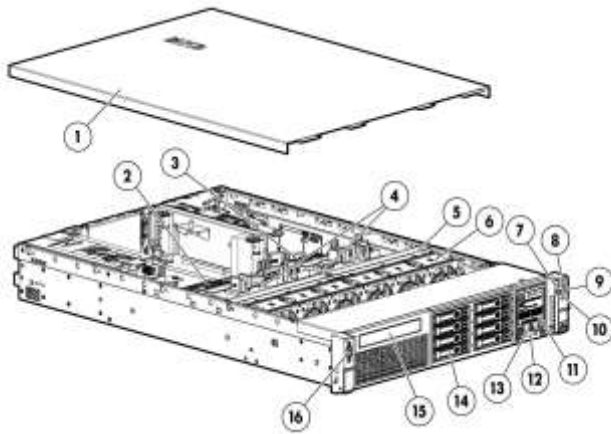


Overview

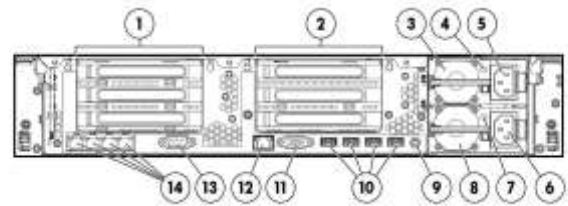
HP ProLiant DL380p Generation 8 (Gen8) Carrier Grade Supplement

NEBS (GR-63-CORE & GR-1089-CORE) and ETSI certified.

The HP ProLiant DL380p Gen8 sets the next generation standards of 2U 2-socket rack servers for the industry. With enhanced configuration flexibility, unmatched performance, and leading energy efficient design the DL380p Gen8 offers the perfect solution for the dynamic compute requirements of today's demanding datacenters.

**Front View:**

1. Quick removal access panel
2. Second Intel Processor
3. First Intel Processor
4. 24 DIMM slots: DDR3 Registered (RDIMM)
5. Air Baffle
6. Hot-plug fans, full N+1 redundancy
7. Health LED
8. Power On /Standby button and system power LED button
9. USB connector
10. Unit ID LED
11. Systems Insight Display
12. Asset Tag
13. USB connector
14. HD Bays
15. Optional Slim Optical Bay (SATA DVD-RW /ROM Optical Drive)
16. Video connector

**Rear View:**

1. PCIe Slots (Slots 1-3 top to bottom)
2. PCIe Slots (Slots 4-6 top to bottom)
3. Power supply 1
4. Power supply 1 Power LED
5. Power supply 1 Power connection (with Intelligent PDU communication)
6. Power supply 2 Power connection (with Intelligent PDU communication)
7. Power supply 2 Power LED
8. Power supply 2
9. Unit ID LED/Button
10. USB connectors (4)
11. Video connector
12. iLO connector
13. Serial connector
14. FlexibleLOM ports (Shown: 4 ports 1Gb each /Optional: 2 ports 10Gb each)

Standard Features

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

Processor
One of the following
depending on Model

E5-2600 v2 series Processors**Base Processors**

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2640 v2 (2.0GHz/8-core/20MB/7.2GT-s QPI/95W, DDR3-1600, HT, Turbo2-3/3/3/3/3/4/5)

Intel® Xeon® E5-2630 v2 (2.6GHz/6-core/15MB/7.2GT-s QPI/80W, DDR3-1600, HT, Turbo2-3/3/3/3/4/5)

Intel® Xeon® E5-2620 v2 (2.1GHz/6-core/15MB/7.2GT-s QPI/80W, DDR3-1600, HT, Turbo2-3/3/3/3/4/5)

Performance Processors

NOTE: All support up to 1866MHz DDR3 memory speeds.

Intel® Xeon® E5-2690 v2 (3.0GHz/10-core/25MB/8.0GT-s QPI/130W, DDR3-1866, HT, Turbo2-3/3/3/3/3/3/4/5/6)

Intel® Xeon® E5-2680 v2 (2.8GHz/10-core/25MB/8.0GT-s QPI/115W, DDR3-1866, HT, Turbo2-3/3/3/3/3/4/5/6/7/8)

Intel® Xeon® E5-2670 v2 (2.5GHz/10-core/25MB/8.0GT-s QPI/115W, DDR3-1866, HT, Turbo2-4/4/4/4/4/4/5/6/7/8)

Intel® Xeon® E5-2660 v2 (2.2GHz/10-core/25MB/8.0GT-s QPI/95W, DDR3-1866, HT, Turbo2-4/4/4/4/4/4/5/6/7/8)

Intel® Xeon® E5-2650 v2 (2.6GHz/8-core/20MB/8.0GT-s QPI/95W, DDR3-1866, HT, Turbo2-4/4/4/4/5/6/7/8)

E5-2600 series Processors**Base Processors**

NOTE: All support up to 1333MHz DDR3 memory speeds.

Intel® Xeon® E5-2640 (2.50GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)

Intel® Xeon® E5-2630 (2.30GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)

Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/7.2GT-s QPI/95W, DDR3-1333, HT, Turbo2-3/3/4/4/5/5)

Performance Processors

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2680 (2.70GHz/8-core/20MB/8GT-s QPI/130W, DDR3-1600, HT, Turbo2-4/4/5/5/5/7/8/8)

Intel® Xeon® E5-2670 (2.60GHz/8-core/20MB/8GT-s QPI/115W, DDR3-1600, HT, Turbo2-4/4/5/5/6/6/7/7)

Intel® Xeon® E5-2667 (2.90GHz/6-core/15MB/8GT-s QPI/130W, DDR3-1600, HT, Turbo2-3/3/3/4/5/6)

Intel® Xeon® E5-2665 (2.40GHz/8-core/20MB/8GT-s QPI/115W, DDR3-1600, HT, Turbo2-4/4/5/5/6/6/7/7)

Intel® Xeon® E5-2660 (2.20GHz/8-core/20MB/8GT-s QPI/95W, DDR3-1600, HT, Turbo2-5/5/6/6/7/7/8/8)

Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/8GT-s QPI/95W, DDR3-1600, HT, Turbo2-4/4/5/5/5/7/8/8)

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

NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 8, 7, 6, 5, 4, 3, 2 and 1 cores active.

