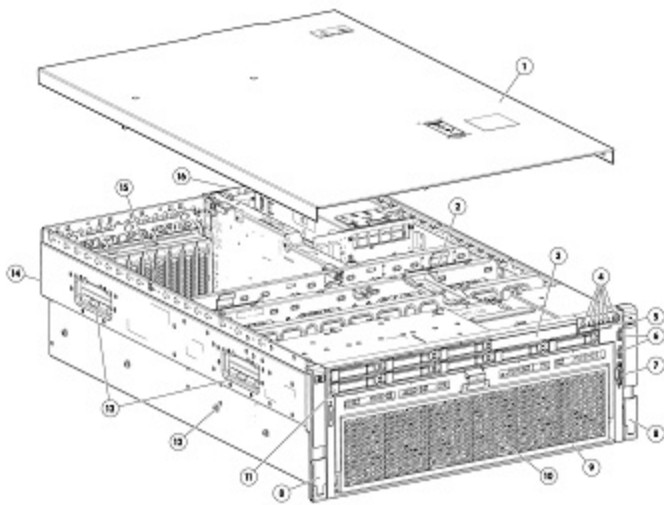
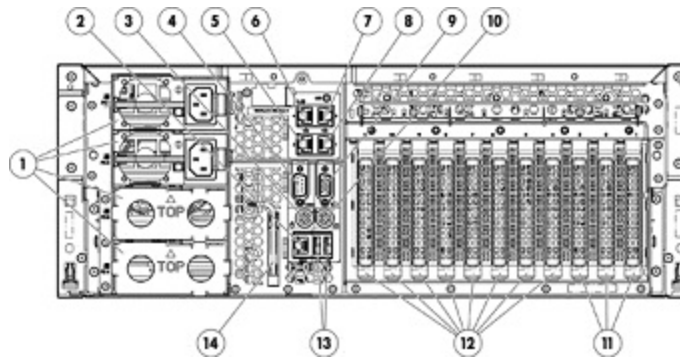


Overview



Front View:

1. Quick Removal Access Panel
2. 4 Hot Plug Redundant Fans Standard on all models
3. HP Slim SATA DVD ROM Optical Drive standard
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 8-Core Intel® Xeon® Processors
11. Support for up to 8 Small Form-Factor (SFF) SAS, Serial ATA (SATA) or SSD drives
12. Universal Tool-less "Snap In" Sliding Rail Solution
13. Server Lifting Handles
14. 4U (7" Height) Rack Form Factor
15. Up to 11 slots supported; all full-length/full-height



Rear View:

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

At A Glance

The all-new HP ProLiant DL580 G7 combines best-in-class HP performance, manageability, and reliability features with the latest Intel processor technology and is an ideal choice for mission-critical data center deployments and virtualization environments. DDR-3 memory expandable to 1 TB, advanced I/O slot configuration and Intel Xeon 7500 series processors drive performance and scalability to new levels. The DL580 G7 packs in brand new reliability and availability features like flash-backed write cache, redundant power supplies and fans and Intel MCA recovery. HP Insight Control along with iLO3 and common slot power supply simplify and optimize management tasks for greater levels of efficiency and higher TCOs to make sure you get the best return on your server investment.

- **Processors:**
 - Up to Eight-Core Intel® Xeon® 7500 series processors
 - Supports up to four Intel® Xeon® 7500 Xeon® processors
 - New Intel Microarchitecture with Intel Virtualization Technology FlexMigration
 - Industry Standard Intel® 7500 Chipset with four high-speed interconnects up to 6.4GT/s
- **Memory:**
 - PC3-10600R DIMMs (DDR3)
 - Can be configured in Mirrored, Online Spare, or Advanced ECC modes
- **Storage Controller:**
 - High Performance Models: HP Smart Array P410i/1G FBWC controller
 - Base Models: HP Smart Array P410i/512MB FBWC controller
- **Internal Drive Support:**
 - Support for up to 8 hot plug SFF SAS/SATA/SSD drives (one extra SSD internal slot available)
 - HP Slim SATA DVD ROM Optical Drive standard
- **Network Controller:**
 - HP NC375i Quad Port Multifunction Gigabit Server Adapter
- **Expansion Slots:**
 - Up to 11 slots supported; all full-length/full-height
 - Standard: 2 PCI-E 2.0 x8, 3 PCI-E 2.0 x4
- **USB 2.0 Ports:**
 - Front: USB (2), video
 - Rear: USB (2), Video, NIC
 - Internal: USB (2), SD slot (1)
- **Redundancy:**
 - Fans: Four Hot Plug redundant fans standard (3+1)

Overview

- Power Supplies: 2 or 4 depending on the model

- **Infrastructure Management:**

- Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
- HP Integrated Lights-Out 3 (iLO 3) management processor simplifies server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
- HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
- HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.

- **Form Factor:**

- Dense form factor - 4U rack models

- **Operating Systems:**

- Supports Windows, RHEL, SLES, OEL, Solaris, VMware, and Citrix XenServer

- **Deployment/Serviceability:**

- Front and rear video ports
- Front accessible Processor and Memory allow server to stay safely secured in the rack during servicing
- Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components
- Tool-less access to all system components for easy in rack serviceability
- Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement

- **Warranty:**

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

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

Standard Features

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

Processor One or more of the following depending on model	<p>Eight-Core Processors</p> <p>Intel® Xeon® X7560 Processor (2.26GHz, 24MB cache, 130W)</p> <p>Intel® Xeon® X7550 Processor (2.00GHz, 18MB cache, 130W)</p> <p>Intel® Xeon® L7555 Processor (1.86GHz, 24MB cache, 95W)</p> <p>Six-Core Processors</p> <p>Intel® Xeon® E7540 Processor (2.00GHz, 18MB cache, 105W)</p> <p>Intel® Xeon® E7530 Processor (1.86GHz, 12MB cache, 105W)</p> <p>Intel® Xeon® X7542 Processor (2.66GHz, 18MB cache, 130W)</p> <p>Quad-Core Processors</p> <p>Intel® Xeon® E7520 Processor (1.86GHz, 18MB cache, 95W)</p>
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Chipset	<p>Industry Standard Intel® 7500 Chipset</p> <p>NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/</p>
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Memory Protection	<p>Advanced ECC</p> <p>Mirrored Memory</p> <p>Online Spare Memory</p>
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Memory One of the following depending on Model	<table border="0"> <tr> <td>Type</td> <td>PC3-10600R DIMMs (DDR3)</td> </tr> <tr> <td>Standard (2P Models)</td> <td>16GB (4 x 4GB)</td> </tr> <tr> <td>Standard (4P Model - E7540)</td> <td>32GB (8 x 4GB)</td> </tr> <tr> <td>Standard (4P Models - X7560, X7550)</td> <td>64GB (16 x 4GB)</td> </tr> <tr> <td>Maximum</td> <td>1TB (64 x 16GB)</td> </tr> </table>	Type	PC3-10600R DIMMs (DDR3)	Standard (2P Models)	16GB (4 x 4GB)	Standard (4P Model - E7540)	32GB (8 x 4GB)	Standard (4P Models - X7560, X7550)	64GB (16 x 4GB)	Maximum	1TB (64 x 16GB)
Type	PC3-10600R DIMMs (DDR3)										
Standard (2P Models)	16GB (4 x 4GB)										
Standard (4P Model - E7540)	32GB (8 x 4GB)										
Standard (4P Models - X7560, X7550)	64GB (16 x 4GB)										
Maximum	1TB (64 x 16GB)										

Network Controller	<p>HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</p> <p>NOTE: Optional Dual Port 10GbE upgrade (replaces two 1G ports)</p>
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Expansion Slots

