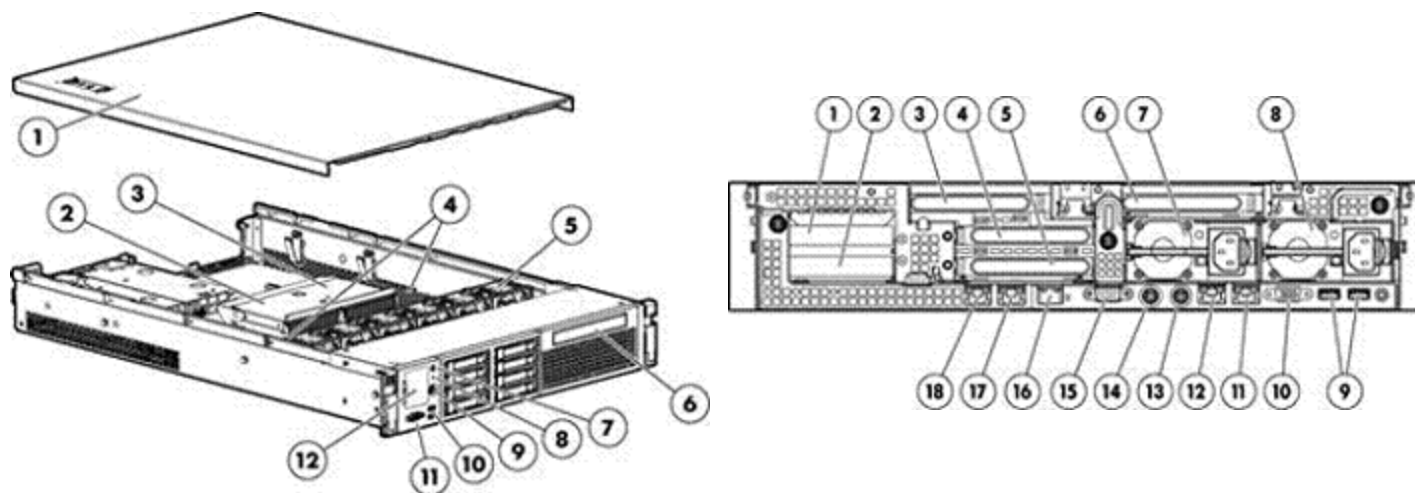


Overview



Front View:

1. Quick removal access panel
2. AMD Six-Core Processor (Performance models include two processors)
3. Second AMD Six-Core Processor
4. Sixteen sockets for PC2-6400 DIMMs (800MHz) with Advanced ECC
5. Hot-plug fans, full redundancy
6. Slim 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

Deploy more virtual machines with confidence with the new HP ProLiant DL385 G6 that offers 16 DIMM slots, two (2) dual-port NICs, and up to 16 SFF hard drives. Offering new AMD Opteron® six-core processors and modular Smart Arrays.

- Up to two (2) AMD Opteron™ 2400 Series Six-Core Processors with 6MB L3 cache
- 16 DIMMs sockets for up to 128GB of DDR2-800MHz
- Two HP NC382i Integrated Dual Port Multifunction Gigabit Server Adapters (four ports total)

At A Glance

As the leading 2P 2U AMD rack server, the HP ProLiant DL385 G6 is designed with virtualization in mind, yet flexible to support any business need in many environments from corporate datacenters to sophisticated SMBs.

- **Processors:**
 - AMD Six-Core, 2400 series processors with 6MB Level 3 cache for blazing performance; systems support up to 2 processors (2 processors standard on all Performance models)
 - Preconfigured Performance models save valuable deployment time at a discounted bundle price
 - Serverworks HT-2100 Northbridge and HT-1000 Southbridge chipset
- **Memory:**
 - Up to 128 GB (with PC2-5300 8GB DIMMs). PC2-6400 800MHz DDR2 Standard models support 2:1 Bank Interleaving. 4:1 Bank Interleaving (Data saved across 2 pairs of DIMMs) and Node interleaving support (data saved across 2 processors memory sets) also available
- **Storage Controller:**
 - Performance Models: HP Smart Array P410/512MB with BBWC
 - Base Models: HP Smart Array P410/256MB Controller
 - Entry Models: HP Smart Array P410/Zero Memory Controller
 - Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)
- **Internal Drive Support:**

Overview

- Up to 16 small form factor (SFF) or up to 6 large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives (with optional drive cages)
- **Network Controller:**
 - Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)
- **Expansion Slots:**
 - Up to 6 PCI slots (one occupied by controller)
 - Standard BTO riser with PCIe (1) x8 FL/FH, (2) x4 HL/FH
 - Optional second risers with PCIe (1) x8, (2) x4; or a PCIe/PCI-X mixed riser with (1) PCI-X, (1) x8, (1) x4; or a x16 225w PCIe riser with (1) x16; or a (2) x8 Dual Port 10GbE riser
- **USB 2.0 Ports:**
 - 5 total ports: (2) ports in front; (2) ports in back; (1) port internal
- **Redundancy:**
 - Fully redundant hot plug fans (Entry/Base four fans; Performance six fans)
 - Hot plug power supply with optional redundancy (Included in Performance models)
- **Power Supply:**
 - Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
 - HP 1200W CS HE Silver Power Supply
 - HP 750W CS HE Gold Power Supply
 - HP 460W CS HE Gold Power Supply
 - HP 1200W -48V DC CS Power Supply
- **Infrastructure Management:**
 - Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
 - HP powered by the HP Integrated Lights-Out 2 (iLO 2) management processor for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
 - HP Insight Control a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
 - HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- **Operating Systems and Virtualization Software Support for ProLiant Servers:**
 - Supports Windows, RHEL, SLES, OEL, Solaris, NetWare, VMware
- **Form Factor:**
 - Rack (2U), (3.5-inch)
- **Deployment/Serviceability:**
 - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability
 - Tool-less access to all system components for easy in rack serviceability
 - Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement
- **Warranty:**
 - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Standard Features

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

Processor

One of the following depending on Model

Six-Core Processors

AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W)

AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W)

AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W)

AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W)

NOTE: Processor wattage references reflect Average CPU Power (ACP). For more information on ACP visit: <http://www.amd.com/powernow>.

NOTE: Up to 2 processors supported. High Performance Model configurations include two processors, 16 GB system memory, 512MB storage controller memory, BBWC, DVDRW, Redundant 750W Power Supplies, and 6 hot plug redundant fans.

