Solid State Drive | 756651-B21 |

## Core Options

HP 120GB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty G1 Solid State Drive 756630-B21

**6G SATA SFF (2.5-inch) EL G1 SSD**

HP 960GB 6G SATA Light Endurance SFF 2.5-in Enterprise Light 3yr Wty G1 Solid State Drive 756611-B21

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

HP 120GB 6G SATA Value Endurance SFF 2.5-in 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 1.6TB 6G SATA Value Endurance SFF 2.5-in Enterprise Value 3yr Wty Solid State Drive 757351-B21

HP 1.6TB 6G SATA Value Endurance LFF 3.5-in Enterprise Value 3yr Wty Solid State Drive 757354-B21

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

**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)



## Core Options

## HP Networking

## Gigabit Ethernet adapters

|  |            |
|--|------------|
| HP NC112T PCI Express Gigabit Server Adapter             | 503746-B21 |
| HP NC360T PCI-E Dual Port Gigabit Server Adapter         | 412648-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 PCIe Dp Mfn Gigabit Svr Adapter                | 458492-B21 |
| HP Ethernet 1Gb 4-port 331T Adapter                      | 647594-B21 |
| HP Ethernet 1Gb 2-port 361T Adapter                      | 652497-B21 |
| HP Ethernet 1Gb 2-port 332T Adapter                      | 615732-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 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 |
| HP NC552SFP 10Gb 2-port Ethernet Server Adapter | 614203-B21 |

**NOTE:** Please see the QuickSpecs for Technical Specifications and additional information: <http://www.hp.com/go/ProLiantNICs>.

## HP InfiniBand

|   |            |
|---|------------|
| HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA       | 592520-B21 |
| 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 DL585 G7 PCI-E Riser Card   | 590485-B21 |
| HP DL585 G7 PCI-E Riser v2 Option Kit  | 659805-B21 |
| <b>NOTE:</b> Adds 2 PCI-E 2.0 x16, 4 PCI-E 2.0 x8.                                 |            |
| <b>NOTE:</b> v2 recommended for AMD Opteron 6200 or 6300 processor configurations. |            |
| HP DL585 G7 PCI-E/X Riser v2 Option Kit  | 659807-B21 |
| <b>NOTE:</b> Adds 1 PCI-E 2.0 x16, 2 PCI-E 2.0 x8, 1 PCI-E 2.0 x4, 2 PCI-X.        |            |
| <b>NOTE:</b> v2 recommended for AMD Opteron 6200 or 6300 processor configurations. |            |

## 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: <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:** Option Kits contains 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> | HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License     | C6N27A   |
|                            | HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License        | C6N28ABE |
|                            | HP Insight Control Server Provisioning Media Kit  | BD883A   |
|                            | HP Insight Management Media Kit   | C6N31A   |
|                            | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License | C6N36ABE |

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

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

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

**NOTE:** For additional license options please see the QuickSpecs at: [http://h18000.www1.hp.com/products/quickspecs/12631\\_div/12631\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html)

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

|  |  |            |
|--|--|------------|
|  | HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU                 | E6U59ABE   |
|  | HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU                 | E6U64ABE   |
|  | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 512485-B21 |
|  | HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates                | BD505A     |

**NOTE:** For additional license options please see the QuickSpecs at: [http://h18004.www1.hp.com/products/quickspecs/14276\\_div/14276\\_div.html](http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html)

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

**High Performance Clusters****HP Cluster Management Utility**

|  |  |        |
|--|--|--------|
|  | HP Insight Cluster Management Utility 1yr 24x7 Flexible License  | QL803B |
|  | HP Insight Cluster Management Utility 3yr 24x7 Flexible License  | BD476A |
|  | <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 |

**NOTE:** For additional license kits please see the QuickSpecs at: [http://h18004.www1.hp.com/products/quickspecs/12612\\_div/12612\\_div.html](http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html)

**HP Graphics Options**

|  |  |            |
|--|--|------------|
|  | HP DL580/DL585/DL980 Power Cable Kit   | 631660-B21 |
|  | <b>NOTE:</b> The HP ProLiant DL585 G7 can support up to 4 (225W) or 3 (300W) Graphic Cards and/or GPGPU Accelerator Options. |            |

## Additional Options

**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 one of the following I/O expansion boards: HP DL585G7 PCI-E Riser v2 Option Kit PN: 659805-B21 (Adds 2 PCI-E 2.0 x16, 4 PCI-E 2.0 x8. OR the HP DL585G7 PCI-E/X Riser v2 Option Kit: PN: 659807-B21 (Adds 1 PCI-E 2.0 x16, 2 PCI-E 2.0 x8, 1 PCI-E 2.0 x4, 2 PCI-X).

**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 |

**Value Endurance (VE) PCIe Workload Accelerators**

|   |            |
|---|------------|
| HP 1.3TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763834-B21 |
| HP 1.6TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763836-B21 |
| HP 3.2TB HH/HL Value Endurance (VE) PCIe Workload Accelerator | 763838-B21 |
| HP 6.4TB FH/HL Value Endurance (VE) PCIe Workload Accelerator | 763840-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 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: <http://www.hp.com/go/TPM>.

## Additional Options

**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

**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 P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller 578229-B21

HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller 572531-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 512MB Flash Backed Write Cache 534916-B21

HP 256MB P-series Cache Upgrade 462968-B21

HP 1GB Flash Backed Cache 534562-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)

## Additional Options

[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:

[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)

**NOTE:** Please refer to the HBA QuickSpecs for additional information at:

<http://www.hp.com/products/hba>.

