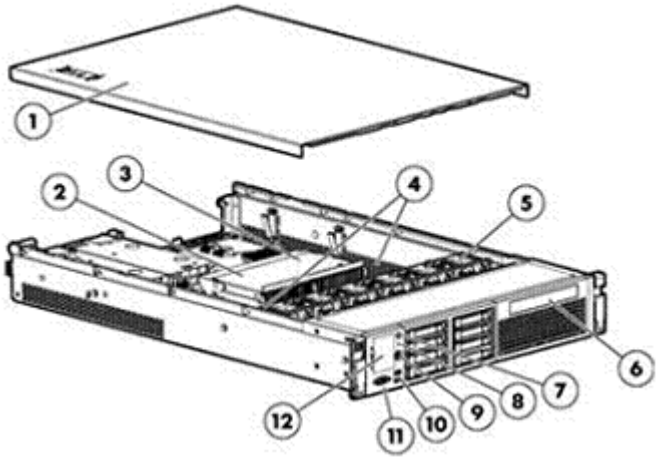
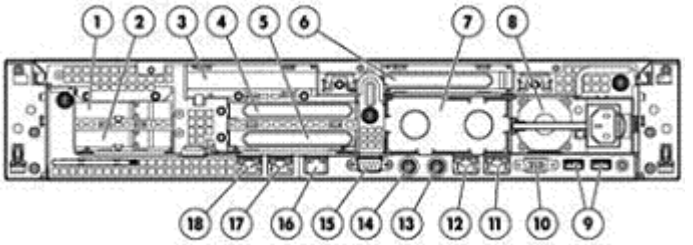
*Overview*

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




Front View:

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

Rear View:

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

## What's New

- The DL380 G6 will now offer the Intel 5600 Series 6 Core capable processors
  - X5670 2.93GHz 6C 95w
  - X5660 2.80GHz 6C 95w
  - X5650 2.66GHz 6C 95w

*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

Six-Core Processors

Intel® Xeon® Processor X5670 (2.93 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
Intel® Xeon® Processor X5650 (2.66 GHz, 12MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)

Quad-Core Processors

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

Dual-Core Processors

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

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.
NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.
NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
NOTE: For the Intel 5500, and 5600 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.
NOTE: Up to 2 processors supported. Performance configurations include two processors. Mixing different processor models is not supported.

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**Cache Memory**
One of the following depending on Model

12MB (1x12MB) Level 3 cache on the 5600 sequence
8MB (1 x 8MB) Level 3 cache on the 5500 sequence
NOTE: All 5500 sequence processor models have 8M L3 Cache except for those identified below.
4MB (1 x 4MB) Level 3 cache
NOTE: For processors E5506/L5506/E5504/E5502.

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**Chipset**

Intel® 5520 Chipset
NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.

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*Standard Features*

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|---|---|
| **Upgradeability** | Upgradeable to 2 processors (12 cores) |
| **Memory Protection** | Advanced ECC (multi-bit error protection)<br>Mirroring mode<br>Lockstep mode |

**Memory**

| | |
|---|---|
| Type | DDR3 Registered (RDIMM) and Unbuffered (UDIMM) |
| Standard (Performance Models) | 12GB (6 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs |
| Standard (Base Models) | 6GB (3 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs |
| Standard (Entry Models) | 4GB (2 x 2GB) PC3-10600R (DDR3-1333) Registered DIMMs |
| Standard (High Efficiency Models) | 4GB (2 x 2GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs |
| Maximum (RDIMM) | 192GB (12 x 16GB) for Registered Memory configurations |
| Maximum (UDIMM) | 48GB (12 x 4GB) for Unbuffered Memory configurations |

NOTE: If only one processor is installed, only half the DIMM slots are available
NOTE: when populating with the 16GB Memory Kits (Quad-Rank), only 12 DIMMs can be populated.
NOTE: For G6 and G7 servers using Xeon 5600 series processors, the default memory speed is 1333MHz with either one or two DIMMs per channel. For G6 and G7 servers using Xeon 5500 series processors, an RBSU option is available to disable 1333MHz operation (which will result in 1067MHz operation).
NOTE: UDIMM support is only on 12-slot servers.
NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.

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

**Expansion Slots**

NOTE: The system board has 2 PCI connectors, but the below riser cards have the actual PCI slots, to which PCI cards attach. Six available PCI-Express Gen2 slots, optional mixed PCI-X / PCI-Express or x16 PCI configurations available (see "Standard Features - Expansion Slots" section for more details).

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

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.

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

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.

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

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.
NOTE: PCI-X support is limited to PCI-X cards only.

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

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.
NOTE: PCI-X support is limited to PCI-X cards only.

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

*Standard Features*

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|---|---|---|---|---|---|---|---|
| | 1 | PCIe Gen2 | x16 | x16 | 13 | Full Length, Full Height slot | Supports up to 150W; single wide cards only |

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.

| x16 PCIe Riser (Optional Secondary) | Expansion Slots # | Technology | Bus Width** | Connector Width | Bus Number* | Form Factor | Notes |
|---|---|---|---|---|---|---|---|
| | 4 | PCIe Gen2 | x16 | x16 | 16 | Full Length, Full Height slot | Supports up to 150W; single wide cards only |

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Indicates the number of physical electrical lanes running to the connector.

| | | |
|---|---|---|
| **Storage Controller** One of the following depending on Model | Entry Models | HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0) |
| | Base Models | HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0) |
| | Performance Models | HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0) |
| | High Efficiency Models | HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0) |
| | Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 512MB, 1G with FBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP) | |

| | | |
|---|---|---|
| **Internal Storage Devices** | Diskette Drive | None Standard |
| | Optical Drive One of the following depending on Model | None Standard on Entry, High Efficiency, and Base Models<br>NOTE: No support on LFF HD Models, or when the 2nd SFF drive cage is added (optional drive cage has 8 SFF bays).<br>HP Slim SATA DVD RW Optical Drive Standard on Performance Models<br>NOTE: HP 64GB SSD Optical Drive Option Kit available. See options sections below contact HP for details.<br>NOTE: The Optical Drive option is not available when you upgrade with the additional 8 SFF drive cage, or in the LFF Models. |
| | Hard Drives | None Standard |
| | Hard Drive Bays | Standard (8) small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives<br>Optional second drive cage for additional (8) SFF drive bays (total 16)<br>Optional cage for (6) Large Form Factor SAS/SATA hard drive bays |

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|---|---|---|---|
| **Maximum Internal Storage** | Hot Plug SFF SAS | 9.6TB | 16 x 600GB (with optional SFF drive cage) |
| | Hot Plug LFF SAS | 12.0TB | 6 x 2TB (with optional LFF drive cage) |

*Standard Features*

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

**Industry Standard Compliance**

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

**Server Power Cords**

High voltage power cord ships standard with all part numbers.
NOTE: HP ProLiant DL servers no longer ship standard with a 12-foot NEMA 5-15P to C13 power cords (227099-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU 6-foot C-14 to C13 power cord (142258-001). If a user wishes to power a ProLiant DL server using a110V receptacle (NEMA-15), the 12-foot NEMA 5-15 to C13 power cord (227099-001) must be ordered separately. Also available: 110 volt 6-Foot NEMA 5-15p to C13 (AF556A).

**Common Slot Power Supplies**

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

It is highly recommended that you use the HP Power Calculator in defining the "Right-Size" power supply for your needs.