Cache Memory

6MB Level 3 cache memory

Upgradeability

Upgradeable to two processors

Chipset

Serverworks HT-2100 Northbridge and HT-1000 Southbridge Chipset

Memory Protection

Advanced ECC

Memory

One of the following depending on Model

| Type | REG PC2-6400 DIMMs (DDR2-800) |
|-------------------------------|---|
| | Standard models support 2:1 Bank Interleaving, with 4:1 Bank Interleaving (Data saved across 2 pairs of DIMMs) and Node interleaving support (data saved across 2 processors memory sets) available. NOTE: If only one processor is installed, only half of the DIMM slots are available. |
| Standard (Entry Models) | 4 GB (2 x 2 GB) |
| Standard (Base Models) | 8 GB (2 x 4 GB) |
| Standard (Performance Models) | 16 GB (4 x 4 GB) |
| Maximum | 128 GB (16 x 8 GB) (PC2-5300) |

Network Controller

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)

NOTE: 1GB of memory is sufficient to support up to eight Total Ports. 2GB of memory is required if nine or more Total Ports have been selected.

Expansion Slots

Primary Riser (Standard)

| Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|-------------------|-------------|-----------|-----------------|------------|--------------------------|-----------------------------|
| 1 | PCI-Express | x8 | x16 | 42 | Full Length/Full Height | |
| 2 | PCI-Express | x4 | x8 | 45 | Half length, full height | |
| 3 | PCI-Express | x4 | x8 | 48 | Half length, full height | Occupied by P410 controller |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - 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 | PCI-Express | x8 | x16 | 4 | Full Length/Full Height | |
| 5 | PCI-Express | x4 | x8 | 7 | Low Profile | |
| 6 | PCI-Express | x4 | x8 | A | Low Profile | |



Standard Features

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - Indicates the number of physical electrical lanes running to the

| PCIe/PCI-X Riser (Optional Primary) | Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|--|-------------------|-------------|-----------|-----------------|------------|--------------------------|-------|
| | 1 | PCI-Express | 64-bit | N/A | 49 | Full length, Half height | |
| | 2 | PCI-Express | x8 | x16 | 42 | Half Length, Full Height | |
| | 3 | PCI-Express | x4 | x8 | 45 | Half Length, Full Height | |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - 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 (Optional Secondary) | Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|---------------------------------|-------------------|-------------|-----------|-----------------|------------|-------------------------|-------|
| | 4 | PCI-X | 64-bit | N/A | B | Full Length/Full Height | |
| | 5 | PCI-Express | x8 | x16 | 4 | Low Profile | |
| | 6 | PCI-Express | x4 | x8 | 7 | Low Profile | |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - 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 |
|--------------------------------------|-------------------|-------------|-----------|-----------------|------------|-------------------------|---|
| | 1 | PCI-Express | x16 | x16 | 42 | Full Length/Full Height | Supports up to 225W; single wide cards only |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - Indicates the number of physical electrical lanes running to the connector

| Dual Port 10GbE Riser (Optional Primary) | Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|---|-------------------|-------------|-----------|-----------------|------------|--------------------------|-------|
| | 1 | PCI-Express | x8 | x16 | 45 | Full Length/Full Height | |
| | 2 | PCI-Express | x8 | x16 | 42 | Half length, full height | |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - Indicates the number of physical electrical lanes running to the connector

| Dual Port 10GbE Riser (Optional Secondary) | Expansion Slots # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|---|-------------------|-------------|-----------|-----------------|------------|-------------------------|-------|
| | 4 | PCI-Express | x8 | x16 | 7 | Full Length/Full Height | |
| | 5 | PCI-Express | x8 | x16 | 4 | Low Profile | |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

NOTE: Bus width - 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 P410/Zero Memory Controller |
| Base Models: | HP Smart Array P410/256 MB Controller |
| High Performance Models: | HP Smart Array P410/512 MB BBWC Controller |

Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for the 256MB cache), and Smart Array Advanced Pack (SAAP)

NOTE: RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).

Standard Features

| | | | |
|--|--|---|---|
| Storage | Diskette Drive | None Standard | |
| | Optical Drive | None Standard | |
| | Hard Drives | None Standard | |
| Maximum Internal Storage | Hot Plug SFF SAS | 8TB | 16 x 500GB with standard internal hot plug SFF SAS (with optional drive cage) |
| | Hot Plug LFF SAS | 12TB | 6 x 2TB (with optional drive cage) |
| Interfaces | Serial | 1 | |
| | Pointing Device (Mouse) | 1 | |
| | Graphics | 1 | |
| | Keyboard | 1 | |
| | VGA | 2 (1 front, 1 back) | |
| | Network RJ-45 (Ethernet) | 4 | |
| | iLO 2 remote management port | 1 | |
| | USB 2.0 Ports | 5 (2 front, 2 back, 1 inside) | |
| NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html . | | | |
| Graphics | Integrated ATI ES1000, 32MB video standard | | |
| | <ul style="list-style-type: none"> ● 16 bit color: maximum resolution of 1600 x 1200 ● 32 bit color: maximum resolution of 1280 x 1024 | | |
| NOTE: Maximum resolution available via iLO remote console is 1280 x 1024. | | | |
| Form Factor | Rack (2U), (3.5-inch) | | |
| HP Insight management software | HP Insight Foundation | <p>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.</p> <p>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: http://www.hp.com/go/foundation.</p> <p>The foundation pack includes:</p> <ul style="list-style-type: none"> ● HP SmartStart ● HP Management ● HP ProLiant Firmware Maintenance <p>SmartStart version supported (minimum): SmartStart 8.25. http://www.hp.com/servers/smartstart</p> | |
| | HP Integrated Lights-Out (iLO) integrated on system board | <p>HP Integrated Lights-Out (iLO) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO</p> | |
| | HP Insight Control | <p>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.</p> | |

Standard Features

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

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

HP Insight Dynamics for ProLiant

HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. As a powerfully integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.

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

Industry Standard Compliance

ACPI 2.0 Compliant
 PCIe 1.1 Compliant
 PCI 2.2 Compliant
 PCI-X 2.0a Compliant
 WOL Support
 Microsoft® Logo certifications
 USB 2.0 Support

Intelligent Manageability

HP Systems Insight Manager software
 SmartStart
 Management Agent
 Redundant ROM
 Remote Flash ROM
 ROM-Based Setup Utility (RBSU)
 Integrated Management Log
 Automatic Server Recovery (ASR)
 Dynamic Sector Repairing (with Smart Array controller)
 Drive Parameter Tracking (with Smart Array controller)
 Pre-Failure Warranty (covers processors, SAS hard drives and memory)

Security

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

Standard Features

Security - Trusted Platform Module

Trusted Platform Module option kit

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

For more information about TPM, including a white paper, go to: www.hp.com/go/TPM

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

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

UPS and PDU Power Cord Matrix

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

Power Supply

HP has a new design for ProLiant power - the new Common Slot (CS) Power Supply bay. This design 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 high efficiency CS power supplies that are designed to provide the highest power efficiency without degrading performance of the server. HP CS Power Supplies have efficiency ratings up to 92%. There are several power output options to choose from allowing you to "Right Size" a power supply that is appropriate for your server configuration. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor at: www.hp.com/go/hppoweradvisor, to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant.