**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>.

**NOTE:** Connection using HP Smart Array P212/Zero Memory Controller (PN 462828-B21) recommended.

**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

**NOTE:** For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server.

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****HP StoreEver MSL6480**

HP StoreEver MSL6480 Scalable Base Module QU625A

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

## Additional Options

information:

[http://h18000.www1.hp.com/products/quickspecs/14604\\_div/14604\\_div.html](http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html)  
(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 RDX 2TB USB3.0 Internal Disk Backup System | E7X52A |
| HP RDX320 USB3.0 External Disk Backup System  | B7B63A |
| HP RDX500 USB3.0 Internal Disk Backup System  | B7B64A |
| HP RDX500 USB3.0 External Disk Backup System  | B7B66A |
| HP RDX1000 USB3.0 Internal Disk Backup System | B7B67A |
| HP RDX1000 USB3.0 External Disk Backup System | B7B69A |

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

[http://h18000.www1.hp.com/products/quickspecs/13036\\_div/13036\\_div.html](http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html)  
(Worldwide)

**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 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter | AP770B |
| HP 81B 8Gb 1-port PCIe Fibre Channel Host Bus Adapter | AP769B |

**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 |

**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 |

## Additional Options

|  |        |
|--|--------|
| 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 |
| HP StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter | C8R38A |
| HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter   | C8R39A |

**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 Uninterruptible Power Systems****HP Rack-mountable UPS****HP R1500 Uninterruptible Power Supply (UPS)**

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

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

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

**HP R/T2000 Uninterruptible Power System (UPS)**

|  |        |
|--|--------|
| HP R/T2200 G4 NA/JP Uninterruptible Power System | J2R00A |
| HP R/T2200 G4 Extended Runtime Module            | J2R09A |
| HP 2U Rack/Tower UPS Shipping Kit                | L4Q11A |

**HP R/T3000 Uninterruptible Power System (UPS)**

|   |        |
|---|--------|
| HP R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System                    | J2R01A |
| HP R/T3000 G4 High Voltage NA/JP Uninterruptible Power System                   | J2R02A |
| HP R/T3000 G4 High Voltage INTL Uninterruptible Power System                    | J2R04A |
| HP R/T3000 G4 Extended Runtime Module   | J2R10A |
| 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 |
| HP R/T3000 G2 2U Detachable Cord High Voltage INTL Uninterruptible Power System | AF468A |

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



## Additional Options

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

**R5000 Uninterruptible Power System (UPS)**

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

HP R5KVA 3U L630 High Voltage NA/JP Uninterruptible Power System AF460A

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

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

**R7000 Uninterruptible Power System (UPS)**

HP R7KVA 4U 50A High Voltage NA/JP Uninterruptible Power System AF462A

HP R7KVA 4U IEC-32A High Voltage INTL Uninterruptible Power System AF463A

HP R5KVA and R7KVA 3U Extended Runtime Module AF464A

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

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

**HP Rackmountable 3 Phase Uninterruptible Power Systems (UPS R8000/3 and R12000/3)**

HP R8000/3 8000kVA Three Phase INTL 6U Rackmount Uninterruptible Power System AF432A

HP R8000/3 8000kVA Three Phase NA 6U Rackmount Uninterruptible Power System AF431A

HP R12000/3 12000VA Three Phase INTL 6U Rackmount Uninterruptible Power System AF430A

HP R12000/3 12000VA Three Phase NA 6U Rackmount Uninterruptible Power System AF429A

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

[http://h18000.www1.hp.com/products/quickspecs/12857\\_div/12857\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12857_div/12857_div.html)  
(Worldwide)

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

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

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

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

**NOTE:** Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units.

Please see the following link: <http://www.hp.com/products/powercords>.

**HP Basic Power  
Distribution Units  
(bPDU)****HP Basic Power Distribution Unit: 1U/0U Version**

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

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

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

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

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

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

## Additional Options

|  |        |
|--|--------|
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU      | H5M68A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU | H5M61A |

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

|   |        |
|---|--------|
| HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU                       | H5M59A |
| HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU                   | H5M70A |
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU                     | H5M60A |
| HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU                    | H5M71A |
| HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU                         | H5M75A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU       | H5M63A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU | H5M64A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU              | H5M62A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU            | H5M72A |

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

|  |        |
|--|--------|
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU | H5M73A |
| HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU   | H5M67A |

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

|   |        |
|---|--------|
| HP 13.2kVA 480 Volt IEC309 30A 3-Phase Input (15 Outlet) NA Basic PDU | H3X07A |
| HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU | H3X08A |
| HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer         | H3X09A |

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

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

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

**HP Remote Monitoring Power Distribution Units (mPDU)****HP Remote Monitored Power Distribution Unit: 1U Version**

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

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

|   |        |
|---|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU | D9N45A |
|---|--------|

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

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

## Additional Options

|   |        |
|---|--------|
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU       | D9N52A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU | D9N53A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU            | D9N55A |
| <b>HP Remote Monitored Power Distribution Unit: Full Height Version</b>                 |        |
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU                        | D9N49A |
| HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU                   | D9N50A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU            | D9N57A |
| HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU               | D9N58A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU            | D9N61A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU         | D9N54A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU        | D9N59A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU           | D9N60A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU            | D9N56A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU           | D9N62A |
| HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU                                | D9N63A |

**HP Environmental Sensor for Remote Monitored PDUs**

|   |        |
|---|--------|
| HP Environmental Sensor for Remote Monitored PDUs | E2D53A |
|---|--------|

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

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

**HP Intelligent Power Distribution Units (iPDU)****iPDU Core Units**

|  |        |
|--|--------|
| HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit        | AF520A |
| HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit        | AF521A |
| HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit         | AF522A |
| HP 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit             | AF533A |
| HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit        | AF523A |
| HP 11.4kVA 16A 415V Three Phase L22-20 NA Core Intelligent Power Distribution Unit       | AF900A |
| HP 17.3kVA 24A 415V Three Phase IEC309 NA Core Intelligent Power Distribution Unit       | AF901A |
| HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit         | AF525A |
| HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit           | AF526A |
| HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit           | AF527A |
| HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF535A |
| HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF537A |
| HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit    | AF538A |