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

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

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

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

Standard Features

Expansion Slots

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

Expansion Slot #	Technology	Width	Connector Width*	Bus / Dev Number**	Form Factor	Notes
1	PCI-X	64-bit	N/A	82/01	FH/FL	100MHz
2	PCI-X	64-bit	N/A	82/02	FH/FL	100MHz
3	PCI Express Gen2	x16	x16	80/07	FH/FL	
4	PCI Express Gen2	x4	x8	80/01	FH/FL	
5	N/A	N/A	N/A	N/A	N/A	N/A
6	PCI Express Gen2	x16	x16	80/03	FH/FL	
7	PCI Express Gen2	x4	x8	0/0A	FH/FL	
8	PCI Express Gen2	x4	x8	0/09	FH/FL	
9	PCI Express Gen2	x8	x16	0/07	FH/FL	
10	PCI Express Gen2	x4	x8	0/01	FH/FL	
11	PCI Express Gen2	x8	x16	0/05	FH/FL	

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

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

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

Expansion Slots

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

Expansion Slot #	Technology	Width	Connector Width*	Bus / Dev Number**	Form Factor	Notes
1	PCI Express Gen1	x4	x8	80/00	FH/FL	
2	PCI Express Gen2	x8	x16	80/09	FH/FL	
3	PCI Express Gen2	x8	x16	80/07	FH/FL	
4	PCI Express Gen2	x4	x8	80/01	FH/FL	
5	PCI Express Gen2	x8	x16	80/05	FH/FL	
6	PCI Express Gen2	x8	x16	80/03	FH/FL	
7	PCI Express Gen2	x4	x8	0/0A	FH/FL	
8	PCI Express Gen2	x4	x8	0/09	FH/FL	
9	PCI Express Gen2	x8	x16	0/07	FH/FL	
10	PCI Express Gen2	x4	x8	0/01	FH/FL	
11	PCI Express Gen2	x8	x16	0/05	FH/FL	

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

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

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



Standard Features

Storage Controller One of the following depending on Model	Base Models	HP Smart Array P410i/512 MB FBWC Controller
	High Performance Models	HP Smart Array P410i/1G FBWC Controller

Storage Data Protection	The Flash Backed Write Cache (FBWC) increases cache data retention capabilities from two days of existing battery backed write cache (BBWC) to infinite.	
	<ul style="list-style-type: none"> ● Standard on all Models ● Transportable data protection ● Increases overall controller performance 	

Storage	Optical Drive	HP Slim SATA DVD ROM Optical Drive standard
	Hard Drives	None ship standard
	Hard Disk Drive Backplane	Internal SAS backplane supports up to eight SFF hard disk drives.

Maximum Internal Storage Type	Hot Plug SFF SAS	4.0TB	8 x 500GB
	Hot Plug SFF SATA	4.0TB	8 x 500GB
	Hot Plug SFF SSD	960GB	8 x 120GB

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

Interfaces	Serial	1
	Pointing Device (Mouse)	1
	Video	1 front; 1 rear
	Keyboard	1
	USB 2.0 Ports	6 total: 2 front; 2 rear; 2 internal
		NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html
	iLO 3 Remote Management	1
Network RJ-45	4	

Graphics	Integrated ATI ES1000 with 64MB embedded video SDRAM Max Resolution 1280 x 1024 x 16M color
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Form Factor	Rack (4U = 7 inches), ships with Quick Deploy Sliding Rail System, an ambidextrous cable management arm and quick release levers for fast and easy serviceability and in-rack tool-less access to major components. Space saving form factor (4U) provides space efficiencies while providing maximum deployment flexibility.
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Standard Features

HP Insight management software

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

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

www.hp.com/go/foundation.

The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

SmartStart version supported (minimum): SmartStart 8.50

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

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

www.hp.com/go/iLO

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

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

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 Insight Dynamics for ProLiant HP Insight Dynamics for ProLiant, a product option, is advanced infrastructure management software that enables IT staff to instantly adjust their environments to meet dynamic business demands by provisioning, optimizing and protecting complex infrastructure in minutes. It's a powerful toolkit, integrated-by-design, that accelerates complex technology projects and simplifies daily operations, transforming data center economics. With Insight Dynamics IT professionals can plan capacity and power continuously, balance workloads across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

NOTE: For more information, visit:

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

Standard Features

Industry Standard Compliance	ACPI 2.0. Compliant
	PCIe 2.0 Compliant
	PXE Support
	WOL Support
	Physical Address Extension (PAE) Support
	Microsoft® Logo certifications
	USB 2.0 Support

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

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

Availability

HP Advanced Memory Protection Technology - delivers unsurpassed memory protection and server availability with the following supported modes of operation:

- Advanced ECC**
 Advanced ECC Memory is the default memory protection mode for the HP ProLiant DL580 G7. In Advanced ECC, the server is protected against correctable memory errors. The server will provide notification if the level of correctable errors exceeds a predefined threshold rate. The server does not fail because of correctable memory errors. Advanced ECC provides additional protection over Standard ECC in that it is possible to correct certain memory errors that would otherwise be uncorrectable and result in server failure. Whereas Standard ECC can correct single-bit memory errors, Advanced ECC can correct single-bit and some multi-bit memory errors.
- Online Spare Memory**
 Offers a higher level of memory protection than Advanced ECC alone. If the number of single-bit correctable errors on a rank exceeds the pre-defined error threshold, that rank will fail over to the online spare rank without intervention or server interruption. The failed memory can then be replaced at the user's convenience during a scheduled maintenance window. Online Spare Memory is achieved by protecting active memory with online spare memory on the same memory board. No operating system support is required.
- Mirrored Memory**
 Mirrored Memory provides a higher level of availability than Advanced ECC and Online Spare Memory. With Mirrored Memory, the server is protected against uncorrectable memory errors that would otherwise result in server failure. Mirrored Memory allows the server to keep two copies of all memory data. If an uncorrectable error is encountered, the proper data is retrieved from the copy of memory that did not fail.
- Smart Array P410i Controller with optional Flash Backed Write Cache (FBWC) Enabler provides transportable data protection and increases overall controller performance. Up to 1G Flash Backed Write Cache protection optional on HP ProLiant DL580 G7 (1G FBWC ships standard with 4P Models).
- Hot Plug Redundant Fans - Four Hot Plug Redundant Fans ship standard with all models.
- Front Accessible Chassis - Redesigned chassis allows access to memory, processors and hard drives from the front of the server while it remains safely engaged in the rack. This provides easier serviceability and lowers the chance of interfering with neighboring servers' cables and components.
- Hot Plug Universal Drives - Up to 8 Hot Plug Universal SFF SAS drives are supported.
- Hot Plug Redundant Power Supplies - Four Hot Plug Redundant Power Supplies ship standard with all 4P Models (Hot Plug Redundant Power Supplies are optional with 2P models).

Standard Features

Serviceability

- Front and Rear accessibility provides unsurpassed serviceability by allowing the server to remain safely secured in the rack while maintaining Hot Plug Universal Hard Drives, Hot Plug Redundant Power Supplies, Memory, as well as Processors.
- Innovative Diagnostic Lighting
- Systems Insight Display - precisely depicts all major subsystems of the server (Processors, Memory, CPU, Fans, circuit board Interlock, over-temperature status) and gives instant visual indication of fault status.
- Tool-less interior design
 - Tool-less access to interior of server
 - Rear Access to Hot Plug Redundant Power Supplies
 - PCI Card Guides locks full length PCI cards in place
 - Four individually removable fans connect without cables to the system board
 - Processor Retention Cage securely locks Processors into their sockets
 - Tool-less removal of system board
- Quick Deploy Rails
 - Tool-less design "snap in" rail and ambidextrous cable management arm

Security

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

Security Trusted Platform Module

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

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.