Common Slot ProLiant It is highly recommended that you use the HP Power Calculator in defining the "Right-Size" power supply for your needs. HP offers the following Power Supply Options:

- HP 460Watts, Common Slot, 92% Efficiency
- HP 750Watts, Common Slot, 92% Efficiency
- HP 1200Watts, Common Slot, 90% Efficiency
- HP 1200W -48V DC CS Power Supply

HP's ProLiant Common Slot Power supplies (460W & 750W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative GOLD, ECOS Consulting 80PLUS GOLD and plans on offering models that meet the Energy Star for Server requirements when they are published.

HP's ProLiant Common Slot Power supplies (1200W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative Bronze, ECOS Consulting 80PLUS Bronze Power Supply requirements.

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

NOTE: BTO Performance models include two power supplies; BTO Base and Entry models include one power supply. On CTO models, power supply must be selected from available options.

System Fans

Hot plug fans ship standard, N+1 fully redundant (3+1) for 1 processor, (5+1) for 2 processors

NOTE: Processor option kits include 2 additional fans when upgrading to 2 processors.

Standard Features

Operating Systems and Virtualization Software [Microsoft Windows Server](#)
Support for ProLiant Servers [Microsoft Windows Server Hyper-V](#)
[Red Hat Enterprise Linux \(RHEL\)](#)
[SUSE Linux Enterprise Server \(SLES\)](#)
[Oracle Enterprise Linux \(OEL\)](#)
[Solaris](#)
[VMware](#)

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/DL385G6

Rack Airflow Requirements

Rack 10000 G2 series Cabinets

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

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

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

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

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/dl385-g6.

Rack Kit

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

NOTE: Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.

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 DL385 in 7000 series racks. The DL385 Cable Management Arm is not supported on 7000 series racks.

Telco Rack Support

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

Factory Express Portfolio for Servers and Storage

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

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

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

HP Enterprise Configurator

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

Standard Features

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand or Gigabit Ethernet Interconnects:

<http://www.hp.com/techservers/clusters/ucp/index.html>

InfiniBand PCI-Express adapters

Service and Support

HP Care Pack services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack services include coverage for the HP branded hardware options qualified for the server and purchased at the same time or afterward that are internal to the enclosure. This also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalizing on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions, provides a range of support services designed to meet the varying needs of your business. Whether an SMB, or large global corporation, HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - simplify ProLiant solution implementation, maintenance, and management.

- **Support:** 3-Year 4-Hour response 24x7 Same Business Day Coverage only
- **Service:** Installation and Start up only

Enhanced Service - optimize service level to increase IT performance and availability.

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

Refer to the information on "Installation & Start-Up" for service on 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, excluding HP holidays.

NOTE: For a complete listing of service offerings and information visit:

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

<http://www.hp.com/go/proliant/carepack>

Models

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

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

Performance Models

| | | |
|--|---------------------------|---|
| HP ProLiant DL385 G6 2435 2.6GHz Six Core Performance Rack Server 570102-xx1 | Processor(s) | (2) Six-Core AMD Opteron™ Processor Model 2435 (2.6 GHz, 75W) |
| | Cache Memory | 6MB L3 cache |
| | Memory | 16GB (4 x 4GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P410/512MB BBWC Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | Slim SATA DVD-RW Optical Drive |
| | Power Supply | (2) 750W power supplies |
| | Fans | 6 Hot Plug Fully Redundant Fans |
| | Form Factor | Rack (2U), (3.5-inch) |

| | | |
|--|---------------------------|---|
| HP ProLiant DL385 G6 2435 2.6GHz Six Core ICE Performance Rack Server 575381-xx1 | Processor(s) | (2) Six-Core AMD Opteron™ Processor Model 2435 (2.6 GHz, 75W) |
| | Cache Memory | 6MB L3 cache |
| | Memory | 16GB (4 x 4GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P410/512MB BBWC Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | Slim SATA DVD-RW Optical Drive |
| | Power Supply | (2) 750W power supplies |
| | Insight Control | HP Insight Control No Media single server license, including 1 year of 24x7 Technical Support and Updates |
| | Fans | 6 hot plug redundant fans |
| Form Factor | Rack (2U), (3.5-inch) | |

Base Models

| | | |
|---|---------------------------|--|
| HP ProLiant DL385 G6 2431 2.4GHz Six Core Base Rack Server 570103-xx1 | Processor(s) | (1) Six-Core AMD Opteron™ Processor Model 2431 (2.4 GHz, 75W) |
| | Cache Memory | 6MB L3 cache |
| | Memory | 8GB (2 x 4GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P410/256MB Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | Not included on Base Model |
| | Power Supply | (1) 460W power supply |
| | Fans | 4 hot plug redundant fans |
| | Form Factor | Rack (2U), (3.5-inch) |

Models

Entry Models

| | | |
|--|---------------------------|--|
| HP ProLiant DL385 G6 2427 2.2GHz Six Core Entry Rack Server 570108-xx1 | Processor(s) | (1) Six-Core AMD Opteron™ Processor Model 2427 (2.2 GHz, 75W) |
| | Cache Memory | 6MB L3 cache |
| | Memory | 4GB (2 x 2GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P410/Zero Memory Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | Not Included on entry model |
| | Power Supply | (1) 460W power supply |
| | Fans | 4 hot plug redundant fans |
| | Form Factor | Rack (2U), (3.5-inch) |

| | | |
|--|---------------------------|--|
| HP ProLiant DL385 G6 2425HE 2.1GHz Six Core Rack Server 570109-xx1 | Processor(s) | (1) Six-Core AMD Opteron™ Processor Model 2425HE (2.1 GHz, 55W) |
| | Cache Memory | 6MB L3 cache |
| | Memory | 4GB (2 x 2GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P410/Zero Memory Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays |
| | Optical Drive | Not Included on entry model |
| | Power Supply | (1) 460W power supply |
| | Fans | 4 hot plug redundant fans |
| | Form Factor | Rack (2U), (3.5-inch) |

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

Configuration Information - Factory Integrated Models

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

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

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

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

| | |
|------------------|--|
| HP Models | <p>HP ProLiant DL385G6 Rack CTO Chassis 572431-B21</p> <p>Factory Integrated Model ships with:</p> <p>(8) SFF Serial Attached SCSI (SAS) Drive Bays Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) PCI-Express Riser Cage One IEC Power cord Hot plug fans (fully redundant) NOTE: 4 fans one processor models; 6 fans two processor models Rack (2U), (3.5-inch) NOTE: this option removes the optical media bay and 8 SFF drive bays</p> |
| | <p>HP ProLiant DL385G6 Rack LFF CTO Chassis 573104-B21</p> <p>Factory Integrated Model ships with:</p> <p>(6) LFF Serial Attached SCSI (SAS) Drive Bays NOTE: LFF configuration does not support internal optical drive Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) PCI-Express Riser Cage One IEC Power cord Hot plug fans (fully redundant) NOTE: (4 fans one processor models; 6 fans two processor models) Rack (2U), (3.5-inch)</p> |

Step 1A: Choose Storage Controller (must choose only one of the following)

| | |
|-------------------------------|--|
| HP Storage Controllers | <p>NOTE: RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).</p> |
| | <p>HP Smart Array P800/512 BBWC Controller 381513-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P212/256MB Controller 462834-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P212/Zero Memory Controller 462828-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P410/256MB Controller 462862-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P410/512MB with BBWC 462864-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P411/256MB Controller 462830-B21 NOTE: PCI Express.</p> |
| | <p>HP Smart Array P411/512MB BBWC 462832-B21 NOTE: PCI Express.</p> |

Configuration Information - Factory Integrated Models

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

HP Processors

Six-Core Processors

| | |
|--|------------|
| AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W), FIO | 570113-L21 |
| AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W), FIO | 570115-L21 |
| AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W), FIO | 570117-L21 |
| AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W), FIO | 570119-L21 |

NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21. If selecting 570113-L21 and high performance features are desired, select High Performance Pack in Step 3 below.