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

NOTE: The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and

*Standard Features*

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| | 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.<br><br>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). |
| System Fans | Fully redundant hot plug fans ship standard (N+1).<br>NOTE: One processor models include four fans. Two processor models include six fans. |
| Required Cabling | For required cabling information, refer to the HP Web site at: www.hp.com/servers/dl380. |
| Operating Systems and Virtualization Software Support for ProLiant Servers | Microsoft Windows Server<br>Microsoft Windows Server Hyper-V<br>Red Hat Enterprise Linux (RHEL)<br>SUSE Linux Enterprise Server (SLES)<br>Solaris<br>NetWare<br>VMware<br>Citrix XenServer<br>NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page www.hp.com/support/DL380G6. |
| Graphics | Integrated ATI ES1000, 64MB video standard<br><br>• 16 bit color: maximum resolution of 1600 x 1200<br>• 32 bit color: maximum resolution of 1280 x 1024<br><br>NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024. |
| Form Factor | Rack (2U); Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |

*Standard Features*

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|---|---|---|
| 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.<br>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.<br><br>The foundation pack includes:<br><br>● HP SmartStart<br>● HP Management DVD<br>● HP ProLiant Smart Update Firmware DVD<br><br>SmartStart version supported (minimum): SmartStart 8.20<br>http://www.hp.com/servers/smartstart<br><br>NOTE: In an effort to support reducing our environmental impact, the HP Insight Foundation Suite for ProLiant media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media. |
| | HP Integrated Lights-Out (iLO) | HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO |

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

*Standard Features*

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| 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.<br>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:<br>http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html |

*Optional Features*

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

*Optional Features*

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| 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 Novell SLES, as well as Microsoft Windows HPC Server. A Cluster Platform Configurator simplifies ordering. http://www.hp.com/go/clusters. |
| | HP HPC Interconnects | High Performance Computing (HPC) interconnect technologies are available for this server as part of the HP Cluster Platform portfolio. These high-speed InfiniBand and Gigabit interconnects are fully supported by HP when integrated within an HP cluster. Flexible, validated solutions can be defined with the help of configuration tools. http://www.hp.com/techservers/clusters/ucp/index.html |
| | HP Cluster Management Utility | HP Cluster Management Utility (CMU) is an HP-licensed and HP-supported suite of tools that are used to manage large-scale Linux ProLiant systems. CMU includes software for the centralized provisioning, management and monitoring of nodes. CMU makes the administration of clusters user friendly, efficient, and effective. 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 specially priced software bundle for the development and deployment of applications on HPC Cluster Platforms. Value Pack includes the Platform LSF workload scheduler, the HP-MPI parallelization library, the HP Unified Parallel C compiler and the HP Shmem library, as well as the execution environments for the libraries and compiler. HP HPC Linux Value Pack |

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

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

Service and Support

### HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

### Protect your business beyond warranty

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

### HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively

HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.

Learn more: www.hp.com/services/servers and 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

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

Recommended Services

### 3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour

Provides your IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service request to the HP Global Solution Center.

HP is committed to repairing your hardware within a maximum of six or twenty four hours. The benefits include:

- Improved system uptime
- Predictable repair times
- More effective IT resource planning
- Consistent level of hardware support across your multi-technology systems

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

### 3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

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

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

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

### 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.

- Expedited installation, with all service prerequisites met before the installation is performed
- Installation in accordance with manufacturer's specifications, enhancing the supportability of your HP-installed hardware and software
- Service delivery at a mutually scheduled time
- Allows your IT resources to stay focused on their core tasks and priorities
- Availability of an HP service specialist to answer questions during the onsite delivery of this service

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

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

**Optional Services**

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

For a higher return on your server and storage technology, our 3-year combined reactive support service delivers integrated onsite hardware/software support services available 24x7x365, including access to HP technical resources, 4-hour response onsite hardware support and 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:

Provides improved stability, availability and operational effectiveness with an integrated hardware and software support service that combines industry-leading reactive technical assistance with proactive account services, giving your IT manage support from a team of service specialists.

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

**HP Proactive Select Service**
Customer needs on demand access to consulting, technical proactive services and education courses

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN

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**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. |
| Customer Technical Training | In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities. |
| HP Services Awards | HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. |
| Additional Services Information | To learn more on HP ProLiant servers, HP BladeSystem servers and HP StorageWorks storage products, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: www.hp.com/services/proliant or www.hp.com/services/bladesystem or http://www.hp.com/hps/storage |

*Pre-configured Models*

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.
NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

## Performance Models

| | | |
|---|---|---|
| Quad-Core Models<br>HP DL380G6 X5560<br>491315-xx1<br><br>HP DL380G6 X5550<br>491316-xx1 | Processor(s)<br>Two of the following depending on Model | (2) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br>(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) |
| | Cache Memory | 8MB (1 x 8MB) Level 3 cache |
| | Memory | 12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs<br>NOTE: Total of 18 DIMM slots. |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters |
| | Storage Controller | HP Smart Array P410i/512MB with BBWC |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays<br>Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | HP Slim SATA DVD RW drive |
| | Power Supply | (2) 750W Hot Plug Power Supplies |
| | Fans | (6) (N+1 redundancy standard) |
| | Form Factor | Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |
| | Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

*Pre-configured Models*

| | | |
|---|---|---|
| Quad-Core Models<br>HP DL380G6 X5560<br>470065-067 US<br>470065-071 APJ<br>470065-072 EURO<br><br>HP DL380G6 X5550<br>470065-068 APJ<br>470065-069 EURO | Processor(s)<br>Two of the following depending on Model | (2) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br>(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) |
| | Cache Memory | 8MB (1 x 8MB) Level 3 cache |
| | Memory | 12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs<br>NOTE: Total of 18 DIMM slots. |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters |
| | Storage Controller | HP Smart Array P410i/512MB with BBWC |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays<br>Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | HP Slim SATA DVD RW drive |
| | Power Supply | (2) 750W Hot Plug Power Supplies |
| | Fans | (6) (N+1 redundancy standard) |
| | Insight Control | HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates |
| | Form Factor | Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |
| | Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

## Base Models

| | | |
|---|---|---|
| Quad-Core Models<br>HP DL380G6 E5540<br>491332-xx1<br><br>HP DL380G6 E5530<br>491324-xx1<br><br>HP DL380G6 E5520<br>491325-xx1 | Processor(s)<br>One of the following depending on Model | (1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)<br>(1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)<br>(1) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) |
| | Cache Memory | 8MB (1 x 8MB) Level 3 cache |
| | Memory | 6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs<br>NOTE: Total of 18 DIMM slots. |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters |
| | Storage Controller | HP Smart Array P410i/256MB Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays<br>Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | None ship standard |
| | Power Supply | (1) 460W Hot Plug Power Supply |
| | Fans | (4) (N+1 redundancy standard) |
| | Form Factor | Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |
| | Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

## High Efficiency Models

| | | |
|---|---|---|
| Quad-Core Models<br>HP DL380G6 L5520<br>491335-xx1 | Processor(s) | (1) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) |
| | Cache Memory | 8MB (1 x 8MB) Level 3 cache |
| | Memory | 4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs<br>NOTE: Total of 18 DIMM slots. |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters |
| | Storage Controller | HP Smart Array P410i/Zero Memory Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays<br>Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | None ship standard |
| | Power Supply | (1) 460W Hot Plug Power Supply |
| | Fans | (4) (N+1 redundancy standard) |
| | Form Factor | Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |
| | Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

## Entry Models

| | | |
|---|---|---|
| Quad-Core Models<br>HP DL380G6 E5504<br>491505-xx1 | Processor(s) | (1) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800) |
| | Cache Memory | 4MB (1 x 4MB) Level 3 cache |
| | Memory | 4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs<br>NOTE: Total of 18 DIMM slots. |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters |
| | Storage Controller | HP Smart Array P410i/Zero Memory Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays<br>Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | None ship standard |
| | Power Supply | (1) 460W Hot Plug Power Supply |
| | Fans | (4) (N+1 redundancy standard) |
| | Form Factor | Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm) |
| | Warranty | Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. |

*Pre-configured Models*

| | | |
|---|---|---|
| Country Code Key | xx=00 | U.S. |
| | xx=20 | Brazil |
| | xx=29 | Japan |
| | xx=37 | APD |
| | xx=42 | Europe |
| | xx=AA | PRC |

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.