## Additional Options

**iPDU Kits with Standard Extension Bars**

|   |        |
|---|--------|
| HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit | AF531A |
| HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit  | AF532A |
| HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit  | AF534A |

**iPDU Extension Bars**

|   |        |
|---|--------|
| HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar | AF528A |
| HP 5xC13 Intelligent PDU Extension Bar G2 Kit                   | AF547A |

**NOTE:** Additional HP Power Distribution Units are available. For a complete list of all HP PDUs and additional information please visit:

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

**HP Rack Options****HP TFT7600 G2 KVM Console and Monitor (TFT7600 G2)**

|   |        |
|---|--------|
| HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor     | AZ870A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor     | AZ871A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard DE Monitor     | AZ872A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard FR Monitor     | AZ873A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard IT Monitor     | AZ874A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard ES Monitor     | AZ875A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard DK Monitor     | AZ876A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard NO Monitor     | AZ877A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard SE/FI Monitor  | AZ878A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard CH Monitor     | AZ879A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard PT Monitor     | AZ880A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard BE Monitor     | AZ881A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard JP Monitor     | AZ882A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard RU Monitor     | AZ883A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard Intl Monitor   | AZ884A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard US TAA Monitor | AZ885A |

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

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

**HP 1U Rackmount Keyboard with USB**

|                                      |        |
|--------------------------------------|--------|
| HP 1U US Rackmount Keyboard with USB | AG072A |
|--------------------------------------|--------|

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

[http://h18000.www1.hp.com/products/quickspecs/12465\\_div/12465\\_div.html](http://h18000.www1.hp.com/products/quickspecs/12465_div/12465_div.html)  
(Worldwide)

**HP USB Keyboard and Mouse**

## Additional Options

|   |            |
|---|------------|
| 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 Server Console Switches**

|   |        |
|---|--------|
| HP Server Console 0x2x8 Port Analog Switch  | AF616A |
| HP Server Console 0x2x16 Port Analog Switch | AF617A |
| HP TAA 0x2x16xKVM Server Console G2 Switch  | AF626A |

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

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

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

|  |            |
|--|------------|
| HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software | AF618A     |
| HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software | AF619A     |
| KVM USB Cnsl Itfc Adapter 1PK ALL                                      | 336047-B21 |

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

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

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

|   |        |
|---|--------|
| HP 1x4 USB/PS2 KVM Console Switch                                   | AF611A |
| HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software  | AF620A |
| HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software | AF621A |
| HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software | AF622A |

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

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

## Additional Options

**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 like SmartStart. 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

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

HP 3 year 4 hour 24x7 ProLiant DL58x Proactive Care Service U2Z68E

**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**

## Additional Options

**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:** Standard memory configurations listed do not apply to "Factory Integrated Models."

### HP ProLiant DL585 G7 Models

#### Memory Configurations

- This server supports DDR3 2GB, 4GB, 8GB, 16GB and 32GB memory modules across 48 memory sockets.
- For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: <http://www.hp.com/go/ddr3memory-configurator>

#### Advanced ECC memory

- Advanced ECC memory is the memory protection mode for this server. In Advanced ECC, the server does not fail because of correctable memory errors. The server provides notification if the level of correctable errors exceeds a pre-defined threshold rate.
- Advanced ECC provides additional protection over standard ECC because it is possible to correct certain memory errors that would otherwise be uncorrectable and result in a server failure.
- Whereas standard ECC can correct single-bit memory errors, Advanced ECC can correct single-bit memory errors and multi-bit memory errors if all failed bits are on the same DRAM device on the memory module.

#### Online Spare memory

- Online Spare memory mode is a higher level of memory protection that complements Standard Memory mode with Advanced ECC. With Online Spare mode, a DIMM with a rank of memory at least as large as the other ranks in the system, or memory board, is designated as the Online Spare rank. If one of the other DIMMs exceeds a threshold rate of correctable memory errors, the affected rank of memory within that DIMM is taken offline and the data is copied to the Online Spare rank. This capability maintains server availability and memory reliability without service intervention or server interruption. The DIMM that exceeded the error threshold can be replaced at the customer's convenience during a scheduled shutdown. Online Spare reduces the chance of an uncorrectable error bringing down the system; however, it does not fully protect the system against uncorrectable memory errors.
- Online Spare mode is beneficial to businesses with sites that do not have IT staff available to service a failure, do not always have replacement memory readily available, or cannot bring down the server until a scheduled shutdown. The cost of implementation for Online Spare over Advanced ECC is the hardware cost of the extra DIMMs for the spare memory bank.
- The user configures the system for Online Spare mode through the RBSU. Online Spare configuration requirements vary for each server series, but it does not require operating system support or special software beyond the System BIOS. However, if messaging and logging are desired at the console along with messages in HP Systems Insight Manager, an operating system must be used that has system management and agent support for Advanced Memory Protection.