HP Memory

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

| | |
|---|------------|
| HP 2GB (2x1GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497763-B21 |
| HP 4GB (2x2GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497765-B21 |
| HP 8GB (2x4GB) Dual Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497767-B21 |
| HP 8GB (2x4GB) Dual Rank x4 PC2-6400 (DDR2-800) Registered Low Power Memory Kit | 504351-B21 |
| HP 16GB (2x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 408855-B21 |
| HP 64GB (8x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 495605-B21 |

NOTE: P/N: 495605-B21 includes 8 DIMMs instead of 2. It is counted as 4 kits instead of 1.

HP Power Supplies

NOTE: Refer to HP Power Advisor when selecting a power supply for your configuration, www.hp.co/go/hppoweradvisor. Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. 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 CS HE Gold Power Supply 92% Efficiency | 503296-B21 |
| HP 750W CS HE Gold Power Supply 92% Efficiency | 512327-B21 |
| HP 1200W 12V Hot Plug AC Power Supply | 500172-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.

HP Storage Controllers **NOTE:** Storage Controller is NOT required if selecting P/N: 570121-B21 in Step 3 below.

| | |
|---|------------|
| 256MB Cache Module FIO | 534108-B21 |
| NOTE: Supported on HP Smart Array P410/Zero Memory Controller only. | |
| 512MB BBWC | 462967-B21 |
| Battery Kit upgrade | 462969-B21 |
| NOTE: To enable BBWC on the 256MB Cache. | |
| HP Smart Array P410/256 FIO Controller w/Battery | 491195-B21 |
| HP Smart Array P410/256MB Controller | 462862-B21 |
| HP Smart Array P410/512MB with BBWC | 462864-B21 |
| HP Smart Array P410/Zero Memory FIO Controller | 462860-B21 |
| HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support | 516471-B21 |

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

NOTE: RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).

Configuration Information - Factory Integrated Models

Step 3: Choose Additional Factory Integratable Options

HP Performance Packs The HP ProLiant DL385 G6 performance packs are necessary to configure a HP ProLiant DL385 G6 Performance Model. HP ProLiant DL385 G6 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd processor, two additional fans, HP Smart Array P410/512MB with BBWC, and a second 750W CS HE power supply. To complete the configuration of a Performance model, select the Slim SATA DVD-RW Optical Drive Kit (481043-B21).

HP DL385G6 O2435 HPM FIO PERF PACK 570121-B21

HP Insight Software HP Insight Control, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates 582765-B21

HP Insight Control for Linux, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates TC203A

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 available for factory integration. Please contact an HP sales representative for additional information.

| | | |
|--------------------------|--|------------|
| HP Unique Options | HP StorageWorks RDX160 Removable Disk Backup System DL Server Module NOTE: Mounts in DL385 G6 second drive cage slot (160GB of Disk Storage) | AP724A |
| | HP StorageWorks RDX320 Removable Disk Backup System DL Server Module NOTE: Mounts in DL385 G6 second drive cage slot (320GB of Disk Storage) | AP725A |
| | HP StorageWorks RDX500 Removable Disk Backup System DL Server Module NOTE: Mounts in DL385 G6 second drive cage slot (500GB of Disk Storage) | AP726A |
| | HP 8SFF CAGE 385 G6 NOTE: Second drive cage installation replaces internal optical bay. NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | 516914-B21 |

HP Processors

Six-Core Processors

| | |
|---|------------|
| AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W) | 570113-B21 |
| AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W) | 570115-B21 |
| AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W) | 570117-B21 |
| AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W) | 570119-B21 |
| NOTE: Second processor kits include additional two fans. | |

HP Memory

| | |
|---|------------|
| HP 2GB (2x1GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497763-B21 |
| HP 4GB (2x2GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497765-B21 |
| HP 8GB (2x4GB) Dual Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497767-B21 |
| HP 8GB (2x4GB) Dual Rank x4 PC2-6400 (DDR2-800) Registered Low Power Memory Kit | 504351-B21 |
| HP 16GB (2x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 408855-B21 |
| HP 64GB (8x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 495605-B21 |

HP Optical Drives

| | |
|---|-------------|
| HP Slim SATA DVD-ROM Optical Drive | 481041-B21 |
| HP Slim SATA DVD-RW Optical Drive NOTE: Included in performance models. | 481043-B21 |
| HP External USB CD/DVD R/RW Optical Drive | FS943AA#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.

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

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

| | |
|---|------------|
| HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| HP 300GB 3G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 492620-B21 |
| HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |
| HP 146GB 3G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 504062-B21 |
| HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507125-B21 |
| HP 146GB 3G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418367-B21 |
| HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512545-B21 |
| HP 72GB 3G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418371-B21 |

SAS Hot Plug 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 |

Core Options

HP 450GB 3G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 454232-B21

HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 516814-B21

HP 300GB 3G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 416127-B21

HP 146GB 3G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive 384854-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

HP 1TB 3G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive 461137-B21

HP 750GB 3G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive 461135-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)

Core Options

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 | 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

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

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

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

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

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

| | |
|--------------------------------------|------------|
| HP 10 GbE PCI-e G2 Dual Port Adapter | 516937-B21 |
|--------------------------------------|------------|

HP InfiniBand

| | |
|---|------------|
| HP InfiniBand 4X DDR PCI-E Dual Port Host Adapter | 409376-B21 |
| HP InfiniBand 4X DDR PCI-E Dual Port HCA | 448397-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 DL38X (1) x16 PCI-E riser kit | 494323-B21 |
| HP DL38X (1) x8, (2) x4 PCI-E riser kit | 500580-B21 |
| HP DL38X PCI-X riser kit (1) PCI-X, (1) x8, (1) x4) | 494322-B21 |
| HP DL38X (2) x8 Dual Port 10GbE Riser Kit | 494326-B21 |

NOTE: This riser card will support Qty 2 of 10Gbe NICs.

HP Power Supplies

| | |
|---|------------|
| HP 460W CS HE Gold Power Supply | 503296-B21 |
| HP 750W CS HE Gold Power Supply | 512327-B21 |
| HP 1200W CS HE Silver Power Supply | 500172-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.