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

HP Models

HP ProLiant DL380 G6 Configure-to-order Rack Chassis 494329-B21

Factory Integrated Model ships with:

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
Smart Array P410i Controller
I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIE (x16 connector)
- Slot 2 - HL/FH x4 PCIE (x8 connector)
- Slot 3 - HL/FH x4 PCIE (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 - 2 Rear, 2 Front, 1 Internal, 1 SD slot
Server Management - (iLO 2) (embedded)
NOTE: Power Supply not included - choose from Options section

HP ProLiant DL380 G6 LFF Configure-to-order Rack Server 516919-B21

Factory Integrated Model ships with:

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters
Smart Array P410i Controller
I/O slots - 3 Slots come standard:

- Slot 1 - FL/FH x8 PCIE (x16 connector)
- Slot 2 - HL/FH x4 PCIE (x8 connector)
- Slot 3 - HL/FH x4 PCIE (x8 connector)
  - Additional Slots may be added via selections from the PCI Information and Options subsection

Drive Cage - 6-LFF
System Fans - 4 (2 additional fans included with second processor)
USB - 2 Rear, 2 Front, 1 Internal, 1 SD slot
Server Management - (iLO 2) (embedded)
NOTE: Power Supply not included - choose from Options section

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

HP Processors

Six-Core Processors

HP DL380 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit 587482-L21

| | | |
|---|---|---|
| | HP DL380 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit | 587491-L21 |
| | HP DL380 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) FIO Processor Kit | 587493-L21 |
| | **Quad-Core Processors** | |
| | HP DL380 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) FIO Processor Kit | 492136-L21 |
| | HP DL380 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) FIO Processor Kit | 492131-L21 |
| | HP DL380 G6 Intel® Xeon® L5506 (2.13GHz/4-core/4MB/60W) FIO Processor Kit | 500089-L21 |
| | HP DL380 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) FIO Processor Kit | 492239-L21 |
| | HP DL380 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) FIO Processor Kit | 500087-L21 |
| | Intel® Xeon® L5530 2.40GHz Quad Core 60 Watts DL380 G6 Factory Integrated Processor Option Kit | 578388-L21 |
| | HP DL380 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) FIO Processor Kit | 492237-L21 |
| | HP DL380 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) FIO Processor Kit | 492244-L21 |
| | HP DL380 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) FIO Processor Kit | 492234-L21 |
| | HP DL380 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) FIO Processor Kit | 492232-L21 |
| | HP DL380 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) FIO Processor Kit | 500094-L21 |
| | **Dual-Core Processors** | |
| | HP DL380 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) FIO Processor Kit | 500085-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) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 593339-B21 |
| | HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 500658-B21 |
| | HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit | 500660-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 |
| | **Unbuffered with ECC DIMMs (UDIMMs)** | |
| | HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500668-B21 |
| | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500670-B21 |
| | HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500672-B21 |
| | NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.<br>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. | |
| 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 460W HE Hot Plug AC Power Supply Kit | 503296-B21 |
| HP 750W Common Slot High Efficiency Power Supply Kit | 512327-B21 |
| HP 1200W 12V Hot Plug AC Power Supply | 500172-B21 |
| HP 1200W Common Slot High Efficiency Power Supply Kit | 578322-B21 |
| HP 1200W -48V DC Common Slot Power Supply | 437573-B21 |

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

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

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

### HP Storage Controllers

NOTE: If Additional Memory Cache Module or Controller is Required please pick one of the following:

| | |
|---|---|
| HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller | 491191-B21 |
| HP Smart Array P410/256 2-ports Int PCIe x8 FIO SAS Controller | 491195-B21 |
| HP Smart Array P411/256 2-ports Ext PCIe x8 FIO SAS Controller | 491193-B21 |

NOTE: The ProLiant DL380 G6 can support up to a quantity of two HP Smart Array P411 Controllers.

Optional Upgrades

| | |
|---|---|
| HP 256MB Factory Integrated P-Series Cache Module | 534108-B21 |

NOTE: This is an option for the HP Smart Array P410i controller (P410i is standard integrated controller).

| | |
|---|---|
| HP 650 mAh P-Series Battery | 462969-B21 |

NOTE: This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).

NOTE: To enable BBWC on the 256MB cache on P410i.

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

NOTE: This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).

NOTE: Battery included. When used with the embedded HP Smart Array P410i controller.

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

NOTE: This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).

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

NOTE: This is an option for the HP Smart Array P410i Controller (P410i is standard integrated controller).

### HP Performance Packs

The HP ProLiant DL380 performance packs are necessary to configure a HP ProLiant DL380 Performance Model. HP ProLiant DL380 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value.

- The performance pack includes:

- 2nd processor
- 750-watt redundant power supply
- 512MB cache module for P410i
- 650 mAh P-Series Battery
- 15P 24in SFP Battery Cable Assy
- One DL380 G6 HP Fan kit (contains qty of 2)

NOTE: Must also select Slimline SATA DVD RW Optical Drive (481043-B21) to achieve parity to DL380 High Performance Models.

| | | |
|---|---|---|
| | HP DL380G6 2.6 HPM FIO Perf Pack | 500583-B21 |
| | HP DL380G6 2.8 HPM FIO Perf Pack | 500584-B21 |
| HP Insight Software | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | 582765-B21 |
| | HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License | TC203A |

## 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 | HP StorageWorks RDX160 Removable Disk Backup System DL Server Module<br>NOTE: Mounts in DL380 G6 second drive cage slot (160GB of Disk Storage) | AP724A |
| | HP StorageWorks RDX320 Removable Disk Backup System DL Server Module<br>NOTE: Mounts in DL380 G6 second drive cage slot (320GB of Disk Storage) | AP725A |
| | HP StorageWorks RDX500 Removable Disk Backup System DL Server Module<br>NOTE: Mounts in DL380 G6 second drive cage slot (500GB of Disk Storage) | AP726A |
| | HP StorageWorks RDX 1TB Removable Disk Backup System DL Server Module<br>NOTE: Mounts in DL380 G6 second drive cage slot (1 TB of Disk Storage) | BV848A |
| | HP 8SFF CAGE 380G6<br>NOTE: Second drive cage installation replaces internal optical bay.<br>NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | 516914-B21 |
| | HP DL380G6 PCI-E 3 Slot 1x8 2x4 Riser Kit | 500579-B21 |
| HP Processors | Six-Core Processors | |
| | HP DL380 G7 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit | 587482-B21 |
| | HP DL380 G7 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit | 587491-B21 |
| | HP DL380 G7 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit | 587493-B21 |
| | Quad-Core Processors | |
| | HP DL380 G6 Intel® Xeon® E5504 (2.00GHz/4-core/4MB/80W) Processor Kit | 492136-B21 |
| | HP DL380 G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit | 492131-B21 |
| | HP DL380 G6 Intel® Xeon® L5506 (2.13GHz/4-core/4MB/60W) Processor Kit | 500089-B21 |
| | HP DL380 G6 Intel® Xeon® E5520 (2.26GHz/4-core/8MB/80W) Processor Kit | 492239-B21 |
| | HP DL380 G6 Intel® Xeon® L5520 (2.26GHz/4-core/8MB/60W) Processor Kit | 500087-B21 |
| | HP DL380 G6 Intel® Xeon® L5530 (2.40GHz/4-core/8MB/60W) Processor Kit | 578388-B21 |
| | HP DL380 G6 Intel® Xeon® E5530 (2.40GHz/4-core/8MB/80W) Processor Kit | 492237-B21 |
| | HP DL380 G6 Intel® Xeon® E5540 (2.53GHz/4-core/8MB/80W) Processor Kit | 492244-B21 |
| | HP DL380 G6 Intel® Xeon® X5550 (2.66GHz/4-core/8MB/95W) Processor Kit | 492234-B21 |
| | HP DL380 G6 Intel® Xeon® X5560 (2.80GHz/4-core/8MB/95W) Processor Kit | 492232-B21 |
| | HP DL380 G6 Intel® Xeon® X5570 (2.93GHz/4-core/8MB/95W) Processor Kit | 500094-B21 |
| | Dual-Core Processors | |
| | HP DL380 G6 Intel® Xeon® E5502 (1.86GHz/2-core/4MB/80W) Processor Kit | 500085-B21 |