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>

Power Supply

1200W AC Power Supply
NOTE: Two Hot Plug Power Supplies ship standard with 2P Models. Four Hot Plug Power Supplies ship standard with 4P Models.
Power Supply Requirement Override
NOTE: The HP ProLiant DL580 G7 does an inventory of the system configuration to determine what level of redundancy the power supply configuration supports based on some configuration assumptions. The level of redundancy will be reported during the system power on. For planning purposes you can use the Power Advisor (www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor) which is more accurate to determine the power requirements. Also, there is an RBSU override switch capability that allows the user to override the base setting if the Power Advisor indicates redundancy with their configuration.

UPS and PDU Power Cord Matrix

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

System Fans

Four Hot Plug redundant fans standard (3+1)

Required Cabling

For required cabling information, refer to the HP Web site at: www.hp.com/servers/dl580.

Standard Features

Operating Systems and Virtualization Software Microsoft Windows Server
Support for ProLiant Servers Red Hat Enterprise Linux (RHEL)
 SUSE Linux Enterprise Server (SLES)
 Oracle Enterprise Linux (OEL)
 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, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page www.hp.com/support/DL580G7

Rack Airflow Requirements

Rack 10000 G2 series Cabinets

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

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

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

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

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: <http://www.hp.com/servers/dl580>.

Rack Kit

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

NOTE: Cable management arm must be removed to access Hot Plug Power Supplies when the cable management arm is mounted on the right.

Telco Rack Support

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

Factory Express Portfolio for Servers and Storage

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

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

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

HP Enterprise Configurator

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

Standard Features

Solutions

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

Typical Usage:

Space-constrained corporate data centers and service providers

Network and I/O expandability, inbuilt availability and reliability features, advanced power management capabilities and large internal storage make DL580 G7 ideal for corporate datacenters.

Database, Messaging and Business Applications

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

Virtualization and Consolidation

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

Service and Support

Service and Support For increased uptime, productivity and ROI - HP Care Pack packaged services for Servers

These days, you need to get the most out of your server investment - you can't afford not to. When you buy HP server products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your server. Unlike server-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HP Care Pack packaged services for Servers.

Protect your business beyond the warranty

When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts - but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime - but not the business. By using a standard approach to warranty uplifts, such as HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HP Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HP Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HP Care Pack packaged services for Servers assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

HP Server Services: Offering reliability, flexibility and value - just like your storage

HP Server Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education offers flexible, comprehensive training on server networking and server software to help your IT staff get the most out of your investments. And HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HP Server Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. <http://www.hp.com/services/servers>, <http://www.hp.com/services/storage>

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: <http://www.hp.com/go/lookuptool>

Service and Support

Recommended HP Care Pack Services for optimal satisfaction with your HP product.

Recommended Services

Hardware Support - 3-Year HP 24x7 6-hour call to repair Care Pack

3-Year HP 24x7 6-hour call to repair Care Pack - This cost-effective service helps you minimize system downtime due to hardware failure. It features a commitment to resolve hardware problems within 6 hours from the time your service call is received. (Please note repair-time restrictions below.)

When you experience system problems, your call is immediately connected to an HP-certified resolution engineer for troubleshooting. If your problem cannot be resolved remotely, an experienced support professional is dispatched to your site to begin hardware repair activities.

Service feature highlights

- Remote monitoring and problem diagnosis and support
- Onsite hardware support
- 6-hour call-to-repair time commitment
- Materials included
- Enhanced parts inventory management
- 24x7 coverage window
- Work to completion
- Escalation management

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6636ENN>

Hardware Support - 3 - Years 24x7 24 hour Call-to-Repair

3-Year HP 24x7 24-hour call to repair Care Pack - This cost-effective service helps you minimize system downtime due to hardware failure. It features a commitment to resolve hardware problems within 6 hours from the time your service call is received. (Please note repair-time restrictions below.)

When you experience system problems, your call is immediately connected to an HP-certified resolution engineer for troubleshooting. If your problem cannot be resolved remotely, an experienced support professional is dispatched to your site to begin hardware repair activities.

ProLiant Servers Installation and Startup Service

HP Installation and Startup of HP ProLiant Servers provides for the installation of your new HP ProLiant server and operating system. This will assist you in bringing your new HP ProLiant server and operating system into operation in a timely and professional manner.

Service benefits

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Delivery of the service at a mutually scheduled time convenient to your organization
- Availability of an HP service specialist to answer basic questions during the onsite delivery of this service
- Custom installation as detailed in "Delivery specifications" or in a Statement of Work (SOW)
- Verification prior to installation that all service prerequisites are met

Service benefits

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Delivery of the service at a mutually scheduled time convenient to your organization
- Availability of an HP service specialist to answer basic questions during the onsite delivery of this service
- Custom installation as detailed in "Delivery specifications" or in a Statement of Work (SOW)
- Verification prior to installation that all service prerequisites are met

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982?7572ENN>

Optional HP Care Pack Services that will enhance your HP product experience.

Optional Services

3-Year HP Support Plus 24 Service Care Pack

As an alternative to our recommended support level, for customers who need access to responsive 24x7 hardware and software support plus software updates on HP and selected third party products:

Service and Support

HP Support Plus 24 helps you increase performance and availability with comprehensive, consistent hardware and software services. Working with your IT team, HP Services engineers deliver onsite hardware support and over-the-phone software support around-the-clock 365 days per year. Service coverage encompasses HP products and selected multi-vendor hardware and software.

In addition, this convenient HP Care Pack packaged service makes software updates available to you at substantial savings.

Choose Support Plus 24 when you need to:

- Improve uptime with responsive hardware and software services available anytime
- Cost-effectively obtain expert 24x7 multi-vendor hardware and software support
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP and selected third-party software at a predictable cost
- Take advantage of subscription savings on software updates

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EEE>

3 Year HP Proactive 24

As an alternative to our recommended support level, for customers who want enhanced operational effectiveness and proactive problem identification:

HP Proactive 24 Service (P24) integrates hardware and software support to help you improve the stability and operational effectiveness of your IT environment. An HP Account Manager acts as your primary point of contact to ensure that HP meets your support needs effectively.

P24 provides the maximum value when multiple technologies in the environment (e.g. servers, storage, SAN and the network), are all covered. It provides an environment-wide view and consistent support of all of these components which affect stability of your key applications.

Choose P24 when you want to:

- enhance operational effectiveness with proactive problem identification and recommendations from HP
- partner with technical experts who help coordinate support, provide hands-on assistance, and share knowledge with your staff
- rapidly access support and expertise spanning your environment
- obtain personalized services tailored to your business environment and critical success factors
- anticipate necessary change - and execute it correctly the first time
- efficiently manage infrastructure resources to meet your performance objectives

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-1614ENUC>

Hardware Support - 3-Year, 24x7 Same-Business-Day, On-site. 4-Hour response coverage

As an alternative to our recommended support level, for customers who need same day response service level 24x7.

3-Year, 24x7 Same-Business-Day, On-site. 4-Hour response coverage provides high-quality remote assistance and onsite support for your covered hardware, helping you to improve product uptime. You have the flexibility to choose between different service-level options featuring different response times and coverage windows, as well as between several coverage periods to address your specific service needs.