Additional Options

HP Insight Software

HP Insight Control

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

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

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

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

HP Insight Software Media Kit 436222-B21

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.

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

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

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

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

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

NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html

HP Insight Control for Linux

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

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

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

NOTE: 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.

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

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

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

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

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

HP Integrated Lights-Out (iLO) Advanced

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

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

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

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

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

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

HP Insight Control Server Deployment

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

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

Additional Options

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

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

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

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

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

NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html

| | | |
|------------------------------|--------------------|------------|
| HP Drive Cage Options | HP 8SFF CAGE 380G6 | 516914-B21 |
|------------------------------|--------------------|------------|

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

| | | |
|--------------------------|---------------------------------------|------------|
| HP Security - TPM | HP Trusted Platform Module Option Kit | 488069-B21 |
|--------------------------|---------------------------------------|------------|

HP Storage Controllers SAS Controllers

Smart Array P800 Controller

| | |
|---|------------|
| HP Smart Array P800/512 BBWC Controller | 381513-B21 |
|---|------------|

HP Smart Array P212 Controller

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|--|------------|
| HP Smart Array P212/Zero Memory Controller | 462828-B21 |
|--|------------|

| | |
|---------------------------------------|------------|
| HP Smart Array P212/256 MB Controller | 462834-B21 |
|---------------------------------------|------------|

Smart Array P410 Controller

| | |
|---------------------------------------|------------|
| HP Smart Array P410/256 MB Controller | 462862-B21 |
|---------------------------------------|------------|

| | |
|---|------------|
| HP Smart Array P410/512 MB with BBWC Controller | 462864-B21 |
|---|------------|

| | |
|-------------------------------------|------------|
| HP Smart Array P410/512MB with FBWC | 578230-B21 |
|-------------------------------------|------------|

| | |
|----------------------------------|------------|
| HP Smart Array P410/1G with FBWC | 572532-B21 |
|----------------------------------|------------|

HP Smart Array P411 Controller

| | |
|---------------------------------------|------------|
| HP Smart Array P411/256 MB Controller | 462830-B21 |
|---------------------------------------|------------|

| | |
|---|------------|
| HP Smart Array P411/512 MB with BBWC Controller | 462832-B21 |
|---|------------|

| | |
|--|------------|
| HP Smart Array P411/512MB Flash Backed Write Cache | 578229-B21 |
|--|------------|

| | |
|---|------------|
| HP Smart Array P411/1G Flash Backed Write Cache | 572531-B21 |
|---|------------|

Smart Array P812 Controller

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

Optional Upgrades

| | |
|---------------------|------------|
| 256 MB Cache Module | 462968-B21 |
|---------------------|------------|

NOTE: Supported on HP Smart Array P212 Controller and HP Smart Array P410/Zero Memory Controller only.

| | |
|------------|------------|
| 512MB BBWC | 462967-B21 |
|------------|------------|

| | |
|---------------------|------------|
| Battery Kit upgrade | 462969-B21 |
|---------------------|------------|

NOTE: To enable BBWC on the 256MB cache.

NOTE: Supported on HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only.

| | |
|---|------------|
| HP 8484 to Mini SAS 33in Cable Assembly | 591734-B21 |
|---|------------|

NOTE: Cable for use connecting the Smart Array P800 Controller to internal hard disk drives on select HP ProLiant G6 Servers.

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

| | |
|-----------------------------|------------|
| 1G Flash Backed Write Cache | 534562-B21 |
|-----------------------------|------------|

| | |
|---|------------|
| HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 | 516471-B21 |
|---|------------|

Additional Options

Technical Support

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

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

http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html
(Smart Array P800 Controller)

http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html
(Smart Array P212 Controller)

http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html
(Smart Array P410 Controller)

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

HP SAS Expander Card 468406-B21

Mini SAS 4i to Mini SAS 4i, 8.00" 496012-B21

NOTE: BTO Models will require Mini SAS 4i to Mini SAS 4i, 8.00" (496012-B21), included on CTO built models.

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 Host Bus Adapter 488765-B21

HP SC08e 6Gb 2-ports Ext PCIe SAS HBA 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 following QuickSpecs for 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

HP SC11Xe Host Bus Adapter 412911-B21

NOTE: Recommended HBA for SCSI tape drive connect.

NOTE: Please see the following QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html
(SC11Xe HBA)

Backup & Recovery Software

HP Data Protector Express

HP Data Protector Express 4.0 SP1 Backup Server BB117BA

HP Data Protector Express 4.0 SP1 for Microsoft Small Business Server BB118BA

HP Data Protector Express Backup Server 4.0 SP1 Upgrade from Data Protector Express Single Server Edition BB117BT

NOTE: One of these Data Protector Express base products is required. To see available options: <http://www.hp.com/go/dataprotectorexpress>

Additional Options

Tape Backup

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

| | |
|--|--------|
| HP StorageWorks DAT 320 USB Tape Drive in 1U USB Rack Kit | AP835A |
| HP StorageWorks DAT 320 SAS Internal Tape Drive | AJ830A |
| NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | |
| HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive | EH847A |
| NOTE: For installation into 1U SAS rack kit (AE459B) or 3U SAS rack kit (AG576B). No peripheral bay available for installation into the server. Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | |
| HP StorageWorks LTO-4 Ultrium 1760 Tape Drive in 1U SAS Rack Kit | EH946B |
| NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | |
| HP StorageWorks LTO-5 Ultrium 3000 Tape Drive in 1U SAS Rack Kit | EJ014A |
| NOTE: Connection using HP Smart Array P212/Zero Memory Controller (462828-B21) recommended. | |
| HP StorageWorks 1/8 G2 LTO-3 Ultrium 3000 SAS Tape Autoloader | BL536A |
| NOTE: Requires HP 1U Tape Autoloader Rack Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended. | |
| HP StorageWorks MSL2024 Tape Library with one LTO-5 Ultrium 3000 SAS Drive | BL537A |
| NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended. | |

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 | EJ001B |
| 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. | |
| HP StorageWorks D2D2504i Backup System | EJ002B |
| NOTE: 3.0TB of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended. | |
| HP StorageWorks D2D4004i Backup System | EH938A |
| NOTE: 3.0TB (expandable to 7.5TB) of useable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended. | |
| HP StorageWorks D2D4112fc Backup System | EH993B |
| NOTE: 9.0TB (expandable to 18.0TB) of useable network disk backup capacity. Fibre Channel SAN connected appliance. Direct server attach is not supported, requires connection via SAN fabric. | |
| HP StorageWorks RDX Removable Disk Backup Systems USB | |
| HP StorageWorks RDX320 Internal Removable Disk Backup System for DL Servers | AP725A |
| NOTE: 320GB of disk capacity per data cartridge. | |
| HP StorageWorks RDX500 Internal Removable Disk Backup System for DL Servers | AP726A |
| NOTE: 500GB of disk capacity per data cartridge. | |
| HP StorageWorks RDX750 Internal Removable Disk Backup System for DL Servers | AW578A |
| NOTE: 750GB of disk capacity per data cartridge. | |