#### Population order

- The two tables below represent the memory module population order for one processor. The population order for the other processors is identical. SR denotes Single Rank, DR denotes Dual Rank, and QR denotes Quad Rank.
- All memory modules must follow the population order shown in these two tables for all the processors with the following exception:



## Memory

- QR memory modules must be installed only in memory sockets 2, 5, 8, and 11, while following the population order for those memory sockets.

|                                |          |          |          |          |          |          |
|--------------------------------|----------|----------|----------|----------|----------|----------|
| Processor memory socket        | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> |
| Rank support per memory socket | SR/DR    | SR/DR/QR | SR/DR    | SR/DR    | SR/DR/QR | SR/DR    |
| Population order               | <b>A</b> | <b>I</b> | <b>E</b> | <b>C</b> | <b>K</b> | <b>G</b> |
| Processor memory channel       | <b>A</b> | <b>A</b> | <b>A</b> | <b>B</b> | <b>B</b> | <b>B</b> |

|                                |          |          |          |           |           |           |
|--------------------------------|----------|----------|----------|-----------|-----------|-----------|
| Processor memory socket        | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>11</b> | <b>12</b> |
| Rank support per memory socket | SR/DR    | SR/DR/QR | SR/DR    | SR/DR     | SR/DR/QR  | SR/DR     |
| Population order               | <b>B</b> | <b>J</b> | <b>F</b> | <b>D</b>  | <b>L</b>  | <b>H</b>  |
| Processor memory channel       | <b>C</b> | <b>C</b> | <b>C</b> | <b>D</b>  | <b>D</b>  | <b>D</b>  |

**Population rules**

- When installing memory modules, observe the following population rules:
- Use only HP memory modules listed in this document.
- Advanced ECC is not available if x4 and x8 memory modules are mixed in channels (A and B), (C and D), or both, but standard ECC is still available. Advanced ECC is available if x4 and x8 memory modules are mixed in memory channels (A and C), (B and D), or both.
- HP LRDIMM memory modules listed in this document follow the same population rules as dual rank registered DIMMs

While adhering to the memory population rules ("Population rules" - see above), performance can be improved by following the guidelines below:

- Memory modules may be installed one at a time per processor, but installing two at a time per processor provides for additional performance, installing four at a time per processor provides for better performance, and installing equal amounts of memory for all processors provides for best performance.
- Install all memory modules of the same speed on the same processor for best performance.
- Install all memory modules of the same voltage on the same processor for best power.

Advanced Memory Protection (AMP) mode Online Spare Memory has further requirements beyond these listed above. Please refer to the user guide for additional memory configuration requirements

## Memory bus speed

Depending on the quantity and native speed of memory modules installed, memory bus speeds can be 1333 MHz, 1066 MHz, 800 MHz, or 667 MHz. Memory bus speeds can be different for each processor.

To determine memory bus speeds, do the following:

## Memory

Within RBSU, select the Power Management Options menu > Advanced Power Management Options menu > Maximum Memory Bus Frequency menu.

| Memory modules per channel | QR | SR or DR | Memory module native speed   | Memory bus speed (standard-voltage memory module) | Memory bus speed (low-voltage memory module) |
|----------------------------|----|----------|--|---|--|
| 1                          | -  | 1        | SR 1600 MHz <sup>3</sup><br>DR 1600 MHz <sup>3</sup>                               | 1600 MHz  | NA   |
| 1                          |    | 1        | SR 1333 MHz<br>DR 1333 MHz   | 1333 MHz <sup>1</sup>                             | 1066 MHz <sup>1</sup>                        |
| 1                          | 1  | -        | QR 1066 MHz  | 1066 MHz <sup>1</sup>                             | 1066 MHz <sup>1</sup>                        |
| 2                          | -  | 2        | SR 1333 MHz<br>DR 1333 MHz   | 1333 MHz <sup>1,2</sup>                           | 1066 MHz <sup>1,2</sup>                      |
| 2                          | 1  | 1        | SR 1333 MHz<br>DR 1333 MHz<br>QR 1066 MHz  | 800 MHz   | 800 MHz                                      |
| 3                          | -  | 3 SR     | SR 1333 MHz<br>SR 1600 MHz <sup>3</sup>  | 1066 MHz  | 1066 MHz                                     |
| 3                          | -  | 3 DR     | DR 1333 MHz<br>DR 1600 MHz <sup>3</sup>  | 1066 MHz  | 800 MHz                                      |
| 3                          | -  | 3 mixed  | SR 1333 MHz<br>DR 1333 MHz<br>SR 1600 MHz <sup>3</sup><br>DR 1600 MHz <sup>3</sup> | 1066 MHz  | 800 MHz                                      |
| 3                          | 1  | 2        | SR 1333 MHz<br>DR 1333 MHz<br>QR 1066 MHz  | 800 MHz   | 667 MHz                                      |

<sup>1</sup>Max. Actual result of lowest DIMM speed

<sup>2</sup>When 1333MHz selected in BIOS "memory speed with 2DPC" entry

<sup>3</sup>1600 MHz memory is only supported in conjunction with Opteron 6200 or 6300 series processors.

Select one of the following menu options:

- Auto (default) - The memory bus speed is set to what is shown in the following table. If the native speed of the installed memory module is slower than the memory bus speed, the memory bus speed is set to the memory module native speed
- 800 MHz-The memory bus speed is set to 800 MHz regardless of the quantity of memory modules installed, unless the table above reflects a slower memory bus speed.

**NOTE:** There may be more than one memory bus speed menu option.

**NOTE:** LVDIMMs support on 2011.08.04 BIOS

## Memory Installation Example

These memory installation example shows the memory sockets associated with the first processor only. This can be applied toward the memory sockets associated with the other processor also.