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

Standard Features

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

NOTE: For the Intel® C600 Chipset E5-2600 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2600x, 2 = number of CPUs in a Node, 6 is socket/segment designation, 00 = Processor SKU, and x = L for low power SKUs.

Cache Memory
One of the following depending on Model

25MB (1x25MB) Level 3

NOTE: For Ten-core processors.

20MB (1x20MB) Level 3

NOTE: For Eight-core processors.

15MB (1x15MB) Level 3

NOTE: For Six-core processors.

10MB (1x10MB) Level 3

NOTE: For Quad-core processors.

5MB (1x5MB) Level 3

NOTE: For Dual-core processors.

NOTE: All processor models above list the L3 Cache associated with that particular processor.

Chipset

Intel® C600 Series Chipset

Intel® E5-2600 and E5-2600 v2 Processor Families

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

Upgradeability

Upgradeable to 2 processors (20 Cores)

NOTE: Processor upgrade available from Intel® Xeon® Processors E5-2600 to E5-2600 v2. Please contact HP Technology Sales (<http://www.hp.com/support>), your local HP Re-seller, or reference the following Customer Advisory: [ProLiant Servers-Instructions for Upgrading an HP ProLiant Gen8 Server from an Intel Xeon Processor E5-2600 to an Intel Xeon Processor E5-2600 v2](#), regarding critical details before upgrading. An explanation of requirements and limitations are provided.

Up to 24 DIMM slots available for higher Memory capacity

FlexibleLOM connector for 1 Gigabit or 10 Gigabit networking options

8SFF Hard drive bays (total of 16 with optional upgrade)

Optional 3 slot riser (x16, x8, x8), or 2 slot (x16, x16)

NOTE: To take advantage of the additional 3 PCI slot upgrade, the second processor must be installed.

Redundant Power Supply

Optical Drive (8SFF only)

On System Management Chipset

HP iLO (Firmware: HP iLO 4)

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

Memory Protection

Advanced ECC

NOTE: Advanced ECC uses single device data correction (SDDC) to detect and correct single and all multi-bit error that occurs within a single DRAM chip. Both x4 and x8 SDDC are supported (x8 requires lockstep mode).

Online Spare

NOTE: Memory online spare mode (also known as rank spare mode) detects a rank that is degrading and switches operation to the spare rank.

Lock-step mode

NOTE: Memory Lockstep mode is used to correct a single x8 DRAM device failure on a DIMM. The DIMMs in each paired memory channel must have identical HP part numbers.

QuickSpecs

HP ProLiant DL380p Generation 8 (Gen8) Carrier Grade Supplement

Standard Features

Memory

One of the following depending on Model

Type	HP SmartMemory Registered (RDIMM)
DIMM Slots Available	24 (12 DIMM slots per processor /4 channels per processor/3 DIMMs per channel)

NOTE: HP memory from previous generation servers are not fully compatible with the HP ProLiant DL380p Gen8 Server.

NOTE: To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html

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

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1600MHz, 1333MHz, or 1066MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.

Expansion Slots

Primary Riser (Standard)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCIe Gen3	X16	X16	7	Full Length, Full Height Slot	
2	PCIe Gen3	X8	X8	10	Half Length, Full Height Slot	
3	PCIe Gen2	X4	X8	13	Half Length, Full Height Slot	

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

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

NOTE: When populating the second optional riser slot, the second processor must be installed.

NOTE: All slots support up to 150w PCIe cards, but an additional Power Cord Option is required (PN 669777-B21). See Option Section below for offering.

PCIe Riser (Optional Secondary)

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
4	PCIe Gen3	X16	X16	16	Full length, full height slot	
5	PCIe Gen3	X8	X8	20	Half length, full height slot	
6	PCIe Gen3	X8	X8	23	Half length, full height slot	

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

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

NOTE: When populating the second optional riser slot, the second processor must be installed.

NOTE: Slot 2 and slot 3 both support up to 150w PCIe cards, but an additional Power Cord Option is required (669777-B21). See Option Section below for offering.

QuickSpecs

HP ProLiant DL380p Generation 8 (Gen8) Carrier Grade Supplement

Standard Features

PCIe Riser (Optional Secondary)	Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
	4	PCIe Gen3	X16	X16	16	Full length, Full height slot	
	5	PCIe Gen3	X16	X16	16	Half Length, Full Height	

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

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

HP Server ROM

HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU)).

NOTE: For further information, please refer to HP's RBSU (ROM based setup utility) user guide: www.hp.com/support/rbsu.

Internal Storage Devices		
Diskette Drive		None
Optical Drive		Ships standard in Performance Models Optional: DVD-ROM, DVD-RW
Hard Drives		None ship standard
Drive Bays		Standard: 8SFF drive bays total with Optical Bay Optional: +8SFF drive bay (total of 16SFF drive bays)
		NOTE: The Optical Drive bay is not available with +8SFF drive bay optional upgrade.