Additional Options

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 PCI-e FC HBA Single Port | AP769A |
| HP StorageWorks 82B PCI-e FC HBA Dual Port | AP770A |
| HP StorageWorks 41B 4Gb PCI-e FC HBA | AP767A |
| HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA | AP768A |

Emulex Fibre Channel HBAs

| | |
|---|--------|
| HP StorageWorks 81E PCI-e FC HBA Single Port | AJ762A |
| HP StorageWorks 82E PCI-e FC HBA Dual Port | AJ763A |
| HP StorageWorks FC2142 4Gb PCI-e HBA | A8002A |
| HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA | A8003A |

QLogic Fibre Channel HBAs

| | |
|---|--------|
| HP StorageWorks 81Q PCI-e FC HBA Single Port | AK344A |
| HP StorageWorks 82Q PCI-e FC HBA Dual Port | AJ764A |
| HP StorageWorks FC1142 4Gb PCI-e HBA | AE311A |
| HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA | AE312A |

StorageWorks SCSI HBA

| | |
|--------------------------------|--------|
| HP U320e SCSI Host Bus Adapter | AH627A |
|--------------------------------|--------|

NOTE: Recommended HBA for MSL SCSI Tape Library connect.

StorageWorks Converged Network Adapter

| | |
|---|--------|
| HP CN1000E 2P Converged Network Adapter | AW520A |
|---|--------|

HP Modular Smart Array

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

HP Uninterruptible Power Systems

HP Rack-mountable UPS

HP R1500 G2 UPS

| | |
|-----------------------------|--------|
| HP, R1.5kVA UPS, 1U, NA | AF419A |
| HP, R1.5kVA UPS, 1U, INTL | AF418A |
| HP, R1.5kVA UPS, 1U, JPN/TW | AF421A |

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html
(Worldwide)

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

NOTE: For additional information on sizing your server, please reference:
<http://www.upssizer.com>.

HP R/T3000 Uninterruptible Power System (UPS)

| | |
|--|--------|
| HP R/T3000 UPS, High voltage, NA/JPN | AF453A |
| HP R/T3000 UPS, High voltage, detachable inlet cord INTL | AF454A |

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/13417_div/13417_div.html
(Worldwide)

HP Rack-Mountable R5500 UPS

| | |
|-------------------------|--------|
| HP R5500 VA UPS, INTL | AF416A |
| HP R5500 VA UPS, NA/JPN | AF426A |

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html

Additional Options

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

NOTE: For additional information on sizing your server, please reference: <http://www.upssizer.com>.

HP Power Distribution Units

HP Monitored Power Distribution Unit: Half Rack Version

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

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

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.

HP Rack Series

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

10642 G2 (42U) Rack Cabinet - Pallet AF001A

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

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

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

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

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

Additional Options

HP Rack Options

Keyboards and Monitors

HP TAA TFT7600 US Rkmtkybd 17in Monitor AG067A

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

HP Server Console Switches

HP Server console switch 0x2x8 AF616A

HP Server console switch 0x2x16 AF617A

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

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

HP Server Console Switch G2 with Virtual Media & CAC

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

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

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

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

HP IP Console Switch G2 with Virtual Media & CAC

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

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

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

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

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

HP USB and SD Options

HP USB 04 Standard Keyboard DT528A#ABA

HP 2GB USB Flash Media Drive Key 608447-B21

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

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

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4556E

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>.

Memory

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

HP ProLiant DL385 G6 Base Models

Standard Memory

8 GB REG PC2-6400 2 x 4 GB installed (Base Model)

Upgrading Memory and Memory Interleaving

DIMMs must be installed in identical pairs. Bank interleaving is automatically enabled on a processor node under the following conditions:

- Four single ranked DIMMs populated per node (4 x 1 GB or 4 x 2 GB for example) yields 2-way bank interleaving.
 - Two dual ranked DIMMs populated per node (2 x 4 GB or 2 x 8 GB for example) yields 2-way bank interleaving.
 - Four dual ranked DIMMs populated per node (4 x 4 GB or 4 x 8 GB for example) yields 4-way bank interleaving.
- If single and dual ranked DIMMs are mixed on the same node, bank interleaving will not be enabled.
If single and dual ranked DIMMs are mixed on the same node, bank interleaving will not be enabled.

Node interleaving can be configured via RBSU if both processors have the same memory footprint and it is independent of bank interleaving.

DIMMs must be installed in decreasing capacity with the largest DIMMs installed in the banks furthest away from each processor.

Standard Memory Plus Optional Memory

Up to 56 GB memory is available with the standard memory and the optional installation of 6 x 8GB PC2-5300 DIMMs.

Standard Memory Replaced with Optional Memory

Up to 64 GB of memory is available with the removal of the standard memory and the optional installation of 8 x 8 GB PC2-5300 DIMMs.

NOTE: Chart does not represent all possible configurations.

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

| Config | Slot | | | | | | | | | | | | | | | | Total | |
|----------|--------|-----|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|------|
| | Bank A | | Bank B | | Bank C | | Bank D | | Bank E | | Bank F | | Bank G | | Bank H | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| Standard | 4GB | 4GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 8GB |
| Optional | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 4GB | 4GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 56GB |
| Maximum | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 64GB |

HP ProLiant DL385 G6 Performance Models

Standard Memory

16 GB REG PC2-6400 4 x 4 GB installed

Upgrading Memory and Memory Interleaving

DIMMs must be installed in identical pairs. Bank interleaving is automatically enabled on a processor node under the following conditions:

1. Four single ranked DIMMs populated per node (4 x 1 GB or 4 x 2 GB for example) yields 2-way bank interleaving.
 2. Two dual ranked DIMMs populated per node (2 x 4 GB or 2 x 8 GB for example) yields 2-way bank interleaving.
 3. Four dual ranked DIMMs populated per node (4 x 4 GB or 4 x 8 GB for example) yields 4-way bank interleaving.
- If single and dual ranked DIMMs are mixed on the same node, bank interleaving will not be enabled.

Node interleaving can be configured via RBSU if both processors have the same memory footprint and it is independent of bank interleaving.

DIMMs must be installed in decreasing capacity with the largest DIMMs installed in the banks furthest away from each processor.

Standard Memory Plus Optional Memory

Up to 112 GB memory is available with the standard memory and the optional installation of 12 x 8GB PC2-5300 DIMMs.

Standard Memory Replaced with Optional Memory

Up to 128 GB of memory is available with the removal of the standard memory and the optional installation of 16 x 8 GB PC2-5300 DIMMs.