Service benefits

- Help improve or maintain system uptime
- Convenient onsite support
- Reliable response times

Service feature highlights

- Remote problem diagnosis and support
- Onsite hardware support
- Materials included
- Service-level options with different coverage windows and response times
- Work to completion
- Escalation management
- Access to electronic support information and services
- HP electronic remote monitoring and support solution (for eligible products only)
- Optional Defective Media Retention Service

Service and Support

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

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: <http://www.hp.com/support>

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Models

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

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

High Performance Models

<p>HP DL580 G7 High Performance Models</p> <p>HP ProLiant DL580 G7 X7560 Server 584084-xx1</p> <p>HP ProLiant DL580 G7 X7550 Server 584085-xx1</p> <p>HP ProLiant DL580 G7 E7540 Server 584086-xx1</p>	<p>Processor(s) Four of the following depending on model</p> <p>Memory One of the following depending on model</p> <p>Network Controller</p> <p>Storage Controller</p> <p>Hard Drives</p> <p>Internal Storage</p> <p>Integrated Lights Out Insight Control</p> <p>Optical Drive</p> <p>Power Supply</p> <p>Form Factor</p>	<p>(4) Intel® Xeon® X7560 Processor (2.26GHz, 24MB cache, 130W) (4) Intel® Xeon® X7550 Processor (2.00GHz, 18MB cache, 130W) (4) Intel® Xeon® E7540 Processor (2.00GHz, 18MB cache, 105W)</p> <p>64GB PC3-10600R DIMMs (DDR3) (X7560, X7550 Models) 32GB PC3-10600R DIMMs (DDR3) (E7540 Models)</p> <p>HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</p> <p>Embedded HP Smart Array P410i/1G FBWC Controller</p> <p>None ship standard</p> <p>Up to 4TB of internal storage</p> <p>Integrated Lights-Out 3 (iLO 3) ships standard</p> <p>HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates</p> <p>HP Slim SATA DVD ROM Optical Drive</p> <p>Four 1200W Power Supplies standard</p> <p>Rack 4U</p>
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Base Models

<p>HP DL580 G7 Base Models</p> <p>HP ProLiant DL580 G7 E7530 Server 584087-xx1</p> <p>HP ProLiant DL580 G7 E7520 Server 595241-xx1</p>	<p>Processor(s) Two of the following depending on model</p> <p>Memory Up to 4 supported</p> <p>Network Controller</p> <p>Storage Controller</p> <p>Hard Drives</p> <p>Internal Storage</p> <p>Integrated Lights Out</p> <p>Optical Drive</p> <p>Power Supply</p> <p>Form Factor</p>	<p>(2) Intel® Xeon® E7530 Processor (1.86GHz, 12MB cache, 105W) (2) Intel® Xeon® E7520 Processor (1.86GHz, 18MB cache, 95W)</p> <p>16GB PC3-10600R DIMMs (DDR3)</p> <p>HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter</p> <p>Embedded HP Smart Array P410i/512 MB FBWC Controller</p> <p>None ship standard</p> <p>Up to 4TB of internal storage</p> <p>Integrated Lights-Out 3 (iLO 3) ships standard</p> <p>HP Slim SATA DVD ROM Optical Drive</p> <p>Two 1200W power supplies standard</p> <p>Rack 4U</p>
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Country Code Key	xx = 00	US
	xx = 20	Brazil
	xx = 29	Japan
	xx = 37	APD
	xx = 42	Europe
	xx = AA	PRC

Configuration Information - Factory Integrated Models

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

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

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

Step 1: Base Configuration

HP Models	HP DL580R07 CTO Chassis	588857-B21
	Factory Integrated Models ship with:	
	HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter	
	Two HP DL580G7 Memory Boards	
	Five standard PCI-express slots	
	HP Smart Array P410i/ Zero Memory Controller	
	Four redundant hot-plug fans	
	SFF SAS/SATA/SSD drive cage	
	HP Slim SATA DVD-ROM Optical Drive	
	HP Integrated Lights-Out 3 (iLO 3) management processor: integrated on system board	
	Rack (4U), 7-inch	
	NOTE: 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)

HP Processors	NOTE: If more than two processors are desired, select one xxxxxx-L21 and additional processors would be xxxxxx-B21. 3P configurations are not supported	
	Eight-Core Processors	
	Intel Xeon Processor Model X7560 (2.26GHz, 24MB cache, 130W) 2P, FIO	588143-L21
	Intel Xeon Processor Model X7550 (2.00GHz, 18MB cache, 130W) 2P, FIO	588145-L21
	Intel Xeon Processor Model L7555 (1.86GHz, 24MB cache, 95W) 2P, FIO	588154-L21
	Six-Core Processors	
	Intel Xeon Processor Model E7540 (2.00GHz, 18MB cache, 105W) 2P, FIO	588150-L21
	Intel Xeon Processor Model E7530 (1.86GHz, 12MB cache, 105W) 2P, FIO	588152-L21
	Intel Xeon Processor Model X7542 (2.66GHz, 18MB cache, 130W) 2P, FIO	588156-L21
	Quad-Core Processors	
	Intel Xeon Processor Model E7520 (1.86GHz, 18MB cache, 95W) 2P, FIO	595245-L21
HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Memory Board Upgrade Option	
	HP DL580G7 Memory Board	588141-B21
	NOTE: Two memory boards come standard in the CTO chassis and each memory board upgrade kit contains one memory board.	
HP Power Supplies	HP 1200W 12V Hot Plug AC Power Supply	500172-B21
	NOTE: Option Kit contains optional power supply, an IEC power cable and PDU IEC cables.	

Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers Optional Upgrades	1G Flash Backed Write Cache	534562-B21
HP Insight Software	HP Insight Control, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates	582765-B21
	HP Insight Control for Linux, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates	TC203A

Configuration Information - Factory Integrated Models

Step 4: Choose Additional Options for Factory Integration

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

Core Options

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

HP Unique Options	DL580G7 PCI Express I/O Exp. Kit	588137-B21
	NOTE: Adds four PCI-E 2.0 x8, one PCI-E 2.0 x4 and one PCI-E 1.1 x4.	
	DL580G7 PCI-X / PCI Express I/O Exp. Kit	588139-B21
	NOTE: Adds two PCI-E 2.0 x16, one PCI-E 2.0 x4 and two PCI-X.	
	HP DL580G7 Memory Board	588141-B21

HP Processors	Eight-Core Processors	
	Intel Xeon Processor Model X7560 (2.26GHz, 24MB cache, 130W)	588143-B21
	Intel Xeon Processor Model X7550 (2.00GHz, 18MB cache, 130W)	588145-B21
	Intel Xeon Processor Model L7555 (1.86GHz, 24MB cache, 95W)	588154-B21
	Six-Core Processors	
	Intel Xeon Processor Model E7540 (2.00GHz, 18MB cache, 105W)	588150-B21
	Intel Xeon Processor Model E7530 (1.86GHz, 12MB cache, 105W)	588152-B21
	Intel Xeon Processor Model X7542 (2.66GHz, 18MB cache, 130W)	588156-B21
	Quad-Core Processors	
	Intel Xeon Processor Model E7520 (1.86GHz, 18MB cache, 95W)	595245-B21
	NOTE: Above processor kits contain one processor each.	

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Memory Board Upgrade Option	
	HP DL580G7 Memory Board	588141-B21
	NOTE: Two memory boards come standard in the CTO chassis and a maximum of 8 memory boards are supported in the server.	