*Core Options*

| | | |
|---|---|---|
| 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) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 593339-B21 |
| | HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 500658-B21 |
| | HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit | 500660-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 |
| | **Unbuffered with ECC DIMMs (UDIMMs)** | |
| | HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500668-B21 |
| | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500670-B21 |
| | HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500672-B21 |
| | NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.<br>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 | |
| HP Optical Drives | HP Slim SATA DVD RW Optical Drive<br>NOTE: Included in performance models. | 481043-B21 |
| | HP Slim SATA DVD-ROM Optical Drive | 481041-B21 |
| | HP Mobile USB DVDRW Drive US | BU516AA#ABA |
| 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.<br>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 600GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 581286-B21 |
| | HP 450GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 581284-B21 |
| | HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |

| | |
|---|---|
| HP 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 |
| **SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives** | |
| HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516828-B21 |
| HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516816-B21 |
| HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516814-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 |
| **SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives** | |
| HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 507616-B21 |
| HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 507614-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide) | |
| **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 |
| **SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives** | |
| HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 507632-B21 |
| HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 454146-B21 |
| HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458928-B21 |
| **SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives** | |
| HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive | 460355-B21 |
| HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive | 458924-B21 |
| **SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives** | |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive | 571230-B21 |
| HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive | 458945-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_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 |
| **SATA Hot Plug 3.5" Midline (MDL) Solid State Drives** | |

| | | |
|---|---|---|
| | HP 60GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive | 570761-B21 |
| | HP 120GB 3G SATA LFF (3.5-inch) Midline 1yr Warranty Solid State Drive | 570763-B21 |
| | NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_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 NC364T PCI Express Quad Port Gigabit Server Adapter<br>NOTE: Does not support Windows 2000. | 435508-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<br>NOTE: No more than two 10GbE I/O devices are supported in a single ProLiant server.<br>NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.<br>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 NC523SFP 10Gb 2-port Server Adapter | 593717-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 InfiniBand | HP IB 4X QDR CX-2 PCI-e G2 Dual Port HCA | 592520-B21 |
| | HP IB 4X DDR CX-2 PCI-e G2 Dual Port HCA | 592521-B21 |
| | HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA | 583211-B21 |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html | |
| HP I/O Expansion Options | HP DL380G6 PCI-E 3 Slot 1x8 2x4 Riser Kit | 500579-B21 |
| | HP DL38X PCI-X riser kit (1) PCI-X, (1) x8, (1) x4) | 494322-B21 |
| | HP DL38X (1) x16 PCI-E riser kit | 494323-B21 |
| | HP DL38X (2) x8 PCI-E Riser Kit<br>NOTE: This riser card will support a quantity of one 10Gbe NIC. | 494326-B21 |

*Core Options*

**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 460W HE Hot Plug AC Power Supply Kit | 503296-B21 |
| HP 750W Common Slot High Efficiency Power Supply Kit | 512327-B21 |
| HP 1200W 12V Hot Plug AC Power Supply | 500172-B21 |
| HP 1200W Common Slot High Efficiency Power Supply Kit | 578322-B21 |
| HP 1200W -48V DC Common Slot Power Supply | 437573-B21 |

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

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

| | | |
|---|---|---|
| HP Insight Software | **HP Insight Control** | |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License | T9074BAE |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License | TC278AAE |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License | 452148-B22 |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License | TC275A |
| | HP Insight Software Media Kit<br>NOTE: Insight Software DVD media without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Insight Dynamics, HP Insight Control for Microsoft System Center, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates.<br>NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.<br>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.<br>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.<br>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.<br>NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html | 436222-B21 |
| | **HP Insight Control for Linux** | |
| | HP Insight Control for Linux w/1yr 24x7 Supp ML/DL/SL Bundle Electronic 1 Svr LTU | TC203AAE |
| | HP Insight Control for Linux including 1yr 24x7 Support Electronic License | TC213AAE |
| | HP Insight Control for Linux including 1yr 24x7 Support Single Server License | TC209A |
| | HP Insight Control for Linux Media Kit<br>NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.<br>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).<br>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.<br>NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.<br>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 | TC208A |
| | **HP Integrated Lights-Out (iLO) Advanced** | |

*Additional Options*

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|---|---|---|
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License | TA850AAE |
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 512485-B21 |
| | 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<br>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.<br>NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:<br>http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html | |
| | HP Insight Control server deployment | |
| | HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License | T9082AAE |
| | HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License | 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.<br>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. Customers in China and Japan should order the physical equivalent.<br>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.<br>NOTE: For additional license kits please see the Insight Control QuickSpecs at:<br>http://h18004.www1.hp.com/products/quickspecs/12631_div/12631_div.html | |
| High Performance Clusters | HP Cluster Management Utility | |
| | HP Cluster Management Utility Compute Node Flexible License | 436284-B21 |
| | NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one node (server). Customer will receive a printed end user license agreement and license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online in order to obtain a license key. | |
| | HP Cluster Management Utility License and Media | 433257-B21 |
| | NOTE: Order a minimum of one license per cluster to purchase media including software and documentation, which will be delivered to the customer, and also licenses CMU management. No license key is delivered or required. | |
| | NOTE: For additional license kits please see the QuickSpecs at:<br>http://h18004.www1.hp.com/products/quickspecs/12612_div/12612_div.html | |
| | HP HPC Linux Value Pack | |

*Additional Options*

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|---|---|---|
| | HP High Performance Computing Linux Value Pack 1 Processor Flexible License<br>NOTE: This part number can be used to purchase one certificate for multiple licenses with a single activation key. Each license is for one socket (a.k.a. processor). 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. | TC293A |
| | HP High Performance Computing Linux Value Pack Media Kit<br>NOTE: This part number can be used to purchase media including software and documentation, which will be delivered to the customer.<br>NOTE: For additional license kits please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/13485_div/13485_div.html | TC294A |
| HP Drive Cage Options | HP 8SFF CAGE 380G6<br>NOTE: Second drive cage installation replaces internal optical bay.<br>NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | 516914-B21 |
| HP I/O Accelerator Options | HP 160GB SLC PCIe ioDrive<br>NOTE: A low-profile PCI bracket is included for use in low-profile slots. | 600278-B21 |
| | HP 320GB MLC PCIe ioDrive<br>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 |
| | HP 1.28TB MLC PCIe ioDrive Duo<br>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13587_div/13587_div.html (Worldwide) | 641027-B21 |
| HP Security - TPM | HP Trusted Platform Module Option Kit<br>NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM. | 488069-B21 |
| HP Storage Controllers | SAS Controllers | |
| | Smart Array P800 Controller | |
| | HP Smart Array P800/512 BBWC 2-ports Int/2-ports Ext PCIe x8 SAS Controller | 381513-B21 |
| | Smart Array P212 Controller | |
| | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B21 |