NOTE: Chart does not represent all possible configurations.

| Config | Slot | | | | | | | | | | | | | | | | Total | |
|----------|--------|-----|--------|-------|--------|-------|--------|-------|--------|-----|--------|-------|--------|-------|--------|-------|-------|-------|
| | Bank A | | Bank B | | Bank C | | Bank D | | Bank E | | Bank F | | Bank G | | Bank H | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| Standard | 4GB | 4GB | Empty | Empty | Empty | Empty | Empty | Empty | 4GB | 4GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 16GB |
| Optional | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 4GB | 4GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 4GB | 4GB | Empty | 112GB |
| Maximum | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 128GB |

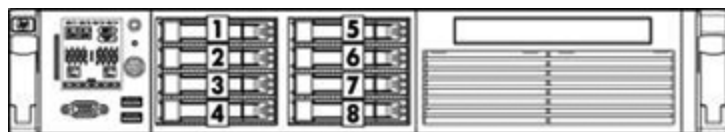


Memory

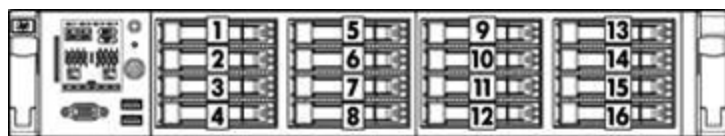
Following are memory options available from HP:

| | | |
|------------------|---|------------|
| HP Memory | HP 2GB (2x1GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497763-B21 |
| | HP 4GB (2x2GB) Single Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497765-B21 |
| | HP 8GB (2x4GB) Dual Rank PC2-6400 (DDR2-800) Registered Memory Kit | 497767-B21 |
| | HP 8GB (2x4GB) Dual Rank x4 PC2-6400 (DDR2-800) Registered Low Power Memory Kit | 504351-B21 |
| | HP 16GB (2x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 408855-B21 |
| | HP 64GB (8x8GB) Dual Rank PC2-5300 (DDR2-667) Registered Memory Kit | 495605-B21 |

Storage



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.
NOTE: This configuration requires a second controller or SAS Expander Card.



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

Drive Support

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

Hard Drives

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

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

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

| | Quantity Supported | Position Supported | Controller |
|---------------------|--|--------------------|--|
| 300GB 6G SAS 10K DP | Up to 16 | 1-8 | HP Smart Array P800/512 BBWC Controller |
| 300GB 3G SAS 10K DP | | 1-16 | HP Smart Array P212/Zero Memory Controller |
| 146GB 6G SAS 15K DP | Depending on Model | NOTE: | HP Smart Array P212/ 256 MB Controller |
| 146GB 6G SAS 10K DP | | | HP Smart Array P410/256 MB Controller |
| 146GB 3G SAS 15K DP | | | HP Smart Array P410/512 MB BBWC Controller |
| 146GB 3G SAS 10K DP | | | HP Smart Array P410/512 MB FBWC Controller |
| 72GB 6G SAS 15K DP | | | HP Smart Array P410/1G FBWC Controller |
| 72GB 3G SAS 15K DP | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | HP Smart Array P411/1G FBWC Controller | | |
| | HP Smart Array P812/1G Flash Backed Cache Controller | | |

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

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

Storage

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

| | Quantity Supported | Position Supported | Controller |
|----------------------|--------------------|---------------------------|--|
| 500GB 6G SAS 7.2K DP | Up to 16 | 1-8 | HP Smart Array P800/512 BBWC Controller |
| | | 1-16 | HP Smart Array P212/Zero Memory Controller |
| | | NOTE: | HP Smart Array P212/ 256 MB Controller |
| | | Depending on Model | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | 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 | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller |
| 1TB 6G SAS 7.2K DP | | | HP Smart Array P212/Zero Memory Controller |
| 1TB 3G SAS 7.2K DP | | | HP Smart Array P212/ 256 MB Controller |
| 750GB 3G SAS 7.2K DP | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | 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 160GB 3G SATA 7.2K | Up to 16 | 1-8 | HP Smart Array P800/512 BBWC Controller |
| | | 1-16 | HP Smart Array P212/Zero Memory Controller |
| | | NOTE: | HP Smart Array P212/ 256 MB Controller |
| | | Depending on Model | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | 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 | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller |
| 1TB 3G SATA 7.2K | | | HP Smart Array P212/Zero Memory Controller |
| 500GB 3G SATA 7.2K | | | HP Smart Array P212/ 256 MB Controller |
| | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | HP Smart Array P812/1G Flash Backed Cache Controller |

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

| | Quantity Supported | Position Supported | Controller |
|--------------------|--------------------|--------------------|---|
| 250GB 3G SATA 5.4K | Up to 16 | 1-8 | HP Smart Array P800/512 BBWC Controller |



Storage

| | | |
|----------------------|--------------|--|
| 120GB 1.5G SATA 5.4K | 1-16 | HP Smart Array P212/Zero Memory Controller |
| | NOTE: | HP Smart Array P212/ 256 MB Controller |
| | Depending on | HP Smart Array P410/256 MB Controller |
| | Model | HP Smart Array P410/512 MB BBWC Controller |
| | | HP Smart Array P410/512 MB FBWC Controller |
| | | HP Smart Array P410/1G FBWC Controller |
| | | HP Smart Array P411/256 MB Controller |
| | | HP Smart Array P411/512 MB BBWC Controller |
| | | HP Smart Array P411/512 MB FBWC Controller |
| | | HP Smart Array P411/1G FBWC Controller |
| | | HP Smart Array P812/1G Flash Backed Cache Controller |

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

| | Quantity Supported | Position Supported | Controller |
|--------------------|--------------------|--------------------|--|
| 250GB 3G SATA 7.2K | Up to 6 | 1-6 | HP Smart Array P800/512 BBWC Controller |
| 160GB 3G SATA 7.2K | | | HP Smart Array P212/Zero Memory Controller |
| | | | HP Smart Array P212/ 256 MB Controller |
| | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | HP Smart Array P812/1G Flash Backed Cache Controller |

SATA Hot Plug Midline (MDL) Solid State Drives

| | Quantity Supported | Position Supported | Controller |
|---------------------|--------------------|--------------------|--|
| 60GB 3.0G SATA SSD | Up to 16 | 1-8 | HP Smart Array P212/Zero Memory Controller |
| 120GB 3.0G SATA SSD | | 1-16 | HP Smart Array P212/ 256 MB Controller |
| | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | 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 | Up to 6 | 1-6 | HP Smart Array P212/Zero Memory Controller |
| 120GB 3.0G SATA SSD | | | HP Smart Array P212/ 256 MB Controller |
| | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P410/512 MB FBWC Controller |
| | | | HP Smart Array P410/1G FBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |
| | | | HP Smart Array P411/512 MB FBWC Controller |
| | | | HP Smart Array P411/1G FBWC Controller |
| | | | 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/Zero Memory Controller HP Smart Array P212/256 MB Controller |
| | Up to 8 | External | HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller HP Smart Array P812/1G Flash Backed Cache Controller |
| 70 Modular Smart Array | Up to 4 | External | HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller HP Smart Array P411/512 MB FBWC Controller HP Smart Array P411/1G FBWC Controller |