HP Optical Drives	NOTE: Optical drives are ejectable.	
	HP Slim SATA DVD-ROM Optical Drive	481041-B21
	HP Slim 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.	
	SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives	
	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
	HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	507125-B21
	HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	512545-B21
	HP 72GB 3G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive	418371-B21
	SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives	
	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://h18004.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)	

Core Options

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

HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21
HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	530888-B21

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

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

SATA Hot Plug Midline (MDL) Solid State Drives

HP 60GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572071-B21
HP 120GB 3G SATA SFF (2.5-inch) Midline 1yr Warranty Solid State Drive	572073-B21

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

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

HP Networking

Gigabit Ethernet Adapters

HP NC112T PCIe Gigabit Server Adapter	503746-B21
HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21

10 Gigabit Ethernet Adapters

NOTE: No more than two 10GbE I/O devices are supported in a single ProLiant server.

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

NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

HP NC522SFP Dual Port 10GbE Server Adapter	468332-B21
HP NC524SFP Dual Port 10GbE Server Adapter	489892-B21
HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21

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

HP I/O Expansion Options

DL580G7 PCI Express I/O Exp. Kit	588137-B21
NOTE: Adds four PCI-E 2.0 x8, one PCI-E 2.0 x4 and one PCI-E 1.1 x4.	
DL580G7 PCI-X / PCI Express I/O Exp. Kit	588139-B21
NOTE: Adds two PCI-E 2.0 x16, one PCI-E 2.0 x4 and two PCI-X.	

HP Power Supplies

NOTE: The HP ProLiant DL580 G7 does an inventory of the system configuration to determine what level of redundancy the power supply configuration supports based on some configuration assumptions. The level of redundancy will be reported during the system power on. For planning purposes you can use the Power Advisor (www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor) which is more accurate to determine the power requirements. Also, there is an RBSU override switch capability that allows the user to override the base setting if the Power Advisor indicates redundancy with their configuration.

HP 1200W 12V Hot Plug AC Power Supply	500172-B21
NOTE: Option Kit contains optional power supply, an IEC power cable and PDU IEC cables.	

Additional Options

HP Insight Software

HP Insight Control

HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License 452148-B22

HP Insight Control suite, No Media, Electronic License including 1 year of 24x7 Technical Support and Updates T9074BAE

HP Insight Control, Electronic License for bundling with ProLiant ML/DL server, including 1 year of 24x7 Technical Support and Updates TC278AAE

HP Insight Control, Tracking License for bundling with ProLiant ML/DL server, including 1 year of 24x7 Technical Support and Updates TC275A

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

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

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 Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html

HP Insight Control for Linux

HP Insight Control for Linux, No Media, 1-server license for bundling with Tower, Rack, and Scalable servers, including one year of 24x7 Technical Support and Updates, Electronic TC203AAE

HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic TC213AAE

HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates TC209A

HP Insight Control for Linux, Media pack (DVD) - No licenses included TC208A

NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: <http://www.hp.com/go/ic-linux> (click on Download button).

NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key, and are available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

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

NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html

HP Integrated Lights-Out Advanced

HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates 512485-B21

HP ProLiant Essentials Integrated Lights-Out Advanced Pack, Electronic, including 1 year of 24x7 Technical Support and Updates TA850AAE

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service

NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

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

http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html

HP Insight Control server deployment

HP Insight Control server deployment Electronic License including 1 year 24x7 Technical Support and Updates T9082AAE

HP Insight Control server deployment, Single-Server License including 1 year of 24x7 Technical Support and Updates 452151-B21

NOTE: Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at:

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

NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key, and is available in all countries except China and Japan.

Additional Options

Customers in China and Japan should order the physical equivalent.

NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s).

Includes one year of 24 x 7 HP Software Technical Support Service.

NOTE: For additional license kits please see the Insight Control QuickSpecs at:

http://h18004.www1.hp.com/products/quickspecs/12631_div/12631_div.html

HP I/O Accelerator Options	HP 160GB SLC PCIe ioDrive NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600278-B21
	HP 320GB MLC PCIe ioDrive NOTE: A low-profile PCI bracket is included for use in low-profile slots.	600279-B21
	HP 320GB SLC PCIe ioDrive Duo	600281-B21
	HP 640GB MLC PCIe ioDrive Duo	600282-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html (Worldwide)	

HP Security - TPM	HP Trusted Platform Module Option Kit	488069-B21
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HP Storage Controllers SAS Controllers

Smart Array P212 Controller

HP Smart Array P212/Zero Memory Controller	462828-B21
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HP Smart Array P212/256 MB Controller	462834-B21
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Smart Array P411 Controller

HP Smart Array P411/256 MB Controller	462830-B21
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HP Smart Array P411/512 MB with BBWC Controller	462832-B21
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HP Smart Array P411/1G Flash Backed Write Cache	572531-B21
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HP Smart Array P411/512MB Flash Backed Write Cache	578229-B21
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Smart Array P812 Controller

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

512MB BBWC	462967-B21
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NOTE: Supported on HP Smart Array P411 Controller only.

1G Flash Backed Write Cache	534562-B21
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512MB Flash Backed Write Cache	534916-B21
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HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support	516471-B21
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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/13202_div/13202_div.html

(Smart Array P411 Controller)

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

(Smart Array Advanced Pack)

SAS HBA

HP SC08e 6Gb 2-ports Ext PCIe SAS HBA	614988-B21
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NOTE: This is a 2 x4 External Port HBA

NOTE: This is only approved for the HP StorageWorks 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

(SC08e 6Gb HBA)

SCSI HBA

HP SC11Xe Host Bus Adapter	412911-B21
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NOTE: Recommended HBA for SCSI tape drive connect.

Additional Options

NOTE: Please see the following QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html
 (SC11Xe HBA)

HP Power Cords	HP 1.83m 10A C13 CH Power Cord	AF565A
	HP 1.83m 10A C13 DK Power Cord	AF566A
	HP 1.83m 10A C13 EU Power Cord	AF568A
	HP 1.83m 10A C13 UK Power Cord	AF570A
	HP 1.83m C13 IT/CL Power Cord	AF571A
	HP 2.5m C13 So Africa Power Cord	AF567A

HP Tape Backup

NOTE: For the complete range of StorageWorks tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP StorageWorks tape backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks DAT 320 USB Tape Drive in 1U USB Rack Kit	AP835A
HP StorageWorks DAT 320 SAS Internal Tape Drive	AJ830A
NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive	EH847A
NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks LTO-4 Ultrium 1760 Internal Tape Drive	EH919A
NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks LTO-4 Ultrium 1840 Internal Tape Drive	EH860A
NOTE: For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks LTO-5 Ultrium 3280 Internal Tape Drive	EH899A
NOTE: For installation into 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader	BL536A
NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks MSL2024 Tape Library with one LTO-5 Ultrium 3000 SAS Drive	BL537A
NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks MSL4048 Tape Library with one LTO-4 Ultrium 3000 SAS Drive	BL538A
NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	
HP StorageWorks MSL8096 Tape Library with one LTO-5 Ultrium 3000 SAS Drive	BL539A
NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.	

Additional Options

HP Disk Backup

NOTE: For the complete range of StorageWorks D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of StorageWorks RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP StorageWorks disk backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks D2D Backup Systems with Backup Data Deduplication

HP StorageWorks D2D2504i Backup System EJ002B

NOTE: 3.0TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D4009i Backup System EH939A

NOTE: 7.5TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D4112fc Backup System EH993B

NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric.

HP StorageWorks RDX Removable Disk Backup Systems USB

HP StorageWorks RDX500 Internal Removable Disk Backup System AJ934A

NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 500GB of disk capacity per data cartridge.

HP StorageWorks RDX750 Internal Removable Disk Backup System AW577A

NOTE: For installation into 1U USB Rack-Mount Kit (A8007A). No peripheral bay available for drive installation into the server. 750GB of disk capacity per data cartridge.