## Memory

## 4 RDIMMs per processor

- Standard memory: 4x4GB RDIMMs (16GB per processor)
- Optional memory: Adding 8x8GB RDIMMs to standard memory (80GB per processor)
- Maximum memory: Replacing standard memory with 4x16GB QR RDIMMs and 8x8GB DR RDIMMs (maximum of 128GB per processor)

| Processor memory socket | 1    | 2    | 3    | 4    | 5    | 6    |
|-------------------------|------|------|------|------|------|------|
| Standard Memory         | 4GB  |      |      | 4GB  |      |      |
| Optional Memory         | 4GB  | 8GB  | 8GB  | 4GB  | 8GB  | 8GB  |
| Maximum Memory          | 32GB | 32GB | 32GB | 32GB | 32GB | 32GB |

| Processor memory socket | 7    | 8    | 9    | 10   | 11   | 12   |
|-------------------------|------|------|------|------|------|------|
| Standard Memory         | 4GB  |      |      | 4GB  |      |      |
| Optional Memory         | 4GB  | 8GB  | 8GB  | 4GB  | 8GB  | 8GB  |
| Maximum Memory          | 32GB | 32GB | 32GB | 32GB | 32GB | 32GB |

**NOTE:** 1.5TB capacity is achieved by loading 1 32GB LRDIMM on every memory channel on all four processors.

The following memory options are available from HP:

## Memory

**NOTE:** DIMM banks are active only when the corresponding processor socket is populated.

**Registered DIMMs (RDIMMs)**

|  |            |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit            | 593911-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit | 604500-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11 Memory Kit           | 676331-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800 (DDR3-1600) Registered CAS-11 Memory Kit           | 676333-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit              | 593913-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit   | 604502-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 LP Memory Kit        | 627808-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit          | 684066-B21 |
| HP 32GB (1x32GB) Quad Rank x4 PC3L-8500 (DDR3-1066) Registered CAS-7 LP Memory Kit         | 627810-B21 |

**Load Reduced DIMMs(LRDIMMs)**

|  |            |
|--|------------|
| HP 32GB (1x32GB) Quad Rank x4 PC3L-10600L (DDR3-1333) Load Reduced CAS-9 | 647885-B21 |
|--|------------|

---

## Memory

Low Voltage Memory Kit

**NOTE:** Memory must be installed in like-pairs, i.e. two of the same size.

**NOTE:** LRDIMMs are supported on Opteron 6200 and 6300 Series processors only

### Upgrade Options

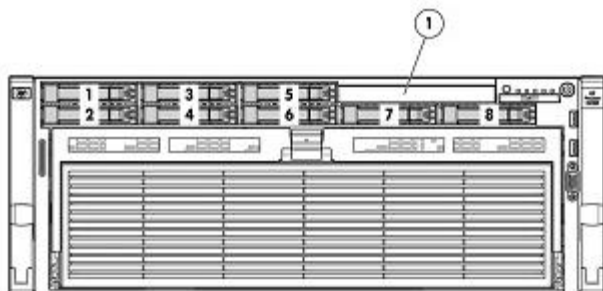
HP DL585 G7 CPU Memory Secondary Upgrade Option

590489-B21

**NOTE:** Adds processor sockets 3 and 4 and associated DIMM slots.

## Storage

1-8 Eight SFF SAS hot plug hard drive bays



## Drive Support

|                                   | Quantity Supported | Position Supported | Controller      |
|-----------------------------------|--------------------|--------------------|-----------------|
| <b>Removable Media</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 4            | External           | HP Smart Array P211/256 MB Controller                      |
|                      | Up to 8            | External           | HP Smart Array P411/256MB BBWC Controller                  |
|                      |                    |                    | HP Smart Array P411/512 MB BBWC Controller                 |
|                      |                    |                    | HP Smart Array P411/1G Flash Backed Write Cache Controller |
| D2700 Disk Enclosure | Up to 2            | External           | HP Smart Array P211/256 MB Controller                      |
|                      | Up to 4            | External           | HP Smart Array P411/256 MB Controller                      |
|                      |                    |                    | HP Smart Array P411/512 MB BBWC Controller                 |
|                      |                    |                    | HP Smart Array P411/1G Flash Backed Write Cache Controller |
|                      |                    |                    | HP Smart Array P812/1G Flash Backed Cache Controller       |

## 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<br>(all hard drives, power supplies, DIMMs and processors installed)  | 100.0 lb (45.4 kg)                          |
|   |   | Minimum<br>(one hard drive, two power supplies, four DIMMs and two processors installed)  | 66.0 lb (30.0 kg)                           |
| <b>Input Requirements</b><br>(per power supply) | <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">http://www.hp.com/go/hppoweradvisor</a></p> <ul style="list-style-type: none"> <li>• Click on the system of interest. Example: DL585 G7</li> <li>• Follow the instructions of the next screens</li> </ul> |   |   |
| <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 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.<br>System performance may be reduced if operating with a fan fault or above 30°C (86°F). |   |
|   | Non-operating   | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).  |   |
| <b>Relative Humidity</b><br>(non-condensing)    | Operating   | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.   |   |

## Technical Specifications

|                                       |  |   |
|---------------------------------------|--|---|
|                                       | Non-operating  | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.   |
| <b>Altitude</b>                       | Operating  | 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
|                                       | Non-operating  | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).  |
| <b>Acoustic Noise</b>                 | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). |   |
|                                       | Idle   |   |
|                                       | L WAd  | 6.8 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 |   |

## Technical Specifications

|                                       |   |
|---------------------------------------|---|
|                                       | Red Hat Enterprise Linux 5 (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>          | Microsoft Windows 7   |
|                                       | Microsoft Windows XP Professional Edition   |
|                                       | Microsoft Windows Vista Business and Ultimate Editions  |
|                                       | Red Hat Enterprise Desktop 5.00   |
|                                       | 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 |

|                                     |   |   |
|-------------------------------------|---|---|
| <b>Smart Array P410i Controller</b> | <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   |



## Technical Specifications

**RAID Support**

RAID 6, 6+0 (Advanced Data Guarding)

**NOTE:** RAID 6, 6+0 can be enabled with one of the following combinations:

- 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades
- 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades
- 1G FBWC and Smart Array Advanced Pack License key option upgrades

RAID 5, 5+0 (Distributed Data Guarding)

**NOTE:** A minimum of 256 MB cache is required to enable RAID 5, 5+0 support

RAID 1+0 (Striping &amp; Mirroring)

RAID 0 (Striping), RAID 1 (Mirroring)