Maximum Storage Capacity - (with MSA70)

| | |
|----------|-----------------------------------|
| Internal | 8.0TB (16x 500GB SAS/SATA) |
| External | 12.5TB (250 x 500GB SAS/SATA SFF) |
| Total | 20.5TB |

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>.

| | Position Supported | Controller | Controller Part Number |
|-----------------------------|--------------------|--|------------------------|
| HP StorageWorks SCSI | External | HP SC11Xe Host Bus Adapter | 412911-B21 |
| Tape Drives | | | |
| LTO-1 Ultrium 232 | | | |
| LTO-2 Ultrium 448 | | | |
| LTO-3 Ultrium 920 | | | |
| LTO-3 Ultrium 960 | | | |
| LTO4 Ultrium 1760 | | | |
| LTO-4 Ultrium 1840 | | | |
| DAT 40 | | | |
| DAT 72 | | | |
| DAT 160 | | | |
| 1U Rack-Mount Kit | | | |
| 3U Rack-Mount Kit | | | |
| HP StorageWorks USB | | | |
| Tape Drives | External | USB 2.0 Port | N/A |
| DAT 40 | | | |
| DAT 72 | | | |
| DAT 160 | | | |
| DAT 320 | | | |
| 1U USB Rack-Mount Kit | | | |
| HP StorageWorks SAS | | | |
| Tape Drives | External | HP Smart Array P212/Zero Memory Controller | 462828-B21 |
| DAT 160 | | | |
| DAT 320 | | | |
| LTO-2 Ultrium 448 | | | |
| LTO-3 Ultrium 920 | | | |
| LTO-4 Ultrium 1760 | | | |
| LTO-4 Ultrium 1840 | | | |
| LTO-5 Ultrium 3000 | | | |
| LTO-5 Ultrium 3280 | | | |
| 1U Rack-Mount Kit | | | |
| 3U Rack-Mount Kit | | | |

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

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

Storage

| | | | |
|---|----------------------|---|------------|
| HP StorageWorks SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader | External | HP SC11Xe Host Bus Adapter NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 412911-B21 |
| HP StorageWorks SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000 | External | HP U320e SCSI Dual Channel Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | AH627A |
| HP StorageWorks SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096 | External | HP Smart Array P212/Zero Memory Controller NOTE: Please check the full compatibility information at: http://www.hp.com/go/connect | 462828-B21 |
| HP StorageWorks Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000 | External | Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs. | N/A |
| HP StorageWorks USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750 | Internal or External | USB 2.0 Port | N/A |
| HP StorageWorks D2D Backup Systems, iSCSI D2D2500i D2D4000i | External | Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended. | N/A |
| HP StorageWorks D2D Backup Systems, Fibre Channel D2D4000fc | External | Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect | N/A |

Power Specifications

| HP 460W CS HE 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 CS HE 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 |
| HP 1200W CS HE Power Supply Kit | | | | | | | |
| Part Number | 500172-B21 | | | | | | |
| Input Voltage Range (V rms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Maximum Rated Output Wattage Rating | 800 | 900 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Nominal Input Current (A rms) | 9.7 | 9.0 | 7.0 | 6.8 | 6.4 | 6.1 | 5.9 |
| Maximum Rated Input Wattage Rating (Watts) | 930 | 1034 | 1348 | 1348 | 1348 | 1348 | 1348 |
| Maximum Rated VA (Volt-Amp) | 970 | 1079 | 1406 | 1406 | 1406 | 1406 | 1406 |
| Efficiency (%) | 86 | 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 48VDC CS HE Power Supply Kit | | | | | | | |
| 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 | | |

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

- Click on "ProLiant Servers"
- Click on the Server of interest. Example: DL385 G6
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Technical Specifications

| | | | |
|--------------------|--|--|---|
| System Unit | Dimensions (H x W x D) | 3.38 x 17.54 x 27.25 in (8.59 x 44.54 x 69.98 cm) (with bezel) | |
| | Weight (approximate) | Maximum (all hard drives, power supply, and processor installed) | 60 lb (27.22 kg) |
| | | Minimum (one hard drive, power supply, and processor installed) | 47.18 lb (20.41 kg) |
| | Input Requirements (per power supply) | Rated Line Voltage | 100 to 120 VAC 200 to 240 VAC |
| | | Rated Input Current | For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC) |
| | | Rated Input Frequency | 50 to 60 Hz |
| | | Rated Input Power | For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC) |
| | BTU Rating | Maximum | For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC) |
| | Power 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: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC) |
| | | Maximum Peak Power | For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC) |
| | System Inlet Temperature | Operating | 10° to 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 |

Technical Specifications

| | | |
|--|--|---|
| | | installed. |
| | | System performance may be reduced if operating with a fan fault or above 30°C (86°F). |
| Relative Humidity (non-condensing) | Non-operating | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr). |
| | Operating | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing. |
| Altitude | Non-operating | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing. |
| | 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). |
| Acoustic Noise | Non-operating | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). | |
| | Idle | |
| | LWAd | 6.3 B |
| | LpAm | 47 dBA |
| | Operating | |
| | LWAd | 6.3 B |
| | LpAm | 47 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.

| | | | |
|------------------------------------|---|--|--|
| Smart Array P410 Controller | Disk Drive and Enclosure Interface - Transfer rate | 6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA) | |
| | SAS Connectors | 2 internal (Mini-SAS) x8 wide port connectors | |
| | Cache Memory Speed | DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth. | |
| | Server Interface | x8 5G PCIe 2.0 provides 4GB/s maximum bandwidth | |
| | SAS Speed | x8 6G SAS provides 4.8GB/s maximum bandwidth | |
| | Cache Memory | 40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade | |
| | Logical Drives Supported | Up to 64 logical drives | |
| | Maximum Logical Drive Capacity | Greater than 2TB | |
| | Host Memory Addressing | 64-bit, supporting greater than 4GB server memory space | |
| | RAID Support | RAID 6, 6+0 (Advanced Data Guarding) NOTE: The minimum of 256 MB cache, battery kit, and Smart Array Advanced Pack License Key upgrade is required to enable RAID 6, 6+0 | |
| | | RAID 5, 5+0 (Distributed Data Guarding) NOTE: The 256 MB is required to enable RAID 5, 5+0 support of the Smart Array P410i | |
| | | RAID 1+0 (Striping & Mirroring) | |
| | | RAID 0 (Striping) | |

Technical Specifications

| | | | |
|--|------------------------------|--|----------|
| Two HP NC382i Dual Port Multifunction Gigabit Server Adapters | Network Interface | 10Base-T/100Base-TX/1000Base-TX | |
| | Compatibility | IEEE 802.3 10Base-T | |
| | | IEEE 802.3ab 1000Base-T | |
| | | IEEE 802.3u 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) | |

| | | |
|---|---|--|
| Environment-friendly Products and Approach | End-of-life Management and Recycling | <p>Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: 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.</p> <p>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: 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.</p> |
|---|---|--|

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