HP StorageWorks Options

StorageWorks 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 StorageWorks 81B PCI-e FC HBA Single Port AP769A

HP StorageWorks 82B PCI-e FC HBA Dual Port AP770A

HP StorageWorks 41B 4Gb PCI-e FC HBA AP767A

HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA AP768A

Emulex Fibre Channel HBAs

HP StorageWorks 81E PCI-e FC HBA Single Port AJ762A

HP StorageWorks 82E PCI-e FC HBA Dual Port AJ763A

HP StorageWorks FC2142 4Gb PCI-e HBA A8002A

HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA A8003A

QLogic Fibre Channel HBAs

HP StorageWorks 81Q PCI-e FC HBA Single Port AK344A

HP StorageWorks 82Q PCI-e FC HBA Dual Port AJ764A

HP StorageWorks FC1142 4Gb PCI-e HBA AE311A

HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA AE312A

StorageWorks Converged Network Adapter

HP CN1000E 2P Converged Network Adapter AW520A

Additional Options

HP Disk Storage Systems

MSA SAN Storage Arrays

HP StorageWorks 60 Modular Smart Array 418408-B21

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

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

http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html

HP StorageWorks 70 Modular Smart Array 418800-B21

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

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

http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html

Disk Enclosures

HP StorageWorks D2600 Disk Enclosure AJ940A

HP StorageWorks 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
(Worldwide)

HP Uninterruptible Power Systems

HP Rack-mountable UPS

HP Rack-Mountable R5500 UPS

HP R5500 VA UPS, INTL AF416A

HP R5500 VA UPS, NA/JPN AF426A

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/11871_div/11871_div.html
(Worldwide)

HP R/T3000 Uninterruptible Power System (UPS)

HP R/T3000 UPS, High voltage, NA/JPN AF453A

HP R/T3000 UPS, High voltage, detachable inlet cord INTL AF454A

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13417_div/13417_div.html
(Worldwide)

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

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

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

HP Power Distribution Units

HP Monitored Power Distribution Unit: Half Rack Version

HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN) AF914A

HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL) AF915A

HP Monitored Power Distribution Unit: Full Rack Version

HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN) AF504A

HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN) AF506A

HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL) AF508A

HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL) AF510A

NOTE: Please see the following QuickSpecs for additional information:

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

Modular Power Distribution Units 1U/0U (Up to 32 outlets)

NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).

HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan) 252663-D72

8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN) 252663-D73

HP Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l) 252663-B31

HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) 252663-B24

NOTE: This PDU has a detachable input power cord and allows for adaptability to country specific power requirements.

Additional Options

NOTE: Please see the following QuickSpecs for additional options including shorter jumper cables and country specific power cords:

http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html
(Worldwide)

NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu.

HP Rack Series

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

10642 G2 (42U) Rack Cabinet - Pallet AF001A

10642 G2 (42U) Rack Cabinet - Shock Pallet AF002A

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

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

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

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

HP Rack Options

HP Server Console Switches

HP Server console switch 0x2x8 AF616A

HP Server console switch 0x2x16 AF617A

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

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

HP Server Console Switch G2 with Virtual Media & CAC

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

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

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

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

HP IP Console Switch G2 with Virtual Media & CAC

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

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

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

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

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

HP USB and SD Options

HP USB 04 Standard Keyboard DT528A#ABA

HP 4GB SD Flash Media Kit 580387-B21

NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: <http://www.hp.com/go/proliantvirtualization>.

HP 2GB USB Flash Media Drive Key 608447-B21

NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software 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.

Additional Options

HP Care Pack Services Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic U4607E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4608E

6-Hour Call to Repair, On-site Service 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number)

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4609E

Installation & Start-up Services

Hardware Installation, Electronic U4617E

Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic U4618E

Installation and Startup for Essentials Rapid Deployment Pack, Electronic U5683E

Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4619E

Support Plus 24

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4620E

Onsite HW support 24x7, 4hr response and SuSE O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U6316E

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

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

Memory

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

HP ProLiant DL580 G7

Memory Subsystem Architecture

Xeon EX memory architecture is designed to take advantage of multiple stages of memory interleaving to reduce latency and increase bandwidth.

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

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

DIMM Installation guidelines

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

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

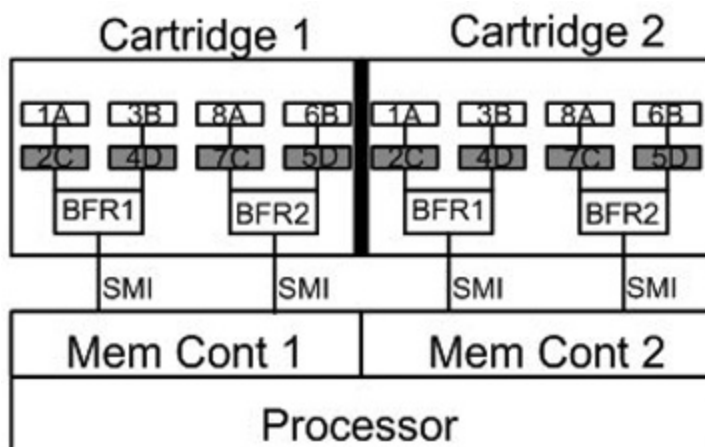


Figure 1 Processor/Memory interconnect

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

Memory Cartridge population guidelines

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

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

Hemisphere mode

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

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

Memory

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

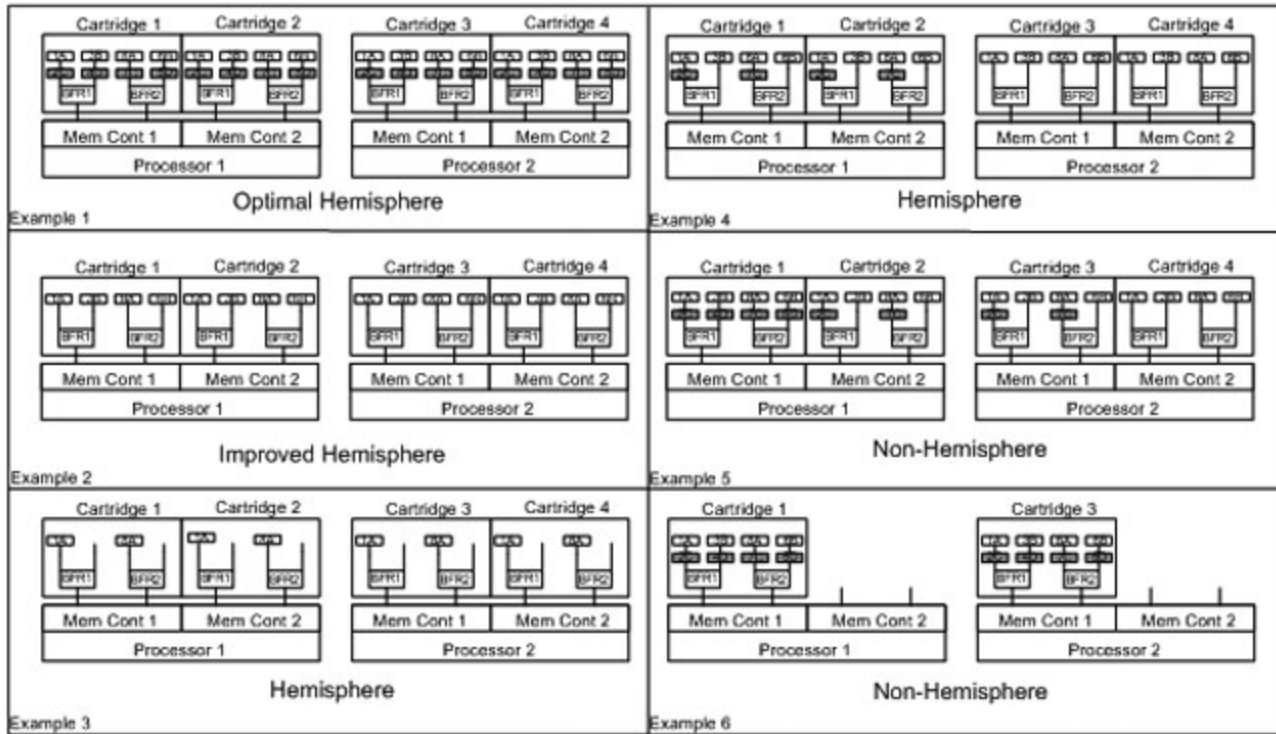


Figure 2 Hemisphere Population Diagram
Examples of Hemisphere vs Non-Hemisphere populations.