Maximum Internal Storage			
Hot Plug SFF SAS		14.4TB	16 x 900GB (with optional SFF drive cage)
Hot Plug SFF SAS SSD		12.8TB	16 x 800GB (with optional SFF drive cage)

Interfaces		
Serial		1

Standard Features

Video	2 (1 front, 1 back) not active simultaneously
FlexibleLOM Network Ports	Some models come standard with 4 x 1GB ports while others come with 2 x 10GB ports (See HP Networking section below for more details and options).
iLO remote management network port	1 Gb Dedicated
SD slot	1 Internal Secure NOTE: The SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.
USB 2.0 Ports	Up to 7 total: up to 2 front, 4 back, 1 internal

Industry Standard Compliance

ACPI 2.0b Compliant
 PCIe 3.0 Compliant
 PXE Support
 WOL Support
 Microsoft® Logo certifications
 USB 2.0 Compliant

Server Power Cords

High voltage power cord ships standard with all part numbers.

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

Power Specifications

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

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

Common Slot Power Supply

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

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

NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same output and efficiency rating. If non-matched power supplies are inserted you will get errors and operation will fail.

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

Standard Features

www.hp.com/go/ipd.

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

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

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

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

System Fans
One of the following depending on Model

2P Models have (6) (N+1 redundancy standard)
1P Models have (4) (N+1 redundancy standard)

Required Cabling

For required cabling information, refer to the HP Web site at: www.hp.com/servers/dl380p-gen8.

Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)
[Red Hat Enterprise Linux \(RHEL\)](#)
[SUSE Linux Enterprise Server \(SLES\)](#)
[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: <http://www.hp.com/support/DL380pGen8>

Graphics

Integrated Matrox G200 video standard

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

Form Factor
One of the following depending on Model

2U Rack form factor, ships with ball bearing rails and cable management system
8 SFF Drive Bay Version:
3.44 (8.74 cm) Height x 17.54" (44.55 cm) Width x 27.5" (69.85 cm) Length

On System Management

HP iLO Management Engine

HP iLO Management Engine is a complete set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support. HP iLO Management Engine comes standard on all HP ProLiant Gen8 Servers. HP iLO Management Engine portfolio includes:

- **HP iLO:** The HP iLO management processor is the core **foundation for HP iLO Management Engine. HP iLO for HP** ProLiant servers simplify server setup, engage health monitoring, power and thermal control, and promote remote administration for HP ProLiant ML, DL, BL and SL servers. Furthermore with the new HP

Standard Features

iLO is the ability to access, deploy, and manage your server anytime from anywhere with your Smartphone device.

- **HP Agentless Management:** With HP iLO Management Engine in every HP ProLiant Gen8 server, the base hardware monitoring and alerting capability is built into the system (running on the HP iLO chipset) and starts working the moment that a power cord and an Ethernet cable is connected to the server.
- **HP Active Health System:** HP Active Health System is an essential component of the HP iLO Management Engine. It provides: Diagnostics tools/scanners wrapped into one; Always on, continuous monitoring for increased stability and shorter downtimes; Rich configuration history; Health and service alerts; Easy export and upload to Service and Support.
- **HP Intelligent Provisioning (previously known as SmartStart):** HP Intelligent Provisioning offers the ability for out-of-the box single-server deployment and configuration without the need for media.

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

HP Insight management software

HP Service Pack for ProLiant (SPP)

HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) version 5 provide a new, comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new HP server hardware launches. By enabling all firmware to be updated online and integrating firmware and system software updates in one operation HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is the fact that HP provides 12 months of support on each Service Pack for ProLiant.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM version 5 and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application has been re-written to provide a more straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP will recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

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

Standard Features

the correct updates and order of update deployment.

NOTE: The Service Pack for ProLiant (which includes HP SUM 5) can be downloaded from www.hp.com/go/spp/download. More information can be found: www.hp.com/go/spp and <http://www.hp.com/go/hpsum>

Security

Power-on password
Serial interface control
Administrator's password

Warranty

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

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

Optional Features

HP Insight management software

HP Insight Control

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

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 Matrix Operating Environment

The HP Matrix Operating Environment (Matrix OE) for ProLiant and Integrity servers is an integrated command center that helps you instantly adjust to dynamic business demands. This advanced infrastructure management software lets you reduce the cost of common data center tasks by up to 40 percent while keeping pace with your changing business.

The HP Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HP CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).

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

HP iLO Advanced License for ProLiant Servers

HP iLO management processors for HP ProLiant Gen8 servers virtualizes system controls to help simplify server setup, engage health monitoring and power and thermal control, and promote remote administration. HP iLO functions out-of-the-box without additional software installation and functions regardless of the servers' state of operation. Basic system board management functions, diagnostics, and essential Lights-Out functionality ships standard across all HP ProLiant Gen8 rack, tower and blade servers. The HP iLO can be accessed from any location via a web browser and works hand-in-hand with HP Systems Insight Manager, Insight Control, and HP Matrix Operating Environment, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service to the business.

Advanced functionality, such as graphical remote console, multi-user collaboration, and video record/playback can be activated with the optional HP iLO Advanced or HP iLO Advanced for BladeSystem licenses. The Advanced licensed features offer sophisticated remote administration of servers in dynamic data center and remote locations and can help significantly reduce cost associated with IT-related travel and unplanned downtime.