**HP NC375i  
Integrated Quad  
Port Gigabit Server  
Adapter****Network Interface**

10/100/1000-T

**Compatibility**

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

**Data Transfer Method**

PCI Express 2.0 x8

**Controller**

Qlogic/NetXen NX3031

**Network Transfer Rate**

10Base-T (Full-Duplex) 20 Mb/s

100Base-TX (Full-Duplex) 200 Mb/s

1000Base-TX (Full-Duplex) 2000 Mb/s

**Connector**

RJ-45

**Cable Support**

10Base-T Categories 3, 4, or 5 UTP; up to 328 ft (100 m)

10/100/1000 Base-TX Category 5 UTP up to 328 ft (100 m)

**HP 331i Integrated  
Quad Port Gigabit  
Server Adapter****Network Processor**

Broadcom BCM5719 chipset

**Data rate**

Four ports, each at 2 Gbps full duplex; 8 Gbps aggregate full duplex theoretical bandwidth.

**Bus type**

PCIe 2.0

**Bus speed**

Gen 2 x4

**Connector**

RJ-45 (Four)

**Cable distance**

Up to 328 ft (100 m)

**Wiring**

Category 5/ (CAT-5) or better twisted-pair cabling

**IEEE Compliance**

802.3, 802.3ab, 802.3u, 802.3x, Dynamic 802.3ad, 802.1Q, 802.3az, 1588, 802.1as

**Environment-****End-of-life Management and**

Hewlett-Packard offers end-of-life HP product return, trade-in, and

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## Technical Specifications

### friendly Products and Approach    Recycling

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

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

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## Summary of Changes

| Date        | Version History       | Action  | Description of Change:  |
|-------------|-----------------------|---------|---|
| 11-Dec-2015 | From Version 59 to 60 | Retired | The HP ProLiant DL585 Gen7 system is obsolete since June 30th 2015. The QuickSpecs was moved to the retired section.  |
| 09-Feb-2015 | From Version 58 to 59 | Added   | Skus Added on HP Uninterruptible Power Systems: <ul style="list-style-type: none"> <li>J2Q99A</li> <li>J2R00A</li> <li>J2R01A</li> <li>J2R02A</li> <li>J2R03A</li> <li>J2R04A</li> <li>J2R05A</li> <li>J2R09A</li> <li>J2R10A</li> <li>L4Q11A</li> </ul>  |
|             |                       | Removed | Obsolete Skus removed: <ul style="list-style-type: none"> <li>593907-B21</li> <li>689340-B21</li> <li>689342-B21</li> <li>653976-B21</li> <li>653978-B21</li> <li>655514-B21</li> <li>653980-B21</li> <li>655522-B21</li> <li>653982-B21</li> <li>655518-B21</li> <li>655520-B21</li> <li>655516-B21</li> <li>671816-B21</li> <li>593907-B21</li> <li>AG073A</li> <li>AG074A</li> <li>AG075A</li> <li>593907-B21</li> </ul> |
| 01-Dec-2014 | From Version 57 to 58 | Changed | Standard Features and Core Options sections were updated  |
|             |                       | Added   | Skus Added on Hard Drives: <ul style="list-style-type: none"> <li>757351-B21</li> <li>757354-B21</li> </ul>   |
|             |                       | Removed | Obsolete skus deleted: <ul style="list-style-type: none"> <li>690823-B21</li> <li>581201-B21</li> <li>AF902A</li> </ul>   |
| 01-Nov-2014 | From Version 56 to 57 | Changed | Service and Support section was updated   |
| 18-Aug-2014 | From Version 55 to 56 | Changed | Maximum Internal Storage, Drive Support sections were updated   |
|             |                       | Added   | Skus added to Hard Drives: <ul style="list-style-type: none"> <li>785103-B21</li> <li>785101-B21</li> <li>785099-B21</li> <li>741144-B21</li> <li>741140-B21</li> <li>741136-B21</li> <li>741157-B21</li> <li>741153-B21</li> <li>741148-B21</li> </ul>   |
|             |                       | Removed | Obsolete skus removed: <ul style="list-style-type: none"> <li>690821-B21</li> <li>690819-B21</li> <li>632494-B21</li> <li>632492-B21</li> </ul>   |
| 10-Jun-2014 | From Version 54 to 55 | Changed | Supported Options, Processors, Network Controller, Optimized Care, Standard Care, Basic Care, Internal Storage, Memory, Hard Drives in Core Option and Disk Backup, Storage Options, USB and SD Options in Additional Options sections were revised   |

