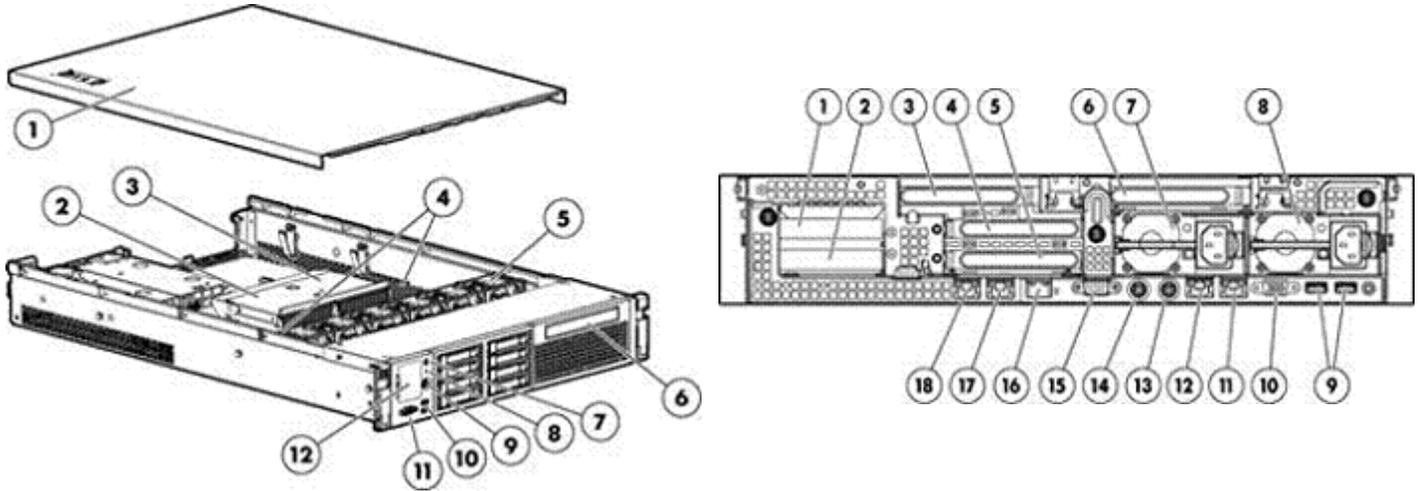


Overview



Front View:

1. Quick removal access panel
2. AMD Quad-Core or Six-Core Processors (Performance models include two processors)
3. Second AMD Quad-Core or 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. iLO2 connector
17. NIC 3 connector
18. NIC 4 connector

What's New

- New Six-Core AMD Opteron processors option kits
- New Modular Smart Array Storage Controllers support

At A Glance



Overview

Deploy more virtual machines with confidence with the new HP ProLiant DL385 G5p that offers twice the memory, double the NICs, and up to 16 drives.

- **Processors:**
 - AMD Quad-Core, 2300 series processors; or 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 Select 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:**
 - Base Models: HP Smart Array P400/256 MB Controller (RAID 0/1/1+0/5)
 - Upgrade to 512MB cache w/o Battery Backed Write Cache module, optional BBWC
 - The Smart Array P400/256 MB Controller ships installed in slot 3 (slots 1-2 are available)
 - High Performance Models: HP Smart Array P400/512MB BBWC Controller (RAID 0/1/0+1/5/6)
- **Internal Drive Support:**
 - 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
- **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 HiPerf 225w PCIe riser with (1) x16
- **USB 2.0 Ports:**
 - 5 total ports: (2) ports in front; (2) ports in back; (1) port internal
- **Redundancy:**
 - Fully redundant hot plug 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 ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 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.
- **Form Factor:**
 - Rack (2U), (3.5-inch)

Overview

- **Deployment/Serviceability:**
 - System Insight Display on the front bezel for quick and easy server diagnostics
 - 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 a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA2-2599ENW.pdf>.