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

High Performance Clusters

HP Cluster Platforms

HP Cluster Platforms are specifically engineered, factory-integrated large-scale ProLiant clusters optimized for High Performance Computing, with a choice of servers, networks and software. Operating system options include specially priced offerings for Red Hat Enterprise Linux and SUSE Linux Enterprise Server, as well as Microsoft Windows HPC Server. A Cluster

Optional Features

HP HPC Interconnects	Platform Configurator simplifies ordering. http://www.hp.com/go/clusters High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html
HP Insight Cluster Management Utility	HP Insight Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used for lifecycle management of hyperscale clusters of Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. http://www.hp.com/go/cmu
HP HPC Linux Value Pack	HP HPC Linux Value Pack (Value Pack) is an HP-licensed and HP-supported option to HP Insight CMU, for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform LSF workload scheduler and Platform Application Center, as well as the HP-MPI parallelization library. HP HPC Linux Value Pack

HP Insight Online

HP Insight Online is a new addition to the HP Support Center for one stop, secure access to product and HP support information personalized to your IT environment. Insight Online can automatically display devices remotely monitored by HP Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime.
www.hp.com/go/insightonline

Factory Express Portfolio for Servers and Storage

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

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, EVA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

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

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>.

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers

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

Protect your business beyond warranty with HP Care Pack Services

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

Optimized Care

Supports maintaining servers at optimum performance availability

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

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

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

Standard Care

Service recommendation that maintains high level of server availability

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

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

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

Related Services

HP ProLiant Server Hardware Installation

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

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

Factory Express for Servers and storage

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

Data Privacy Services

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

www.hp.com/services/dataprivacy

Service and Support

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

Get connected to HP to improve your support experience

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

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

*HP' Support Center Mobile App is subject to local availability

Warranty / Service Coverage

For ProLiant servers and storage systems, the services cover HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

For more information

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

Configuration Information - Factory Integrated Models

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

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

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

NOTE: All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

Step 1: Base Configuration

HP Models	HP ProLiant DL380p Gen8 8 SFF Configure-to-order Server	653200-B21
	Factory Integrated Model ships with:	
	1 FlexibleLOM connector: (see Step 2: HP FlexibleLOM section below for NIC choices to populate the embedded connector)	
	Smart Array P420i Controller w/ Zero Memory (ZM)	
	I/O slots - 3 Slots come standard:	
	<ul style="list-style-type: none"> • Slot 1 - FL/FH x16 PCIe 3.0 (x16 connector) • Slot 2 - HL/FH x8 PCIe 3.0 (x8 connector) • Slot 3 - HL/FH x4 PCIe 2.0 (x8 connector) • Additional Slots may be added via selections from the PCI Information and Options subsection 	
	System Fans - 4 (2 additional fans included with second processor)	
	Drive Cage - 8-SFF (Second SFF drive cage optional)	
	USB - 4 Rear, 2 Front, 1 Internal, 1 SD slot	
	On system Server Management - (HP iLO 4) (embedded)	
	NOTE: For NEBS compliance, must order one Telco conversion kit (707865-B21)	
	NOTE: Power Supply & Rail Kit not included - choose from Step 2 section below	

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

HP Processors	NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21	
	E5-2600 v2 series Processors	
	Base Processors	
	NOTE: All support up to 1600MHz DDR3 memory speeds.	
	HP DL380p Gen8 Intel® Xeon® E5-2640v2 (2.0GHz/8-core/20MB/95W) FIO Processor Kit	715219-L21
	HP DL380p Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) FIO Processor Kit	715220-L21
	HP DL380p Gen8 Intel® Xeon® E5-2620v2 (2.1GHz/6-core/15MB/80W) FIO Processor Kit	715221-L21
	Performance Processors	
	NOTE: All support up to 1866MHz DDR3 memory speeds.	
	HP DL380p Gen8 Intel® Xeon® E5-2690v2 (3.0GHz/10-core/25MB/130W) FIO Processor Kit	715214-L21
	HP DL380p Gen8 Intel® Xeon® E5-2680v2 (2.8GHz/10-core/25MB/115W) FIO Processor Kit	715215-L21
	HP DL380p Gen8 Intel® Xeon® E5-2670v2 (2.5GHz/10-core/25MB/115W) FIO Processor Kit	715216-L21

Configuration Information - Factory Integrated Models

HP DL380p Gen8 Intel® Xeon® E5-2660v2 (2.2GHz/10-core/25MB/95W) FIO Processor Kit 715217-L21

HP DL380p Gen8 Intel® Xeon® E5-2650v2 (2.6GHz/8-core/20MB/95W) FIO Processor Kit 715218-L21

E5-2600 series Processors**Base Processors**

NOTE: All support up to 1333MHz DDR3 memory speeds.

HP DL380p Gen8 Intel® Xeon® E5-2640 (2.5GHz/6-core/15MB/95W) FIO Processor Kit 662246-L21

HP DL380p Gen8 Intel® Xeon® E5-2630 (2.3GHz/6-core/15MB/95W) FIO Processor Kit 662248-L21

HP DL380p Gen8 Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/95W) FIO Processor Kit 662250-L21

Performance Processors

NOTE: All support up to 1600MHz DDR3 memory speeds

HP DL380p Gen8 Intel® Xeon® E5-2680 (2.7GHz/8-core/20MB/130W) FIO Processor Kit 662228-L21

HP DL380p Gen8 Intel® Xeon® E5-2670 (2.6GHz/8-core/20MB/115W) FIO Processor Kit 662240-L21

HP DL380p Gen8 Intel® Xeon® E5-2665 (2.4GHz/8-core/20MB/115W) FIO Processor Kit 666509-L21

HP DL380p Gen8 Intel® Xeon® E5-2660 (2.2GHz/8-core/20MB/95W) FIO Processor Kit 662242-L21

HP DL380p Gen8 Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/95W) FIO Processor Kit 662244-L21

HP DL380p Gen8 Intel® Xeon® E5-2637 (3.0GHz/2-core/5MB/80W) FIO Processor Kit 662224-L21

HP Memory

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP SmartMemory QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713981-B21

HP 4GB (1x4GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708637-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713983-B21

HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HP 8GB (1x8GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708639-B21

HP 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 731761-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

HP 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708641-B21

Configuration Information - Factory Integrated Models

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647893-B21
HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647895-B21
HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647897-B21
HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit	647901-B21
HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	647899-B21
HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit	672631-B21

NOTE: This memory kit available as a Factory Integrated Option only.