| | |
|---|---|
| HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462834-B21 |
| **Smart Array P410 Controller** | |
| HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller | 462862-B21 |
| HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller | 462864-B21 |
| HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller | 578230-B21 |
| HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller | 572532-B21 |
| **Smart Array P411 Controller** | |
| HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller | 462830-B21 |
| HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller | 462832-B21 |
| HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller | 578229-B21 |
| HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller | 572531-B21 |
| **Smart Array P812 Controller** | |
| HP Smart Array P812/1G FBWC 2-ports Int/4-ports Ext PCIe x8 SAS Controller | 487204-B21 |
| **Optional Upgrades** | |
| HP 256MB P-series Cache Upgrade<br>NOTE: Supported on HP Smart Array P212 Controller and as an upgrade on HP Smart Array P410i (Zero Memory). | 462968-B21 |
| HP 512MB P-Series Battery Backed Write Cache Upgrade | 462967-B21 |
| HP 1GB Flash Backed Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534562-B21 |
| HP 512MB Flash Backed Write Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534916-B21 |
| HP 650 mAh P-Series Battery<br>NOTE: To enable BBWC on the 256MB cache.<br>NOTE: Supported on HP P410i Smart Array (integrated), HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only. | 462969-B21 |
| HP 8484 to Mini SAS 33in Cable Assembly<br>NOTE: Cable for use connecting the Smart Array P800 Controller to internal hard disk drives on select HP ProLiant G6 Servers. | 591734-B21 |
| HP Chipset SATA Cable Kit | 627121-B21 |
| HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License<br>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. | 516471-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information:<br>http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html (Smart Array P800 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html (Smart Array P410 Controller) | |

*Additional Options*

http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html (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 Controller Options

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|---|---|
| HP 24 Bay 3Gb SAS Expander Card | 468406-B21 |

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html (SAS Expander Card)

SAS HBA

| | |
|---|---|
| HP SC08Ge 2-ports Ext PCIe x8 SAS Host Bus Adapter | 488765-B21 |
| HP Modular Smart Array SC08e 2-ports Ext PCIe x8 SAS Host Bus Adapter | 614988-B21 |

NOTE: This is a 2 x4 External Port HBA
NOTE: This is only approved for the HP 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/13082_div/13082_div.html (SC08Ge HBA)
http://h18004.www1.hp.com/products/quickspecs/13651_div/13651_div.html (SC08e 6Gb HBA)

SCSI HBA

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

NOTE: Recommended HBA for SCSI tape drive connect.

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

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HP Power Cords

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

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|---|---|
| Nema 5-15P to IEC320-C13, North America low voltage (6 ft/2 m) | AF556A |
| Power Cord, Euro, 10A 250 V Straight (6 ft/1.83 m) | AF568A |
| Power Cord, UK, 10A 250 V Straight (6 ft/1.83 m) | AF570A |
| Power Cord, Danish, 10A 250 V Straight (6 ft/1.83 m) | AF566A |
| Power Cord, Swiss, 10A 250 V Straight (6 ft/1.83 m) | AF565A |
| Power Cord, Italian, 10A 250 V Straight (6 ft/1.83 m) | AF571A |
| Power Cord, South Africa, 10A 250 V Straight (8.2 ft/2.5 m) | AF567A |

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*Additional Options*

| | | |
|---|---|---|
| HP Backup & Recovery Software | HP Data Protector Express | |
| | HP Data Protector Express V5.0 for 1 Server E-LTU | TC330AAE |
| | HP Data Protector Express V5.0 for 3 Servers E-LTU | TC331AAE |
| | HP Data Protector Express V5.0 for 10 Servers E-LTU | TC332AAE |
| | HP Basic Upgrade to Data Protector Express V5 for 1 Server E-LTU | TC333AAE |
| | NOTE: One of these Data Protector Express base products is required. To see available options: http://www.hp.com/go/dataprotectorexpress | |
| 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 in 1U Rack-mount Kit | AP835B |
| | HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader<br>NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 SAS Smart Array Controller (462828-B21) recommended. | AK377A |
| | HP StorageWorks LTO-4 Ultrium 1760 SAS (1) in 1U Rack-mount Kit<br>NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | EH946B |
| | HP StorageWorks LTO-5 Ultrium 3000 SAS Tape Drive in 1U Rackmount<br>NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | EJ014A |
| | HP StorageWorks 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader<br>NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended. | BL536A |
| | HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library | AK378A |
| | HP StorageWorks MSL2024 1 LTO-5 Ultrium 3000 SAS Tape Library<br>NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended. | BL537A |
| | HP StorageWorks MSL4048 2 LTO-5 Ultrium 3000 SAS Tape Library<br>NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | BL538A |

*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 D2D2502i Backup System<br>NOTE: 1.5TB 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. | EJ001B |
| HP StorageWorks D2D2504i Backup System<br>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. | EJ002B |
| HP StorageWorks D2D4112 Backup System<br>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. | EH993B |

**HP StorageWorks RDX Removable Disk Backup Systems USB**

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|---|---|
| HP StorageWorks RDX160 Removable Disk Backup System DL Server Module<br>NOTE: Mounts in DL385 G6 second drive cage slot (160GB of Disk Storage) | AP724A |
| HP StorageWorks RDX320 Internal Removable Disk Backup System for DL Servers<br>NOTE: 320GB of disk capacity per data cartridge. | AP725A |
| HP StorageWorks RDX500 Internal Removable Disk Backup System for DL Servers<br>NOTE: 500GB of disk capacity per data cartridge. | AP726A |
| HP StorageWorks RDX 1TB Internal Removable Disk Backup System for DL Servers<br>NOTE: 1 TB of disk capacity per data cartridge. | BV848A |

**HP StorageWorks Options**

**StorageWorks Fibre Channel HBA**

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

**Brocade Fibre Channel HBAs**

| | |
|---|---|
| HP StorageWorks 81B PCIe 8Gb Fibre Channel Single Port Host Bus Adapter | AP769A |
| HP StorageWorks 82B PCIe 8Gb Fibre Channel Dual Port Host Bus Adapter | AP770A |
| HP StorageWorks 41B PCIe 4Gb Fibre Channel Single Port Host Bus Adapter | AP767A |
| HP StorageWorks 42B PCIe 4Gb Fibre Channel Dual Port Host Bus Adapter | AP768A |

**Emulex Fibre Channel HBAs**

| | |
|---|---|
| HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter | AJ762A |
| HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter | AJ763A |
| HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter | A8002A |
| HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter | A8003A |

**QLogic Fibre Channel HBAs**

| | |
|---|---|
| HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter | AK344A |
| HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter | AJ764A |
| HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter | AE311A |

| | | |
|---|---|---|
| | HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter | AE312A |
| | StorageWorks SCSI HBA | |
| | HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter | AH627A |
| | NOTE: Recommended HBA for MSL SCSI Tape Library connect. | |
| | StorageWorks Converged Network Adapter | |
| | HP StorageWorks CN1000E Dual Port Converged Network Adapter | AW520A |
| | HP CN1000Q Dual Port Converged Network Adapter | BS668A |
| 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 R1500 G2 UPS | |
| | HP R1500 G2 1440VA Low Voltage NA 1U Rackmount Uninterruptible Power System | AF419A |
| | HP R1500 G2 1440VA INTL 1U Rackmount Uninterruptible Power System | AF418A |
| | HP R1500 G2 1200kVA Low Voltage JP 1U Rackmount Uninterruptible Power System | AF421A |
| | NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide) | |
| | HP R/T3000 Uninterruptible Power System (UPS) | |
| | HP R/T3000 3300VA High Voltage NA/JPN 2U Rackmount Uninterruptible Power System | AF453A |
| | HP R/T3000 3300VA INTL 2U Rackmount Uninterruptible Power System | AF454A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13417_div/13417_div.html (Worldwide) | |
| | HP Rack-Mountable R5500 UPS | |

| | | |
|---|---|---|
| | HP R5500 6000VA INTL 3U Rackmount Uninterruptible Power System | AF416A |
| | HP R5500 5000kVA NA/JP 3U Rackmount Uninterruptible Power System | AF426A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html | |
| | NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups. | |
| | NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com. | |
| | NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords. | |
| 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 |
| | NOTE: Please see the following QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html (Worldwide) | |
| | 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. | |
| | 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. | |
| | NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and | |

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

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HP Rack Series

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

| | |
|---|---|
| HP 10642 G2 Pallet Universal Rack | AF001A |
| HP 10642 G2 Shock Universal Rack | AF002A |
| HP 10642 G2 1200mm deep Shock Rack | AF092A |
| HP 10647 G2 1200mm deep Shock Rack | AF094A |

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.