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

Quad-Core Processors

AMD Opteron™ Processor 2389 (2.9 GHz, 75Watts)

AMD Opteron™ Processor 2387 (2.8 GHz, 75Watts)

AMD Opteron™ Processor 2381HE (2.5 GHz, 55Watts)

AMD Opteron™ Processor 2376HE (2.3 GHz, 55Watts)

AMD Opteron™ Processor 2372HE (2.1 GHz, 55Watts)

AMD Opteron™ Processor 2384 (2.7 GHz, 75 Watts)

AMD Opteron™ Processor 2382 (2.6 GHz, 75 Watts)

AMD Opteron™ Processor 2378 (2.4 GHz, 75 Watts)

Six-Core Processors

AMD Opteron™ Processor 2435 (2.6 GHz, 75Watts) (option kit only)

AMD Opteron™ Processor 2431 (2.4 GHz, 75Watts) (option kit only)

AMD Opteron™ Processor 2427 (2.2 GHz, 75Watts) (option kit only)

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, 4GB system memory, 512MB storage controller memory, BBWC, DVDRW, Redundant Power Supplies, and 6 hot plug redundant fans.

Cache Memory

6MB Level 3 cache

Chipset

Serverworks HT-2100 Northbridge and HT-1000 Southbridge Chipset

Upgradeability

Upgradeable to 2 processors

Memory Protection

Advanced ECC

Standard Features

| | | |
|---------------|-------------------------------|---|
| Memory | Type | PC2-6400 DIMMs (DDR2-800MHz) Select 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 (Base Models) | 2 GB (2 x 1 GB) |
| | Standard (Performance Models) | 4 GB (4 x 1 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.
NOTE: Accelerated iSCSI available as a standard feature at no additional cost on this server.

Expansion Slots

Non-Hot Plug PCI riser board slot definitions

| Primary Slot form factor | Secondary Slot form factor | PCIe riser slot description | PCIe x16 riser slot description | PCIe/PCI-X riser slot description |
|--------------------------|----------------------------|-----------------------------|---------------------------------|-----------------------------------|
| 1 - FL/FH | 4 - FL/FH | PCIe x16 (8,4,1) | PCIe x16 (16,8,4,1) | PCI-X 64bit/133MHz |
| 2 - HL/FH | 5 - LP | PCIe x8 (4,1) | | PCIe x16 (8,4,1) |
| 3 - HL/FH | 6 - LP | PCIe x8 (4,1) | | PCIe x8 (4,1) |

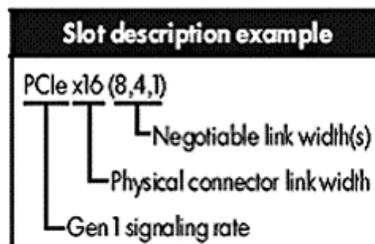
NOTE: "Primary" denotes the riser cards are installed in the primary riser connector.

NOTE: "Secondary" denotes the riser cards are installed in the secondary riser connector.

NOTE: FL/FH denotes full-length, full-height. HL/FH denotes half-length, full height. LP denotes lower profile.

NOTE: The PCIe x16 riser supports a maximum power of 225W with an HP power cable. The HP power cable must be used for PCIe card wattages greater than 75W.

NOTE: The System Standard Configuration in this server comes with the following three PCI-Express Slots: (1) FH x8 PCI-Express slots; (2) FH x4 PCI express slots (BTO models only - 1 slot consumed by P400 controller)



Standard Features

Storage Controller *One of the following depending on Model*

Base Models: HP Smart Array P400/256 MB Controller (RAID 0/1/1+0/5)
Available upgrades: 512MB memory module with BBWC for RAID 0/1/1+0/5/6, battery for battery-backed write cache (BBWC).
High Performance Models: HP Smart Array P400/512 MB BBWC Controller (RAID 0/1/1+0/5/6)

Storage

| | |
|---|---|
| Diskette Drive | None Standard |
| Optical Drive <i>One of the following depending on Model</i> | None Standard HP Slim SATA DVD RW Optical Drive Standard on Performance Models |
| Hard Drives | None Standard |

Maximum Internal Storage

| | | |
|------------------|--------|---|
| Hot Plug SFF SAS | 8.0TB | 16 x 500GB with standard internal hot plug SFF SAS (with optional drive cage) |
| Hot Plug LFF SAS | 12.0TB | 6 x 2TB (with optional drive cage) |

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)

Interfaces

| | |
|----------------------------|-------------------------------|
| Serial | 1 |
| Pointing Device (Mouse) | 1 |
| Graphics | 1 |
| Keyboard | 1 |
| VGA | 2 (1 front, 1 back) |
| Network RJ-45 | 4 |
| iLO 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>.