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

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

NOTE: PC3L is a low voltage memory

HP Networking

FlexLOM Adapters

NOTE: The HP ProLiant DL380p Gen8 server requires one FlexLOM to be installed in the FlexLOM slot.

HP Ethernet 1Gb 4-port 331FLR FIO Adapter	684208-B21
HP Ethernet 10Gb 2-port 530FLR-SFP+ FIO Adapter	684210-B21
HP FlexFabric 10Gb 2-port 554FLR-SFP+ FIO Adapter	684213-B21
HP Ethernet 1Gb 4-port 366FLR FIO Adapter	684217-B21

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

HP Power Supplies

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

HP Common Slot Platinum Plus Power Supply Kits

NOTE: The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit	656363-B21
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HP Common Slot -48VDC Power Supplies

NOTE: The following Power Supplies offer 92% Efficiency.

HP 750W Common Slot -48VDC Hot Plug Power Supply Kit	636673-B21
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NOTE: The HP 750W Common Slot -48VDC power supply has been designed with a terminal block connection allowing for custom design of power cords by the user. However, HP offers multiple cable options for this power supply which can found at www.hp.com/products/powercords.

NOTE: Option Kits for AC power supplies include the power supply and one PDU IEC cable.

NOTE: Power Specification and Technical Content for supported power supplies can be found at:

http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

Configuration Information - Factory Integrated Models

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

NOTE: Gen8 rail kits have changed significantly from prior generation rail kits.

Please

take a moment to review the installation documentation that comes with the server

to

help you with the installation of your Gen8 server.

NOTE: Rail kits are optional for DL380p Gen8 and are no longer included standard with

the server. Customers have the option to purchase their server without a rail kit.

The HP

2U Gen8 Cable Management Arm is not available when using Friction Rails.

NOTE: To assist in the installation of the server into the rack, an optional installation

tool is available by contacting your local services representative (p/n 695539-001).

Caution: HP recommends that a minimum of two people are required for all Rack Server

installations. Please refer to your installation instructions for proper tools and number

of people to use for any installation.

NOTE: See HP Rack Options in Additional Options section of this QuickSpecs for rack kit choices.

HP Insight Software

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License

C6N36A

HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License

TC203A

HP OneView

HP OneView for ProLiant DL Server incl 3yr 24x7 Supp FIO Bundle Physical 1 Svr Lic

E5Y43A

HP OneView incl 3yr 24x7 Supp Bundle 1 Svr E-LTU

E5Y43AAE

Step 4: Choose Additional Options for Factory Integration

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

Configuration Information - Factory Integrated Models

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

HP Unique Options	HP DL380p Gen8 NEBS Conversion Cage Kit	707865-B21
	NOTE: For full NEBS Level 3 compliance, NEBS conversion cage kits must be ordered and installed for each PCI riser present in the product.	
	HP DL380/385 Gen8 3 Slot PCI-E Riser Kit	653206-B21
	HP DL380p/560 Gen8 2 Slot 2x16 PCI-E Riser Kit	653208-B21

HP Processors	E5-2600 v2 series Processors	
	Base Processors	
	NOTE: All support up to 1600MHz DDR3 memory speeds.	
	HP DL380p Gen8 Intel® Xeon® E5-2640v2 (2.0GHz/8-core/20MB/95W) FIO Processor Kit	715219-B21
	HP DL380p Gen8 Intel® Xeon® E5-2630v2 (2.6GHz/6-core/15MB/80W) FIO Processor Kit	715220-B21
	HP DL380p Gen8 Intel® Xeon® E5-2620v2 (2.1GHz/6-core/15MB/80W) FIO Processor Kit	715221-B21
	Performance Processors	
	NOTE: All support up to 1866MHz DDR3 memory speeds.	
	HP DL380p Gen8 Intel® Xeon® E5-2690v2 (3.0GHz/10-core/25MB/130W) FIO Processor Kit	715214-B21
	HP DL380p Gen8 Intel® Xeon® E5-2680v2 (2.8GHz/10-core/25MB/115W) FIO Processor Kit	715215-B21
	HP DL380p Gen8 Intel® Xeon® E5-2670v2 (2.5GHz/10-core/25MB/115W) FIO Processor Kit	715216-B21
	HP DL380p Gen8 Intel® Xeon® E5-2660v2 (2.2GHz/10-core/25MB/95W) FIO Processor Kit	715217-B21
	HP DL380p Gen8 Intel® Xeon® E5-2650v2 (2.6GHz/8-core/20MB/95W) FIO Processor Kit	715218-B21
	E5-2600 series Processors	
	Base Processors	
	NOTE: All support up to 1333MHz DDR3 memory speeds.	
	HP DL380p Gen8 Intel® Xeon® E5-2640 (2.5GHz/6-core/15MB/95W) FIO Processor Kit	662246-B21
	HP DL380p Gen8 Intel® Xeon® E5-2630 (2.3GHz/6-core/15MB/95W) FIO Processor Kit	662248-B21
	HP DL380p Gen8 Intel® Xeon® E5-2620 (2.0GHz/6-core/15MB/95W) FIO Processor Kit	662250-B21
	Performance Processors	
	NOTE: All support up to 1600MHz DDR3 memory speeds	
	HP DL380p Gen8 Intel® Xeon® E5-2680 (2.7GHz/8-core/20MB/130W) FIO Processor Kit	662228-B21
	HP DL380p Gen8 Intel® Xeon® E5-2670 (2.6GHz/8-core/20MB/115W) FIO Processor Kit	662240-B21
	HP DL380p Gen8 Intel® Xeon® E5-2665 (2.4GHz/8-core/20MB/115W) FIO Processor Kit	666509-B21
	HP DL380p Gen8 Intel® Xeon® E5-2660 (2.2GHz/8-core/20MB/95W) FIO Processor Kit	662242-B21
	HP DL380p Gen8 Intel® Xeon® E5-2650 (2.0GHz/8-core/20MB/95W) FIO Processor	662244-B21