NOTE: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.
CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).
CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.
NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/dl380.NOTE: Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.
NOTE: High Airflow Inserts (High Air Flow Rack Door Insert for the 7142 Rack (single) - PN: 327281-B21; or High Air Flow Rack Door Insert for the 7142 Rack (6-pack) - PN: 327281-B22) are required to support the HP ProLiant DL380 in 7000 series racks. The DL380 Cable Management Arm is not supported on 7000 series racks.
NOTE: Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.

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HP Rack Options

Keyboards and Monitors

| | |
|---|---|
| HP TFT7600 G2 KVM Console Rackmount Keyboard US Monitor | AZ870A |
| HP TFT7600 G2 KVM Console Rackmount Keyboard UK Monitor | AZ871A |

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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13731_div/13731_div.html (Worldwide)

| | |
|---|---|
| 1U Rackmount Keyboard with USB, US | AG072A |
| 1U Rackmount Keyboard with USB, UK | AG073A |
| 1U Rackmount Keyboard with USB, GR | AG074A |
| 1U Rackmount Keyboard with USB, FR | AG075A |
| 1U Rackmount Keyboard with USB, ITL | AG076A |
| 1U Rackmount Keyboard with USB, SP | AG077A |
| 1U Rackmount Keyboard with USB, NOR | AG079A |
| 1U Rackmount Keyboard with USB, SE/FI | AG080A |
| 1U Rackmount Keyboard with USB, SWI | AG081A |
| 1U Rackmount Keyboard with USB, PORT | AG082A |
| 1U Rackmount Keyboard with USB, BEL | AG083A |
| 1U Rackmount Keyboard with USB, JPN2 | AG084A |
| 1U Rackmount Keyboard with USB, RUS | AG085A |
| 1U Rackmount Keyboard with USB, INTL | AG086A |

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12465_div/12465_div.html (Worldwide)

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

*Additional Options*

| | | |
|---|---|---|
| | 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 2-Button Optical Scroll Mouse (Carbonite/Silver) | DC172B |
| | HP USB 04 Standard Keyboard | DT528A#ABA |
| | HP 4GB SD Flash Media Kit<br>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. | 580387-B21 |
| | HP 2GB USB Flash Media Drive Key<br>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. | 608447-B21 |
| **HP Care Pack Services** | **Hardware Services On-site Service** | |
| | 4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic | U4544E |
| | 4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | U4545E |
| | **Hardware Services 6-Hour Call to Repair On-site Service** | |
| | 6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | U4546E |
| | **Installation & Start-up Services** | |
| | Hardware Installation, Electronic | U4554E |
| | Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic | U4555E |
| | Installation and Startup for Essentials Rapid Deployment Pack, Electronic | U5683E |
| | **Support Plus 24** | |
| | Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | U4557E |
| | Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | U6312E |

NOTE: For more information, customer/resellers can contact:
http://www.hp.com/services/carepack

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

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

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

| DIMM Type -> | Registered Dimms (RDIMMs) | | | | | | Unbuffered with ECC DIMMs (UDIMMs) | | |
|---|---|---|---|---|---|---|---|---|---|
| DIMM Rank -> | Dual Rank (2R) | | | | Quad Rank (4R) | | Single Rank (1R) | Dual Rank (2R) | |
| DIMM Capacity -> | 2GB | 4GB | 8GB | 8GB | 4GB | 16GB | 1GB | 2GB | 4GB |
| DIMM Native Speed (MHz) -> | 1333 | 1333 | 1066 | 1333 | 1066 | 1066 | 1333 | 1333 | 1333 |
| | | | | | | | | | |
| SLOTS THAT CAN BE POPULATED | | | | | | | | | |
| 18 slot servers | 18 | 18 | 18 | 18 | 12 | 12 | 12 | 12 | 12 |
| | | | | | | | | | |
| MAXIMUM CAPACITY (GB) | | | | | | | | | |
| 18 slot servers | 36 | 72 | 144 | 144 | 48 | 192 | 12 | 24 | 48 |
| | | | | | | | | | |
| POPULATED DIMM SPEED (MHz) | | | | | | | | | |
| 1 DIMM Per Channel | 1333 | 1333 | 1066 | 1333 | 1066 | 1066 | 1333 | 1333 | 1333 |
| 2 DIMM Per Channel | 1333* | 1333* | 1066 | 1333* | 800 | 800 | 1333 | 1333 | 1333 |
| 3 DIMM Per Channel | 800 | 800 | 800 | 800 | * | n/a | n/a | n/a | n/a |
| * - supported with ROM update via ROM Based Setup Utility (RBSU). UDIMM support is only on 12-slot servers | | | | | | | | | |

NOTES:

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities

*Memory*

- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, you still run at 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, you run at 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- 95 Watt CPU's are required for 1333MHz DIMM speeds. All other CPU's are capable of up to 1066MHz
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

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

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

Standard memory configuration (1 CPU model)

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

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

*Memory*

Standard memory plus optional memory (1 CPU model)

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

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

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

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

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

UDIMM maximum configuration (1 CPU model)

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

*Memory*

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

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

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

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

UDIMM maximum configuration

- 48GB, consisting of twelve (12) 4GB dual-rank PC3-10600 UDIMMs

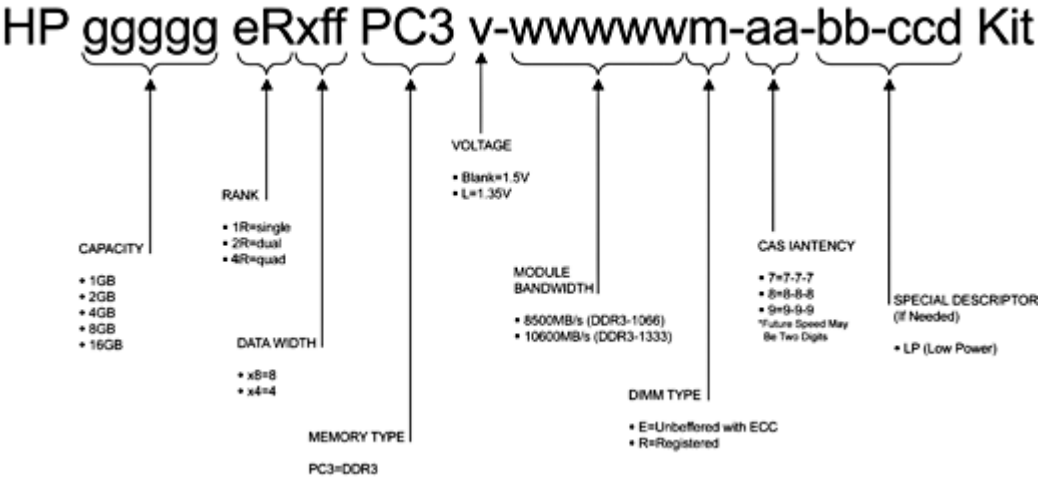
*Memory*

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

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

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

DDR3 memory options part number decoder



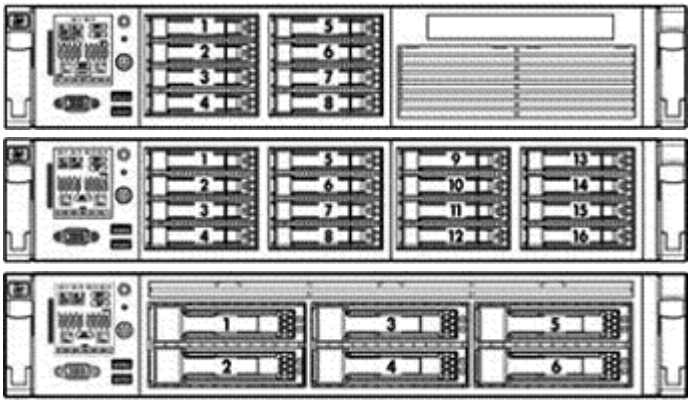
*Memory*

Following are memory options available from HP:

| | | |
|---|---|---|
| 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) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 593339-B21 |
| | HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit | 500658-B21 |
| | HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit | 500660-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 |
| | Unbuffered with ECC DIMMs (UDIMMs) | |
| | HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500668-B21 |
| | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500670-B21 |
| | HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500672-B21 |

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

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



1-8 Eight SFF SAS hot plug hard drive bays

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

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

## Drive Support

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| **Removable Media** | | | |
| HP Slim SATA DVD RW Optical Drive<br>NOTE: Included in performance models. | Only 1 available removable media bay | Slimline bay | Integrated SATA<br>NOTE: Optional |
| HP Slim SATA DVD-ROM Optical Drive | Only 1 available removable media bay | Slimline bay | Integrated SATA<br>NOTE: Optional |

**Hard Drives**

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

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

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 300GB 3G SAS 10K DP<br>300GB 6G SAS 10K DP<br>146GB 6G SAS 10K DP<br>146GB 6G SAS 15K DP<br>146GB 3G SAS 15K DP<br>146GB 3G SAS 10K DP<br>72GB 6G SAS 15K DP<br>72GB 3G SAS 15K DP | Up to 8 | 1-8 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

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

*Storage*

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

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 600GB 6G SAS 15K DP<br>450GB 6G SAS 15K DP<br>450GB 3G SAS 15K DP<br>300GB 6G SAS 15K DP<br>300GB 3G SAS 15K DP<br>146GB 3G SAS 15K DP | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>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 P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

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

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 2TB 6G SAS 7.2K DP<br>1TB 6G SAS 7.2K DP | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>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 8 | 1-8 | HP Smart Array P800/512 BBWC Controller |

| | | | |
|---|---|---|---|
| 160GB 3G SATA 7.2K | | | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

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

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 2TB 3G SATA 7.2K<br>1TB 3G SATA 7.2K<br>500GB 3G SATA 7.2K | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>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<br>120GB 1.5G SATA 5.4K | Up to 8 | 1-8 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

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

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

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

| | | | |
|---|---|---|---|
| | | | HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>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<br>120GB 3.0G SATA SSD | Up to 8 | 1-8 | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

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

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 60GB 3.0G SATA SSD<br>120GB 3.0G SATA SSD | Up to 6 | 1-6 | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/ 256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P410/512 MB FBWC Controller<br>HP Smart Array P410/1G FBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

*Storage*

External Storage

| | Quantity Supported | Position Supported | Host Controller or Adapter |
|---|---|---|---|
| 60 Modular Smart Array | Up to 4 | External | HP Smart Array P212/ 256 MB Controller |
| | Up to 8 | External | HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |
| 70 Modular Smart Array | Up to 2 | External | HP Smart Array P212/ 256 MB Controller |
| | Up to 4 | External | HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |
| D2600 Disk Enclosure | Up to 4 | External | HP Smart Array P212/ 256 MB Controller |
| | Up to 8 | External | HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |
| D2700 Disk Enclosure | Up to 2 | External | HP Smart Array P212/ 256 MB Controller |
| | Up to 4 | External | HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P411/512 MB FBWC Controller<br>HP Smart Array P411/1G FBWC Controller<br>HP Smart Array P812/1G Flash Backed Cache Controller |

Maximum Storage Capacity - (with MSA50, SAS HDD)

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

Maximum Storage Capacity - (with MSA50, SATA HDD)

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

Tape and Disk 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.

*Storage*

| | Position Supported | Controller | Part Number |
|---|---|---|---|
| **HP StorageWorks SCSI Tape Drives**<br>LTO-1 Ultrium 232<br>LTO-2 Ultrium 448<br>LTO-3 Ultrium 920<br>LTO-3 Ultrium 960<br>LTO4 Ultrium 1760<br>LTO-4 Ultrium 1840<br>DAT 40<br>DAT 72<br>DAT 160<br>1U Rack-Mount Kit<br>3U Rack-Mount Kit | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter<br><br>NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 412911-B21 |
| **HP StorageWorks USB Tape Drives**<br>DAT 40<br>DAT 72<br>DAT 160<br>DAT 320<br>1U USB Rack-Mount Kit | External | USB 2.0 Port | N/A |
| **HP StorageWorks SAS Tape Drives**<br>DAT 160<br>DAT 320<br>LTO-2 Ultrium 448<br>LTO-3 Ultrium 920<br>LTO-4 Ultrium 1760<br>LTO-4 Ultrium 1840<br>LTO-5 Ultrium 3000<br>LTO-5 Ultrium 3280<br>1U Rack-Mount Kit<br>3U Rack-Mount Kit | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller<br><br>NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 462828-B21 |
| **HP StorageWorks SCSI Tape Autoloaders**<br>DAT 72x10 Autoloader<br>1/8 G2 Autoloader | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter<br>NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 412911-B21 |
| **HP StorageWorks SCSI Tape Libraries**<br>MSL2024<br>MSL4048<br>MSL8096<br>MSL6000 | External | HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter<br><br>NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | AH627A |

*Storage*

| | | | |
|---|---|---|---|
| **HP StorageWorks SAS Tape Autoloaders and Libraries**<br>1/8 G2 Autoloader<br>MSL2024<br>MSL4048<br>MSL8096 | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller<br><br>NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 462828-B21 |
| **HP StorageWorks Fibre Channel Tape Libraries**<br>MSL2024<br>MSL4048<br>MSL8096<br>MSL6000 | External | Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information. | N/A |
| **HP StorageWorks USB RDX Removable Disk Backup System**<br>RDX160<br>RDX320<br>RDX500<br>RDX750<br>RDX1TB | Internal or External | USB 2.0 | N/A |
| **HP StorageWorks D2D Backup Systems, iSCSI**<br>D2D2500i<br>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**<br>D2D4000fc | External | Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect | |

*Power Specifications*

| HP 460W HE 12V Hot Plug AC Power Supply Kit | | | | | | | |
|---|---|---|---|---|---|---|---|
| Part Number | 503296-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 | 460 | 460 | 460 | 460 | 460 | 460 | 460 |
| Nominal Input Current ( A rms ) | 5.5 | 4.5 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 |
| Maximum Rated Input Wattage Rating ( Watts ) | 526 | 520 | 505 | 505 | 503 | 503 | 503 |
| Maximum Rated VA ( Volt-Amp ) | 548 | 542 | 527 | 527 | 524 | 524 | 524 |
| Efficiency ( % ) | 87.5 | 88.5 | 91 | 91 | 91.5 | 91.5 | 91.5 |
| 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 ) | 1794 | 1773 | 1725 | 1725 | 1715 | 1715 | 1715 |

| HP 750W Common Slot High Efficiency Power Supply Kit | | | | | | | |
|---|---|---|---|---|---|---|---|
| Part Number | 512327-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 | 750 | 750 | 750 | 750 | 750 | 750 | 750 |
| Nominal Input Current ( A rms ) | 8.9 | 7.4 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 |
| Maximum Rated Input Wattage Rating ( Watts ) | 857 | 847 | 824 | 824 | 820 | 820 | 820 |
| Maximum Rated VA ( Volt-Amp ) | 894 | 884 | 859 | 854 | 854 | 854 | |
| Efficiency ( % ) | 87.5 | 88.5 | 91 | 91 | 91.5 | 91.5 | 91.5 |
| 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 ) | 2925 | 2892 | 2812 | 2812 | 2797 | 2797 | 2797 |