Memory Performance Optimization

The DL580 G7 supports 64 DIMMs across four multi-core processors. While there are many DIMM population configurations that can support any desired total memory size, optimal performance can only be achieved when DIMMs are populated to take advantage of the Xeon EX architecture. Reference the Figure: Hemisphere Population Diagram to achieve the best performance for a given memory/processor configuration.

- The largest contributor to maximum memory bandwidth performance is to utilize both memory controllers inside the processor. This is achieved by populating both memory cartridges for each installed processor.
- The second largest contributor to performance is to populate each DDR3 channel in each memory cartridge. To achieve this, the minimum DIMM count per cartridge is four. Maximum bandwidth is reached by fully populating all memory cartridges with the maximum number of eight DIMMs per cartridge.
- Best performance is obtained when all installed processors are enabled for Hemisphere mode.
- Hemisphere mode is optimum when four or eight DIMMs are installed per cartridge. Hemisphere mode can be reached with two or six DIMMs per cartridge (2 cartridges per processor) but it is not optimal configuration for Hemisphere mode.
- Plan your memory configurations using Identical DIMMs to reach your memory size target taking into account that 32 and 64 DIMM count configurations result in the highest performance. For a 4 processor example:
 - If initial memory target is 64GB then populate a 4 processor system with eight cartridges of 4 - 2GB DIMMs each for a total of 32 DIMMs. Your maximum expansion target is 128GB with 64 2GB DIMMs.
 - For 4GB DIMMs your initial memory target is 128GB using 32 DIMMs. Your maximum expansion target is 256GB with 64 DIMMs.
 - For 8GB DIMMs your initial memory target is 256GB using 32 DIMMs. Your maximum expansion target is 512GB with 64 DIMMs.
 - Maximum system memory capability is reached with an initial memory target of 512GB with 32 - 16GB DIMMs and 1TB with 64 16GB DIMMs.
- The more ranks per DIMM the higher the performance such that Quad rank DIMMs perform better than dual rank DIMMs.

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

HP Memory

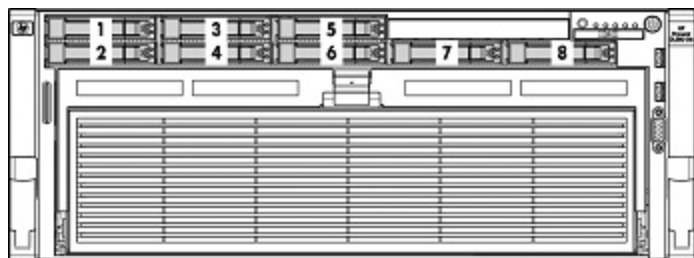
Registered DIMMs (RDIMMs)

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21

Memory Board Upgrade Option

HP DL580G7 Memory Board	588141-B21
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Storage



1-8 SFF SAS Internal Drive cage

Drive Support

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

Hard Drives

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

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

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

	Quantity Supported	Position Supported	Controller
300GB 6G SAS 10K DP	Up to 8	1-8	HP Smart Array P212/Zero Memory Controller
146GB 6G SAS 15K DP			HP Smart Array P212/256 MB Controller
146GB 6G SAS 10K DP			HP Smart Array P411/256MB Controller
72GB 6G SAS 15K DP			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
	HP Smart Array P411/1G Flash Backed Write Cache		
	HP Smart Array P812/1G Flash Backed Cache Controller		

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

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	Up to 8	1-8	HP Smart Array P212/Zero Memory Controller
			HP Smart Array P212/256 MB Controller
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

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

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K	Up to 16	3,4	HP Smart Array P212/Zero Memory Controller
160GB 3G SATA 7.2K			HP Smart Array P212/256 MB Controller
			HP Smart Array P411/256MB Controller
			HP Smart Array P411/512MB with BBWC Controller
			HP Smart Array P411/512MB Flash Backed Write Cache
			HP Smart Array P411/1G Flash Backed Write Cache
			HP Smart Array P812/1G Flash Backed Cache Controller

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

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

Storage

HP Smart Array P411/512MB Flash Backed Write Cache
 HP Smart Array P411/1G Flash Backed Write Cache
 HP Smart Array P812/1G Flash Backed Cache Controller

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 8	1-8	HP Smart Array P212/Zero Memory Controller
120GB 3.0G SATA SSD			HP Smart Array P212/256 MB Controller HP Smart Array P411/256MB Controller HP Smart Array P411/512MB with BBWC Controller HP Smart Array P411/512MB Flash Backed Write Cache HP Smart Array P411/1G Flash Backed Write Cache HP Smart Array P812/1G Flash Backed Cache Controller

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
60 Modular Smart Array	Up to 8	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
70 Modular Smart Array	Up to 4	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
D2600 Disk Enclosure	Up to 8	External	HP Smart Array P411/256MB BBWC Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller
D2700 Disk Enclosure	Up to 4	External	HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller

Maximum Storage Capacity - (External SAS Enclosure Attached)

Internal	4.TB (8 x 500GB SFF SAS/SATA Drives)
External	960TB (80 MSA60 enclosures x 12 drive bays each x 1TB SATA Drives)

Tape and Disk-Based Backup

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

	Position	Recommended Controller	Controller Part Number
HP StorageWorks SCSI Tape Drives LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter Please check the full compatibility information at: http://www.hp.com/go/connect	412911-B21
HP StorageWorks USB Tape Drives DAT 40 DAT 72 DAT 160 DAT 320 1U USB Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks SAS	External	HP Smart Array P212/Zero Memory Controller	462828-B21



Storage

Tape Drives

DAT 160
 DAT 320
 LTO-2 Ultrium 448
 LTO-3 Ultrium 920
 LTO-4 Ultrium 1760
 LTO-4 Ultrium 1840
 LTO-5 Ultrium 3000
 LTO-5 Ultrium 3280
 1U Rack-Mount Kit
 3U Rack-Mount Kit

Please check the full compatibility information at:
<http://www.hp.com/go/connect>

HP StorageWorks SCSI Tape Autoloaders

DAT 72x10 Autoloader
 1/8 G2 Autoloader

Please check the full compatibility information at:
<http://www.hp.com/go/connect>

HP StorageWorks SCSI Tape Libraries,

External

MSL2024
 MSL4048
 MSL8096
 MSL6000

HP U320e SCSI Dual Channel Controller

AH627A

Please check the full compatibility information at:
<http://www.hp.com/go/connect>

HP StorageWorks SAS Tape Autoloaders and Libraries

1/8 G2 Autoloader
 MSL2024
 MSL4048
 MSL8096

External

HP Smart Array P212/Zero Memory Controller
 Please check the full compatibility information at:
<http://www.hp.com/go/connect>

462828-B21

HP StorageWorks Fibre Channel Tape Libraries

MSL2024
 MSL4048
 MSL8096
 MSL6000

External

Please consult the EBS connectivity matrix at:
<http://www.hp.com/go/ebs> for connectivity information and the
 supported Fibre Channel HBAs shown in this QuickSpec.