Standard Features

Graphics

Integrated ATI ES1000, 32MB video standard

- 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

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

HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: <http://www.hp.com/go/foundation>. The foundation pack includes:

- HP SmartStart
- HP Management
- HP ProLiant Firmware Maintenance

SmartStart version supported (minimum): SmartStart 8.15.

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

ProLiant Onboard Administrator

HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See

www.hp.com/go/ProLiantOA

HP Insight Control

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

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

www.hp.com/go/insightcontrol

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

Standard Features

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

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 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.

Power Supply

HP has a new design for ProLiant power. The new Common Slot 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 Common Slot, High Efficiency and Right-Size Power Supplies. Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed for highest efficiency to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 92%. There are three Right Size power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor (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.

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.

Standard Features

UPS and PDU Power Cord Matrix

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

System Fans

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.

Operating Systems and Virtualization Software Support for ProLiant Servers

Microsoft Windows Server
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/DL385G5p.

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/proliantdl385-g5p.

Standard Features

Rack Kit

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

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

Telco Rack Support

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

Factory Express Portfolio for Servers and Storage

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

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

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

HP Enterprise Configurator

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

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

Standard Features

- Deployment 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>

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for the DL385 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, Gigabit Ethernet or Myrinet Interconnects: <http://www.hp.com/techservers/clusters/ucp/index.html>.

| | | |
|------------------|------------------|--------------------------------|
| HPC Interconnect | InfiniBand | PCI-X and PCI-Express adapters |
| | Gigabit Ethernet | Use embedded ports |
| | Myrinet XP | PCI-X Rev D and Rev E adapters |

Models

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

| | | |
|---|---|--|
| HP DL385 G5p High Performance Models | Processor(s) | (2) Quad-Core AMD Opteron™ 2389 Processors (2.9 GHz, 75 Watts) |
| | One of the following depending on Model | (2) Quad-Core AMD Opteron™ 2384 Processors (2.7 GHz, 75 Watts) |
| DL385G5P 2384 HPM 500099-xx1 | Cache Memory | 6MB L3 cache |
| | Memory | 4 GB (4 x 1 GB) of 2:1 interleaved PC2-6400 DIMMs (DDR2-800MHz) with Advanced ECC capabilities |
| DL385G5P 2389 HPM 533915-xx1 | Network Controller | Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) |
| | Storage Controller | HP Smart Array P400/512MB BBWC Controller (RAID 0/1/1 + 0/5/6) |
| | 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 | 2384 HPM: (2) 1200W CS HE Silver Power Supply 2389 HPM: (2) 750W CS HE Gold Power Supply |
| | One of the following depending on Model | |
| | Fans | 6 Hot Plug Fully Redundant Fans |
| | Form Factor | Rack (2U), (3.5-inch) |

| | | |
|------------------------------------|---|--|
| HP DL385 G5p Base Models | Processor(s) | (1) Quad-Core AMD Opteron™ 2378 Processor (2.4 GHz, 75 Watts) |
| | Cache Memory | 6MB L3 cache |
| DL385G5P 2378 500106-xx1 | Memory | 2GB (2 x 1 GB) of 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 P400/256MB Controller (RAID 0/1/1 + 0/5) | |
| 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) 1200W CS HE Silver Power Supply | |
| Fans | 4 Hot Plug Fully Redundant Fans | |
| Form Factor | Rack (2U), (3.5-inch) | |