*Power Specifications*

| HP 1200W 12V Hot Plug AC Power Supply | | | | | | | |
|---|---|---|---|---|---|---|---|
| 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 | 87 | 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 |

| HP 1200W Common Slot High Efficiency Power Supply Kit | | | | | | | |
|---|---|---|---|---|---|---|---|
| Part Number | 578322-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 ) | 9.3 | 8.6 | 6.7 | 6.5 | 6.1 | 5.8 | 5.6 |
| Maximum Rated Input Wattage Rating ( Watts ) | 889 | 989 | 1290 | 1290 | 1290 | 1290 | 1290 |
| Maximum Rated VA ( Volt-Amp ) | 927 | 1031 | 1345 | 1345 | 1345 | 1345 | 1345 |
| Efficiency ( % ) | 90 | 91 | 93 | 93 | 93 | 93 | 93 |
| Power Factor | 0.97 | | | | | | |
| Leakage Current ( mA ) | 0.42 | 0.50 | 0.83 | 0.87 | 0.92 | 0.96 | 1.00 |
| Maximum Inrush Current ( A peak ) | 30 | | | | | | |
| Maximum Inrush Current duration ( mS ) | 20 | | | | | | |
| Maximum British Thermal Unit Rating ( BTU-Hr ) | 3033 | 3375 | 4403 | 4403 | 4403 | 4403 | 4403 |

*Power Specifications*

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

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

| | | | |
|---|---|---|---|
| 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)<br>LFF Drives: 3.38 x 17.54 x 29.25 in (8.59 x 44.55 x 74.30 cm) | |
| | **Weight** (approximate) | Maximum (all hard drives, power supply, and processor installed) | 60.00 lb (27.27 kg) |
| | | Minimum (one hard drive, power supply, and processor installed) | 47.18 lb (21.45 kg) |
| | **Input Requirements** (per power supply) | Rated Line Voltage | 100 to 120 VAC<br>200 to 240 VAC |
| | | Rated Input Current | For 1200 W Power Supply:<br>10 A (at 100 VAC),<br>4.9 A (at 200 VAC)<br>For 750 W Power Supply:<br>8.9 A (at 100 VAC),<br>4.3 A (at 200 VAC)<br>For 460 W Power Supply:<br>5.5 A (at 100 VAC),<br>2.6 A (at 200 VAC) |
| | | Rated Input Frequency | 50 to 60 Hz |
| | | Rated Input Power | For 1200 W Power Supply:<br>930 W (at 100 VAC),<br>1348 W (at 200 VAC)<br>For 750 W Power Supply:<br>857 W (at 100 VAC),<br>824 W (at 200 VAC)<br>For 460 W Power Supply:<br>526 W (at 100 VAC),<br>505 W (at 200 VAC) |
| | **BTU Rating** | Maximum | For 1200 W Power Supply:<br>3530 BTU/hr (at 100 VAC),<br>4600 BTU/hr (at 200 VAC)<br>For 750 W Power Supply:<br>2925 BTU/hr (at 100 VAC),<br>2812 BTU/hr (at 200 VAC)<br>For 460 W Power Supply:<br>1794 BTU/hr (at 100 VAC),<br>1725 BTU/hr (at 200 VAC) |
| | **Power Specifications** | 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 | |
| | **Power Supply Output** (per power supply) | Rated Steady-State Power | For 1200 W Power Supply:<br>800 W (at 100 VAC),<br>900 W (at 120 VAC),<br>1200 W (at 200 to 240 VAC)<br>For 750 W Power Supply:<br>750 W (at 100 to 120 VAC), |

| | | |
|---|---|---|
| | | 750 W (at 200 to 240 VAC)<br>For 460 W Power Supply:<br>460 W (at 100 to 120 VAC),<br>460 W (at 200 to 240 VAC) |
| | Maximum Peak Power | For 1200 W Power Supply:<br>800 W (at 100 VAC),<br>900 W (at 120 VAC),<br>1200 W (at 200 to 240 VAC)<br>For 750 W Power Supply:<br>750 W (at 100 to 120 VAC),<br>750 W (at 200 to 240 VAC)<br>For 460 W Power Supply:<br>460 W (at 100 to 120 VAC),<br>460 W (at 200 to 240 VAC) |
| **System Inlet Temperature** | Operating | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.<br>System performance may be reduced if operating with a fan fault or above 30°C (86°F). |
| | Non-operating | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr). |
| **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).

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 |

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.

| | | |
|---|---|---|
| Smart Array P410i Controller | Dimensions | Embedded |
| | Disk Drive and Enclosure Interface - Transfer rate | 6Gb/s SAS (Serial Attached SCSI)<br>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<br>40-bit 256MB ECC protected cache (battery upgrade available)<br>72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC |
| | Logical Drives Supported | Zero Memory, Up to 2 logical volumes (8 physical drives)<br>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)<br>NOTE: RAID 6, 6+0 can be enabled with one of the following combinations:<br>• 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades<br>• 512 MB BBWC/FBWC and Smart Array Advanced Pack License key option upgrades<br>• 1G FBWC and Smart Array Advanced Pack License key option upgrades<br>RAID 5, 5+0 (Distributed Data Guarding)<br>NOTE: A minimum or 256 MB cache is required to enable RAID 5, 5+0 support<br>RAID 1+0 (Striping & Mirroring)<br>RAID 0 (Striping), RAID 1 (Mirroring) |

*Technical Specifications*

| | | | |
|---|---|---|---|
| HP NC382i Dual Port Multifunction Gigabit Server Adapters | Network Interface | 10Base-T/100Base-TX/1000Base-TX | |
| | Compatibility | 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 |
| | | 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 Integrated Lights-Out 2 (iLO 2) integrated on system board | Architecture | 32-bit PCI-based health and remote management ASIC |
| | Processor | 32-bit RISC processor core running at 66MHz |
| | Upgradeability | Option firmware upgradeable via Flash ROM. |
| | Operating System Support | 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 (32bit and 64bit) |
| | | 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 |
| | | Microsoft Windows XP Professional Edition |
| | | Microsoft Windows Vista Business and Ultimate Editions |
| | | Red Hat Enterprise Linux Desktop 5.00 |
| | | SUSE Linux Enterprise Desktop 11 |
| | | SUSE Linux Enterprise Desktop 10 |

| | | |
|---|---|---|
| | Client Browser Support | Microsoft Internet Explorer 7<br>Microsoft Internet Explorer 6<br>Firefox 3.5 (on supported Windows and Linux systems)<br>Firefox 3.0 (on supported Windows and Linux systems) |
| | Command Line Support | Telnet, Secure Shell and serial port access<br>Secure Socket Layer<br>Secure Shell version 2 (Password and certificate) |
| | Security | Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface<br>RC4 encryption of video |
| | Directory Support Services | Active Directory v1.0 (Windows 2003) |
| | Driver Support | Health Driver (HP ProLiant iLO 2 Management Controller Driver)<br>iLO Management Channel Interface Driver |
| | Management protocols supported | SNMP 2, IPMI 2.0 (KCS interface), DMTF Server Management Command Line Protocol Specification<br>(SM CLP), DMTF Web Services Management Specification (WS Management) |
| 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.<br><br>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.