Core Options

Kit

HP DL380p Gen8 Intel® Xeon® E5-2637 (3.0GHz/2-core/5MB/80W) F10 Processor Kit 662224-B21

NOTE: HP memory from previous generation servers are not qualified or warranted with this HP ProLiant Server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen8. For additional information, please see the HP SmartMemory QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html

HP Memory

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713981-B21

HP 4GB (1x4GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708637-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713983-B21

HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HP 8GB (1x8GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708639-B21

HP 8GB (1x8GB) Single Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 731761-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

HP 16GB (1x16GB) Dual Rank x4 PC3-14900R (DDR3-1866) Registered CAS-13 Memory Kit 708641-B21

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2600 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647893-B21

HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647895-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647897-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647901-B21

HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647899-B21

HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 672631-B21

NOTE: This memory kit available as a Factory Integrated Option only.

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

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

NOTE: PC3L is a low voltage memory

HP Optical Drives

HP 12.7mm Slim SATA DVD-ROM JackBlack Optical Drive 652232-B21

HP 12.7mm Slim SATA DVD-RW JackBlack Optical Drive 652235-B21

Core Options

HP Hard Drives

NOTE: The NEBS certified HP ProLiant DL380p Gen8 Smart Storage solutions are equipped with entirely re-designed Small Form Factor (SFF 2.5 in) hot plug carriers for HP Qualified Hard Drives and Solid State Drives. These new carriers provide status and activity indicators as well as caution indicators for "Do Not Remove".

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

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

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

HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652589-B21
HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652583-B21
HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652572-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652564-B21
HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652611-B21
HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652605-B21
HP 72GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive	652597-B21

SAS Hot Plug Smart Drive LFF (3.5-inch) Enterprise Drives

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

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

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

HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691868-B21
HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive	691866-B21

Hard Drive Kits

HP SFF Gen8 Hard Drive Blank Kit	666987-B21
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HP Networking

Gigabit Ethernet adapters

HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
HP Ethernet 1Gb 2-port 361T Adapter	652497-B21
HP Ethernet 1Gb 2-port 332T Adapter	615732-B21

10 Gigabit Ethernet Adapters

NOTE: A minimum of two Gigabytes 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 Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
HP Ethernet 10Gb 2-port 561T Adapter	716591-B21
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21

FlexibleLOM Adapters

NOTE: Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.

NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and

Core Options

cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs.

HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B21
HP Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	647581-B21
HP FlexFabric 10Gb 2-port 554FLR-SFP+ FIO Adapter	629142-B21

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

SFP+

HP X132 10G SFP+ LC SR Transceiver	J9150A
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HP I/O Expansion Options	HP DL380p Gen8 NEBS Conversion Cage Kit	707865-B21
	NOTE: For full NEBS Level 3 compliance, NEBS conversion cage kits must be ordered and installed for each PCI riser present in the product.	
	HP DL380/385 Gen8 3 Slot PCI-E Riser Kit	653206-B21
	HP DL380p/560 Gen8 2 Slot 2x16 PCI-E Riser Kit	653208-B21

HP Power Supplies

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

HP Common Slot Platinum Plus Power Supply Kits

NOTE: The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit	656363-B21
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HP Common Slot -48VDC Power Supplies

NOTE: The following Power Supplies offer 92% Efficiency.

HP 750W Common Slot -48VDC Hot Plug Power Supply Kit	636673-B21
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NOTE: The HP 750W Common Slot -48VDC power supply has been designed with a terminal block connection allowing for custom design of power cords by the user. However, HP offers multiple cable options for this power supply which can found at www.hp.com/products/powercords.

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

NOTE: Power Specification and Technical Content for supported power supplies can be found at:

http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

Additional Options

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

HP Insight Software	HP Insight Control	
	HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License	C6N27A
	HP Insight Control Server Provisioning Media Kit	BD883A
	HP Insight Management Media Kit	C6N31A
	NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.	
	NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.	
	NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates .	
	NOTE: For additional license options please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html	
	HP Integrated Lights-Out (iLO) Advanced for ProLiant	
	HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License	512485-B21
	HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates	BD505A
	NOTE: For additional license options please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html	
	NOTE: For more information, visit: http://www.hp.com/go/ilo	
High Performance Clusters	HP Cluster Management Utility	
	HP Insight Cluster Management Utility 1yr 24x7 Flexible License	QL803B
	HP Insight Cluster Management Utility 3yr 24x7 Flexible License	BD476A
	NOTE: These part numbers can be used to purchase one certificate for multiple licenses and support with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. Customer also will receive a support agreement.	
	HP Insight Cluster Management Utility Media	BD477A
	NOTE: For additional license kits please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html	
HP I/O Accelerator Options	HP 1205GB Multi Level Cell G2 PCIe ioDrive2 for ProLiant Servers	673646-B21
	HP 3TB G2 FH/HL PCIe ioDrive2 IO Accelerator for ProLiant Servers	721458-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html	
HP Security	HP Trusted Platform Module Option	488069-B21
	NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker	

Additional Options

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.