## Summary of Changes

|             |                       |         |  |
|-------------|-----------------------|---------|--|
| 31-Mar-2014 | From Version 53 to 54 | Changed | Memory, Hard Drives, and HP Insight Software were revised<br>HP Disk Backup and HP Basic and Remote Monitoring Power Distribution Unit product descriptions were revised<br>HP NC524SFP Dual Port 10GbE Module was removed from HP Networking  |
| 18-Feb-2014 | From Version 52 to 53 | Changed | Memory, Graphics Options, Tape Backup, and USB and SD Options were revised.  |
| 13-Dec-2013 | From Version 51 to 52 | Changed | HP Smart Array P411/256 BBWC 2-ports Ext PCIe x8 FIO SAS Controller was removed from HP Storage Controllers<br>HP NC522SFP Dual Port 10GbE Gigabit Server Adapter and HP 10 GbE PCI-e G2 Dual Port Network Interface Card were removed from Networking<br>HP InfiniBand 4X DDR ConnectX-2 PCIe G2 Dual Port HCA was removed from HP InfiniBand<br>HP Power Distribution Units was removed from Additional Options<br>HP 1.2TB 6G SAS 10k rpm SFF SC Dual Port Enterprise 3yr Warranty Hard Drive was added to Hard Drives<br>HP 3TB G2 FH/HL PCIe ioDrive2 IO Accelerator for ProLiant Servers to was added HP I/O Accelerator Options<br>HP Basic Power Distribution Units and HP Remote Monitoring Power Distribution Units were revised in Additional Options |
| 11-Oct-2013 | From Version 50 to 51 | Changed | Processors were revised<br>First Generation Accelerators was removed from HP I/O Accelerators<br>HP PCIe Workload Accelerator Options and HP Remote Monitoring Power Distribution Units were added to Additional Options<br>HP 8GB SD Enterprise Mainstream Flash Media Kit was added to HP USB and SD Options   |
| 10-Sep-2013 | From Version 49 to 50 | Changed | Processors, HP Insight Management, High Performance Clusters, Models, Hard Drives, HP Networking, HP InfiniBand Options, HP Storage Options, HP Disk Backup, and HP Power Distribution Units were revised.   |
| 15-Jul-2013 | From Version 48 to 49 | Changed | HP Disk Backup was revised in Additional Options.  |
| 05-Jun-2013 | From Version 47 to 48 | Changed | Core Options: Updated HP Hard Drives section.<br>Additional Options: USB and SD Options  |
| 13-May-2013 | From Version 46 to 47 | Added   | Additional Options: Added the HP Basic Power Distribution Units section.   |
|             |                       | Changed | Standard Features: Updated Maximum Internal Storage section.<br>Core Options: Updated HP Hard Drives section.<br>Additional Options: HP Tape Backup, HP Intelligent Power Distribution Units (iPDU), HP USB and SD Options and HP Care Pack Services section.<br>Memory: Updated RDIMMS per processor section.   |
| 19-Apr-2013 | From Version 45 to 46 | Added   | Memory: Updated Memory Installation Example section.   |
| 05-Apr-2013 | From Version 44 to 45 | Added   | Additional Options: Added Note to the HP Tape Backup section.  |
| 25-Mar-2013 | From Version 43 to 44 | Added   | Configuration Information: Added a NOTE to the HP Power Supplies section<br>Core Options: Added a NOTE to the HP Power Supplies section.   |
|             |                       | Removed | Additional Options: Removed 641027-B21, 600279-B21 and 600282-B21 from the HP I/O Accelerator Options.   |
| 05-Mar-2013 | From Version 42 to 43 | Added   | Optional Features: Added HP Proactive Insight experience section.  |
| 12-Dec-2012 | From Version 40 to 41 | Changed | Changes were made to the North America and Canada versions only.   |

## Summary of Changes

|             |                       |         |  |
|-------------|-----------------------|---------|--|
| 04-Dec-2012 | From Version 39 to 40 | Changed | Changes were made throughout the QuickSpec.  |
| 24-Sep-2012 | From Version 38 to 39 | Changed | Changes were made in Optional Features section.  |
| 24-Aug-2012 | From Version 37 to 38 | Changed | Changes were made in Core Options, Additional Options and Storage sections.  |
| 08-Jun-2012 | From Version 36 to 37 | Changed | Changes were made in the Hard Drives and Networking sections.  |
| 17-May-2012 | From Version 35 to 36 | Changed | Changes were made in the Standard Features, Configuration Information and Options sections.  |
| 26-Mar-2012 | From Version 34 to 35 | Changed | Changes were made throughout Additional Options.   |
| 06-Mar-2012 | From Version 33 to 34 | Changed | Changed a link in the Hard Drives section of Core Options.   |
| 13-Feb-2012 | From Version 32 to 33 | Changed | HP Insight Software and High Performance Clusters were revised<br>HP Intelligent Power Distribution Units and HP Rack Options were completely revised<br>Four-Core Processor was added<br>Power Specifications was added to Standard Features<br>HP 4GB and 8GB Single Rank x4 PC3-12800 Registered CAS-11 Memory Kits and HP 16GB Dual Rank x4 PC3-12800R Reg CAS-11 Memory Kit were added to Memory<br>HP Ethernet 10Gb 4-port 331T Adapter was added to HP Networking<br>HP Chipset SATA Cable Kit was added to HP Storage Controllers<br>SAN Switches were added to HP Storage Options |
| 13-Jan-2012 | From Version 31 to 32 | Changed | URL was revised in Tape and Disk Backup<br>HP CN1000Q Dual Port Converged Network Adapter was added to HP Storage Options  |
| 16-Dec-2011 | From Version 30 to 31 | Changed | Changes were made throughout the QuickSpec.  |
| 02-Dec-2011 | From Version 28 to 30 | Changed | An update was made in HP Networking.   |
| 14-Nov-2011 | From Version 26 to 28 | Changed | Changes were made throughout.  |
| 26-Sep-2011 | From Version 25 to 26 | Changed | Maximum memory was increased to 1TB and Hot Plug SFF SSD maximum internal storage was increased to 3.2TB<br>Optimized, Standard and Basic Care were updated in Service and Support<br>Hard Drives were revised<br>Product descriptions were revised throughout Additional Options  |
| 26-Sep-2011 | From Version 25 to 26 | Changed | Maximum memory was increased to 1TB and Hot Plug SFF SSD maximum internal storage was increased to 3.2TB<br>Optimized, Standard and Basic Care were updated in Service and Support<br>Hard Drives were revised<br>Product descriptions were revised throughout Additional Options  |
| 01-Sep-2011 | From Version 24 to 25 | Removed | Removed skus 636597-B21, 636595-B21 & 636593-B21 from the Hard Drives section.   |
| 31-Aug-2011 | From Version 22 to 24 | Removed | Removed SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives from the Hard Drives and Storage sections.   |
| 29-Jul-2011 | From Version 21 to 22 | Changed | Hard Drive descriptions were revised.  |
| 22-Jul-2011 | From Version 20 to 21 | Removed | Removed part number 339773-B21 from Step 3 of the Configuration Information section..  |
| 22-Jun-2011 | From Version 18 to 20 | Changed | Changes made throughout the QuickSpec.   |
| 09-May-2011 | From Version 17 to 18 | Changed | Processor and Storage Controller descriptions were revised<br>HP 900GB 6G SAS 10K rpm SFF Enterprise Drive was added to Hard Drives<br>HP Intelligent Power Distribution Units (iPDU) was added to Additional  |