HP StorageWorks USB RDX Removable Disk Backup System

RDX160
 RDX320
 RDX500
 RDX750

External

USB 2.0 port

N/A

HP StorageWorks D2D Backup Systems, iSCSI

D2D2500i
 D2D4000i

External

Embedded Network Controller. If the server requires a
 hardware iSCSI initiator, the QLogic QLA4050 Host Bus
 Adapter is recommended.

HP StorageWorks D2D Backup Systems, Fibre Channel

D2D4000fc

External

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

Power Specifications

HP 1200W CS HE Power Supply Kit							
Part Number	500172-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	86	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

NOTE: To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

Technical Specifications

System Unit	Dimensions (H x W x D) 6.94" x 19.0" x 27.55" (17.6cm x 48.3cm x 70.0cm) (with bezel)													
	Weight (approximate)	<table border="0"> <tr> <td>Maximum</td> <td>100.0 lb (45.4 kg)</td> </tr> <tr> <td colspan="2">(all hard drives, power supplies, DIMMs and processors installed)</td> </tr> <tr> <td>Minimum</td> <td>66.0 lb (30.0 kg)</td> </tr> <tr> <td colspan="2">(one hard drive, two power supplies, four DIMMs, and two processors installed)</td> </tr> </table>	Maximum	100.0 lb (45.4 kg)	(all hard drives, power supplies, DIMMs and processors installed)		Minimum	66.0 lb (30.0 kg)	(one hard drive, two power supplies, four DIMMs, and two processors installed)					
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	Input Requirements (per power supply)	<table border="0"> <tr> <td>Rated Line Voltage</td> <td>100 - 127 VAC, 200 - 240 VAC</td> </tr> <tr> <td>Rated Input Current</td> <td>12 A (at 100 VAC), 8 A (at 200 VAC)</td> </tr> <tr> <td>Rated Input Frequency</td> <td>50 to 60 Hz</td> </tr> <tr> <td>Rated Input Power</td> <td>1161 W (at 100 VAC), 1598 W (at 240 VAC)</td> </tr> </table>	Rated Line Voltage	100 - 127 VAC, 200 - 240 VAC	Rated Input Current	12 A (at 100 VAC), 8 A (at 200 VAC)	Rated Input Frequency	50 to 60 Hz	Rated Input Power	1161 W (at 100 VAC), 1598 W (at 240 VAC)				
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	BTU Rating	<table border="0"> <tr> <td>Maximum</td> <td>3960 BTU/hr (at 100 VAC), 5450 BTU/hr (at 200 VAC)</td> </tr> </table>	Maximum	3960 BTU/hr (at 100 VAC), 5450 BTU/hr (at 200 VAC)										
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	Power Specifications	<p>NOTE: To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor</p> <p>- Click on the system of interest. Example: DL580 G7 - Follow the instructions of the next screens.</p>												
	Power Supply Output (per power supply)	<table border="0"> <tr> <td>Rated Steady-State Power</td> <td>910 W (low line), 1300 W (high line)</td> </tr> <tr> <td>Maximum Peak Power</td> <td>910 W (low line), 1300 W (high line)</td> </tr> </table>	Rated Steady-State Power	910 W (low line), 1300 W (high line)	Maximum Peak Power	910 W (low line), 1300 W (high line)								
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	System Inlet Temperature	<table border="0"> <tr> <td>Operating</td> <td>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. System performance may be reduced if operating with a fan fault or above 30°C (86°F).</td> </tr> <tr> <td>Non-operating</td> <td>-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).</td> </tr> </table>	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. 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).								
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	Relative Humidity (non-condensing)	<table border="0"> <tr> <td>Operating</td> <td>10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.</td> </tr> <tr> <td>Non-operating</td> <td>5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.</td> </tr> </table>	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.								
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	Altitude	<table border="0"> <tr> <td>Operating</td> <td>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).</td> </tr> <tr> <td>Non-operating</td> <td>9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).</td> </tr> </table>	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).								
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Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).													
	Acoustic Noise	<p>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).</p> <table border="0"> <tr> <td colspan="2">Idle</td> </tr> <tr> <td>L WAd</td> <td>6.4 B (with PCI-E)</td> </tr> <tr> <td>L pAm</td> <td>NA dBA</td> </tr> <tr> <td colspan="2">Operating</td> </tr> <tr> <td>L WAd</td> <td>6.8 B (with PCI-E)</td> </tr> <tr> <td>L pAm</td> <td>NA dBA</td> </tr> </table>	Idle		L WAd	6.4 B (with PCI-E)	L pAm	NA dBA	Operating		L WAd	6.8 B (with PCI-E)	L pAm	NA dBA
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L WAd	6.4 B (with PCI-E)													
L pAm	NA dBA													
Operating														
L WAd	6.8 B (with PCI-E)													
L pAm	NA dBA													

Technical Specifications

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

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

Integrated Lights-Out 3 (iLO 3) integrated on system board	Architecture	PCI Express based health and remote management ASIC
	Processor	PCI Express RISC processor core running at 250MHz
	Upgradeability	Option firmware upgradeable via Flash ROM.
	Interfaces	One Ethernet Sideband connection (10/100/1000 Mb/s) One Ethernet network connection (10/100Mb/s)
	Memory	128-MB RAM with ECC
	Operating System Support	Microsoft Windows 2008 R2 Microsoft Windows 2008 (32 bit and 64 bit) Microsoft Windows Server 2008 Standard Edition (32bit and 64bit) Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit) Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Extended Systems Standard Edition, Enterprise Edition Red Hat Enterprise Linux 5.4 (32 bit and 64 bit) SUSE LINUX Enterprise Server 11 (32bit and 64bit) SUSE LINUX Enterprise Server 10 (32bit and 64bit) VMware ESX 4.0 VMware ESX 3.5.0 Solaris
	Client System Support	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
	Client Browser Support	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)
	Command Line Support	Secure Shell and serial port access Secure Socket Layer Secure Shell version 2
	Security	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
	Directory Support Services	Active Directory v1.0 (Windows 2003)
	Driver Support	HP ProLiant iLO3 Management Controller Driver Package
	Management protocols supported	SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML

Technical Specifications

Smart Array P410i Controller	Disk Drive and Enclosure Interface	6Gb/s SAS (Serial Attached SCSI)
	SAS Connectors	2 internal (Mini-SAS) x8 wide port connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth
	Server Interface	x8 5G PCIe 2.0 provides 4GB/s maximum bandwidth
	SAS Speed	x8 6Gb/s SAS provides 4.8GB/s maximum bandwidth
	Cache Memory	40-bit 256MB ECC protected cache (72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC module upgrades available); transportable with battery-backed or flash upgrade
	Logical Drives Supported	Up to 64 logical drives
	Maximum Logical Drive Capacity	Greater than 2TB
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with either
		Minimum of 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades
		Minimum of 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades

RAID 5, 5+0 (Distributed Data Guarding)
NOTE: The 256 MB cache is required to enable RAID 5, 5+0 support of the Smart Array P410i
RAID 1+0 (Striping & Mirroring)
RAID 0 (Striping)

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	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 x4	
	Controller	Qlogic/NetXen NX3031	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
Cable Support	10Base-T	Categories 3, 4, or 5 UTP; up to 328 ft (100 m)	
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
	1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	

Technical Specifications

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <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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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.