HP 2U Security Bezel Kit 666988-B21

HP Storage Controllers

SAS Controllers

Smart Array P420 Controller

NOTE: P420 requires (2) HP Mini SAS Straight to Straight 37in Cable Assemblies (P/N 662897-B21)

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

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

Optional Upgrades

HP 1GB P-series Smart Array Flash Backed Write Cache 631679-B21

HP 2GB P-series Smart Array Flash Backed Write Cache 631681-B21

HP 512MB P-series Smart Array Flash Backed Write Cache 661069-B21

HP SmartCache No Media 24x7 Technical Support 1 Svr License D7S26A

HP SmartCache No Media 24x7 Technical Support Flexible License D7S27A

HP SmartCache No Media 24x7 Technical Support Electronic License D7S27AAE

HP Secure Encryption No Media Flexible License per Drive D8S84A

HP Secure Encryption No Media E-LTU per Drive D8S85AAE

HP Cable Options

HP Mini SAS Straight to Straight 37in Cable Assembly 662897-B21

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

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

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

Host Bus Adapter

HP H221 PCIe 3.0 SAS Host Bus Adapter 729552-B21

NOTE: Please see the QuickSpecs for technical specifications and additional information:

http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html

HP Power Cords

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

HP C13 - Nema 5-15P US/CA 110V 10Amp 1.83m Power Cord AF556A

HP Storage Options

Storage Fibre Channel HBAs

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

HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus AdapterHP 82E PCIe 8GB Fibre Channel 2-port Host Bus Adapter AJ763A

Additional Options

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

NOTE: Please see the QuickSpecs for technical specifications and additional information:

http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html

HP Rack Options

Rail Kits

NOTE: Gen8 rail kits have changed significantly from prior generation rail kits. Please take a moment to review the installation documentation that comes with the server to help you with the installation of your Gen8 server.

NOTE: Rail kits are optional for DL380p Gen8 and are no longer included standard with the server. Customers have the option to purchase their server without a rail kit.

NOTE: Ball bearing and Easy Install rail kits contain telescoping rails which allow for inrack serviceability.

NOTE: The HP 2U Gen8 Cable Management Arm is not available when using Friction Rails.

NOTE: To assist in the installation of the server into the rack an optional installation tool is available by contacting your local services representative (p/n 695539-001).

Caution: HP recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit with CMA 663478-B21

HP 2U Small Form Factor Ball Bearing Gen8 Rail Kit 720863-B21

HP USB and SD options HP Enterprise Mainstream Flash Media Kits for Memory Cards

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

HP 32GB SD Enterprise Mainstream Flash Media Kit 700136-B21

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

http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html

HP Care Pack Services Proactive Care

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

HP 3 year 4 hour 24x7 ProLiant DL38x(p) Proactive Care Service U2Z50E

HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant DL38x(p) Proactive Care Service U2Z53E

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL38x(p) Proactive Care Service U2Z56E

HP 3 year 6 hour Call To Repair 24x7 w/DefectiveMedia Retention ProLiant DL38x(p) Proactive Care SVC U2Z59E

HP 3 year 4 hour 24x7 ProLiant DL38x(p) with Insight Control Proactive Care Service U3N23E

HP 3 year 4hr 24x7 with Defective Media Retention DL38x(p) with Insight Control Proactive Care SVC U3N26E

Additional Options

HP 3 year 6 hour Call To Repair 24x7 ProLiant DL38x(p) with Insight Control Proactive Care Service	U3N29E
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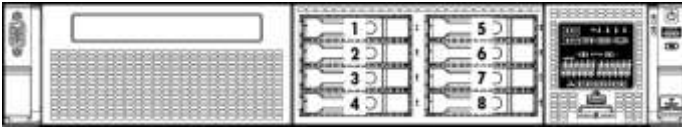
HP 3yr 6hrCallToRepair 24x7w/Defective Media Retention DL38x(p) w/Insight Control Proactive Care SVC	U3N32E
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NOTE: For more information, customer/resellers can contact:
<http://www.hp.com/services/carepack>

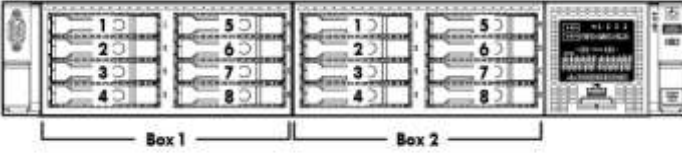
QuickSpecs

HP ProLiant DL380p Generation 8 (Gen8) Carrier Grade Supplement

Storage



1-8 Eight SFF SAS hot plug drive bays



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

QuickSpecs

HP ProLiant DL380p Generation 8 (Gen8) Carrier Grade Supplement

Technical Specifications

System Unit	Dimensions (H x W x D) (with bezel)	SFF Drives: 3.38 x 17.54 x 27.25 in (8.59 x 44.55 x 69.22 cm)		
	Weight (approximate)	Maximum	60.00 lb (27.27 kg)	
		(all LFF hard drives, power supply, and processor installed)		
	Input Requirements (per power supply)	Minimum	47.18 lb (21.45 kg)	
		(one SFF hard drive, power supply, and processor installed, ODD not installed)		
	BTU Rating	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC	
		Rated Input Current	For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)	
		Rated Input Frequency	50 to 60 Hz	
		Rated Input Power	For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)	
		Maximum	For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC)	
Power Supply Output (per power supply)	Rated Steady-State Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)		
	Maximum Peak Power	For 1200 W Power Supply:		