## Summary of Changes

|             |                       |         | Options   |
|-------------|-----------------------|---------|---|
| 15-Apr-2011 | From Version 16 to 17 | Changed | 10Base-T, 100Base-TX and 1000Base-TX (Half-Duplex) Network Transfer Rates were removed from HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter.  |
| 05-Apr-2011 | From Version 15 to 16 | Changed | Hot Plug SFF SAS and SATA maximum internal storage was increased to 8TB<br>Service and Support was completely revised<br>Models and Power Supply descriptions were revised<br>Part numbers were changed to HP Cluster Management Utility Compute Node Flexible License and HP High Performance Computing Linux Value Pack 1 Processor Flexible License in High Performance Clusters<br>HP 1TB 6G SAS 7.2K rpm SFF Hot Plug Midline and HP 1TB 3G SATA 7.2K rpm SFF Hot Plug Midline were added to Hard Drives   |
| 14-Feb-2011 | From Version 14 to 15 | Changed | Models, HP Insight Software, HP Tape Backup, HP Uninterruptible Power Systems and HP Rack Series product descriptions were revised<br>AMD Opteron 6166HE, 6176, 6180SE, 6132HE and 6140 processors were added to Processors<br>Oracle Solaris was added to Operating Systems and Virtualization Software Support for ProLiant Servers<br>HP 16GB Dual Rank x4 PC3L-10600 Registered CAS-9 LP Memory Kit and HP 32GB Quad Rank x4 PC3L-8500 Registered CAS-9 Memory Kit were added to Memory<br>HP StorageWorks RDX750 Internal Removable Disk Backup System was removed from HP Disk Backup |
| 10-Jan-2011 | From Version 13 to 14 | Changed | HP NC523SFP 10Gb 2-port Server Adapter was added to HP Networking<br>HP CN1000Q 2P Converged Network Adapter was added to HP StorageWorks Options<br>Oracle Enterprise Linux (OEL) was removed from Operating Systems and Virtualization Software Support for ProLiant Servers<br>HP InfiniBand 4X DDR PCI-E Dual Port Host Adapter was removed from HP InfiniBand<br>HP Riser Card Options was removed from Core Options   |
| 10-Dec-2010 | From Version 12 to 13 | Changed | Changes made to the Chart in the Expansion Slots section of Standard Features.  |
| 03-Dec-2010 | From Version 11 to 12 | Changed | Activated a link in the High Performance Clusters section.  |
| 23-Nov-2010 | From Version 10 to 11 | Changed | Smart Array P812 Controller product description was revised.  |
| 18-Nov-2010 | From Version 9 to 10  | Changed | Note for Power Supplies was revised, Models were rearranged and Smart Array P410i Controller was completely revised.  |
| 15-Nov-2010 | From Version 8 to 9   | Changed | Power Supply description was revised in Step 2<br>Notes were modified in HP Tape Backup and HP Disk Backup and HP StorageWorks RDX 1TB Internal Removable Disk Backup System was added<br>What's New was added to the Overview<br>AMD Opteron 6128 processor was added<br>Note was added to HP Insight management software<br>High Performance Clusters was added<br>HP 450GB and 600GB 6G SAS 15K Rpm SFF Dual Port Enterprise Hard Drives were added<br>HP I/O Accelerator Options was added to Additional Options  |

## Summary of Changes

|             |                     |         |   |
|-------------|---------------------|---------|---|
|             |                     |         | HP 10642G2 and 10647G2 1200 mm deep Rack cabinet Shock Rack were added to HP Rack Series<br>HPC Interconnects was removed from Optional Features  |
| 14-Oct-2010 | From Version 7 to 8 | Changed | Changed the description of the HP Graphics Options.   |
| 05-Oct-2010 | From Version 6 to 7 | Changed | Changes made throughout the entire QuickSpec.   |
| 18-Aug-2010 | From Version 5 to 6 | Changed | Changed the NOTE in the Upgradeability section of Standard Features.  |
| 16-Aug-2010 | From Version 4 to 5 | Changed | ACPI 1.0a Compliant was changed to ACPI 2.0 Compliant, PCI 2.2 Compliant was changed to PCI 2.0 Complaint and With embedded NC371i Multifunction Gigabit Network Adapters were removed from WOL Support in Industry Standard Compliance<br>HP DL585G7 PCO-E Option Kit and HP DL585G7 PCI-E/X Option Kit were added and HP DL585 Video Power Cords were removed from HP Unique Options<br>HP Insight Software was completely revised<br>Notes were added to the beginning of Models<br>HP I/O Accelerator Options was added to Additional Options<br>HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA was removed from HP InfiniBand |
| 01-Jul-2010 | From Version 3 to 4 | Changed | Base Models and Performance Models headers were added and Integrated Lights Out and Optical Drives were revised in Models.  |
| 25-Jun-2010 | From Version 2 to 3 | Changed | Image callouts were revised<br>PC2-6400 DDR SDRAM was changed to PC3-10600 (DDR3-1333) throughout Memory<br>Network RJ-45 was changed to 4 in Interfaces<br>Integrated Light Out was added to Models<br>NOTE was added to Step 1 and Memory and Power Supplies were added to Step 2<br>CD-RW was removed from the Slimline DVD Drive descriptions in Storage<br>Increased overall controller performance was removed from Availability<br>HP Slim SATA DVD-ROM Optical Drive was removed from Technical Specifications  |

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