QuickSpecs

Technical Specifications

		800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)	
System Inlet Temperature	Operating	10° to 40°C (50° to 104°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).	
Relative Humidity (non-condensing)	Operating	10% to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.	
	Non-operating	5% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.	
Altitude	Operating	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).	
Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.		
	Idle	1P SKU	2P SKU
	LWAd	4.1 B	4.7 B
	LpAm	22 dBA	28 dBA
	Operating	1P SKU	2P SKU
	LWAd	4.1 B	4.7 B
	LpAm	22 dBA	28 dBA
Emissions Classification (EMC)	FCC Rating	Class A	
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1	

Technical Specifications

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

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

HP iLO 4 On System Management	Architecture	PCI Express based health and remote management ASIC
	Processor	Embedded ARM processor core operating at 400MHz
	Upgradeability	Firmware upgradeable via Flash ROM
	Video Support	1920 x 1200 (16 bpp) DVR max resolution
	Interfaces	Integrated SVGA video core with 16MB of dedicated video RAM Supporting a wide variety of video resolutions including: 1600x1200x16bpp 1920x1200x16bpp 1280x1024x32bpp HP iLO video redirection available in all supported video modes
	Interfaces	One Dedicated* Out-of-band Ethernet Connection (10/100/1000 Most Servers - ML, DL, SL and 10/100 for BL) *Optional Module on some servers One Additional Industry Standard NC-SI Sideband Ethernet Connection (10/100/1000 ML, DL, SL)
	Memory	16 MB Flash 2Gbit DDR-3 DRAM with ECC detection/correction
	Operating System Support	Microsoft Windows 2008 R2 Microsoft Windows 2008 (32 bit and 64 bit) Microsoft Windows Server 2008 Standard Edition (32 bit and 64 bit) Microsoft Windows Server 2008 Enterprise Edition (32 bit and 64 bit) Red Hat Enterprise Linux 6.0 (32 bit and 64 bit) Red Hat Enterprise Linux 5.0 (32 bit and 64 bit) SUSE LINUX Enterprise Server 11 (32 bit and 64 bit) SUSE LINUX Enterprise Server 10 (32 bit and 64 bit) VMware ESX 4.2 VMware ESXi 5.0 Red Hat Enterprise Desktop 5.00 SUSE Linux Enterprise Desktop 11 SUSE Linux Enterprise Desktop 10
	Client System Support	Windows 7 (32bit and 64bit) Windows Vista
	Client Browser Tested	Microsoft Internet Explorer 9 Microsoft Internet Explorer 8 Firefox 7.0 (on supported Windows and Linux systems) Firefox 6.0 (on supported Windows and Linux systems) NOTE: for the latest OS/Browsers supported, please refer Firefox 3.6 (on supported Windows and Linux systems)
	Command Line Support	Secure Shell and serial port access 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

Technical Specifications

Directory Support Services	Active Directory (Windows Server 2003, 2008)
Driver Support	HP ProLiant iLO 4 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

HP Smart Array P420i Controller	Dimensions	Embedded
	Disk Drive and Enclosure Interface - Transfer Rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal 4X connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus
	Server Interface	x4 PCIe 2.0 provides 2GB/s maximum bandwidth
	SAS Speed	(8) 6Gb/s SAS links provide 4.8GB/s maximum bandwidth
	Cache Memory	Zero Memory RAID has no cache memory 40-bit 256MB ECC protected cache (battery upgrade available) 72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC Zero Memory, Up to 2 logical volumes (8 physical drives)
	Logical Drives Supported	Up to 64 logical drives with cache
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with one of the following combinations: <ul style="list-style-type: none"> • 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades • 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades • 1G FBWC and Smart Array Advanced Pack License key option upgrades
		RAID 5, 5+0 (Distributed Data Guarding) NOTE: A minimum of 512MB cache is required to enable RAID 5, 5+0 support RAID 1+0 (Striping & Mirroring) RAID 0 (Striping), RAID 1 (Mirroring)

HP Ethernet 1Gb 4-port 331FLR Adapter	Network Interface Compatibility	10Base-T/100Base-TX/1000Base-TX EEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX
	Data Transfer Method	PCI Express, four lanes (x4)
	Controller	BCM5709C
	Network Transfer Rate	10Base-T (Half-Duplex) 10 Mb/s 10Base-T (Full-Duplex) 20 Mb/s 100Base-TX (Half-Duplex) 100 Mb/s

Technical Specifications

	100Base-TX (Full-Duplex)	200 Mb/s
	1000Base-TX (Half and Full-Duplex)	2000Mb/s
Connector	Two 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)
	1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)

HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	Network Interface Compatibility	10Base-T/100Base-TX/1000Base-TX IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, eight lanes (x4)	
	Controller	BCM5709C	
	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)	2000Mb/s
	Connector	Two 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)
		1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)

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.

Summary of Changes

Date	Version History	Action	Description of Change:
01-Nov-2014	From Version 7 to 8	Changed	Service and Support section was revised.
30-May-2014	From Version 6 to 7	Changed	Changes made to Overview, Standard Features, Configuration Information – Factory Integrated Models, Core Options, Additional Options, and Storage sections.
13-Dec-2013	From Version 5 to 6	Changed	Changes made to the Processors sections in the Standard Features and the Configuration Information sections.
18-Oct-2013	From Version 4 to 5	Changed	Changes made to the Additional Options Section - HP Storage Options
07-Dec-2012	From Version 3 to 4	Changed	Change made in Additional Options to HP Storage Options and in Technical Specifications to System Unit sections.
14-Nov-2012	From Version 2 to 3	Changed	Change made in the Options section.
16-Oct-2012	From Version 1 to 2	Changed	Changes made in the Configuration Information and Options sections.

Summary of Changes

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