Models

| | | |
|-------------------------------|--------------------|--|
| HP DL385 G5p Entry Models | Processor(s) | (1) Quad-Core AMD Opteron™ 2372HE Processor (2.1 GHz, 55W) 6MB L3 cache |
| DL385G5P 2372HE 516256-xx1 | Cache Memory | 6MB L3 cache |
| | Memory | 2GB (2 x 1 GB) of 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 P400/256MB Controller (RAID 0/1/1+0/5) |
| | 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 | 4 Hot Plug Fully Redundant Fans |
| | Fans | (1) 460W CS HE Gold Power Supply |
| | Form Factor | Rack (2U), (3.5-inch) |

| | | |
|------------------|-------|--------|
| Country Code Key | XX=00 | U.S. |
| | XX=20 | Brazil |
| | XX=29 | Japan |
| | XX=37 | AP |
| | XX=42 | Euro |
| | 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 | HP ProLiant DL385G5p Rack CTO Chassis | 500527-B21 |
| | Factory Integrated Model ships with: | |
| | (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) | |
| | Rack (2U), (3.5-inch) | |

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

| | | |
|------------------------|--|------------|
| HP Storage Controllers | HP Smart Array P400 with 256MB with Heat Sink | 507808-B21 |
| | NOTE: PCI Express. Supported on the DL385 G5p only. | |
| | HP Smart Array P400 with 512BBWC with Heat Sink | 508833-B21 |
| | NOTE: PCI Express. Supported on the DL385 G5p only. | |
| | HP Smart Array E200/128 BBWC Controller | 411508-B21 |
| | NOTE: PCI Express. | |
| | HP Smart Array P800/512 BBWC Controller | 381513-B21 |
| | NOTE: PCI Express. | |
| | HP Smart Array E200/64 FIO Controller | 405528-B21 |

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

| | | |
|---------------|---|------------|
| HP Processors | Quad-Core Processors | |
| | AMD Opteron™ Processor 2389 (2.9 GHz, 75 Watts) Kit, FIO | 533916-L21 |
| | AMD Opteron™ Processor 2387 (2.8 GHz, 75 Watts) Kit, FIO | 533918-L21 |
| | AMD Opteron™ Processor 2381HE (2.5 GHz, 55 Watts) Kit, FIO | 535682-L21 |
| | AMD Opteron™ Processor 2376HE (2.3 GHz, 55 Watts) Kit, FIO | 516259-L21 |
| | AMD Opteron™ Processor 2372HE (2.1 GHz, 55 Watts) Kit, FIO | 516257-L21 |
| | AMD Opteron™ Processor 2384 (2.7 GHz, 75 Watts) Kit, FIO | 500535-L21 |
| | AMD Opteron™ Processor 2382 (2.6 GHz, 75 Watts) Kit, FIO | 500104-L21 |
| | AMD Opteron™ Processor 2378 (2.4 GHz, 75 Watts) Kit, FIO | 500537-L21 |
| HP Memory | NOTE: DIMM banks are active only when the corresponding processor socket is populated. | |
| | 2 GB REG PC2-6400 2 x 1 GB Kit | 497763-B21 |
| | 4 GB REG PC2-6400 2 x 2 GB Kit | 497765-B21 |



Configuration Information - Factory Integrated Models

| | |
|---|------------|
| 8 GB REG PC2-6400 2 x 4 GB Kit | 497767-B21 |
| 8 GB REG PC2-6400 2 x 4 GB Low Power Kit | 504351-B21 |
| 16 GB REG PC2-5300 2 x 8 GB Dual Rank Kit | 408855-B21 |
| 64 GB REG PC2-5300 8 x 8 GB Dual Rank Kit | 495605-B21 |

HP Power Supplies

NOTE: Refer to HP Power Advisor when selecting a power supply for your configuration, www.hp.com/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/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

| | |
|--|------------|
| 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.

Step 3: Choose Additional Factory Integratable Options

| | | |
|-----------------------|--|------------|
| HP Drive Cage Options | HP DL385 G5p 6 LFF drive cage kit NOTE: Supported on the DL385 G5p, FIO only. 6 LFF drive cage replaces 8 SFF drive cage. NOTE: Selection of this drive cage removes the ability to select optical drives. | 505956-B21 |
| HP Insight Software | HP Insight Control suite, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates | 582765-B21 |
| HP Performance Packs | The HP ProLiant DL385 G5p performance packs are necessary to configure a HP ProLiant DL385 Gp5 Performance Model. HP ProLiant DL385 G5p 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 and a redundant power supply. To complete the configuration of a Performance model, select the Slimline DVD-RW Optical Kit (481043-B21). NOTE: must use default 8 SFF drive cage to build up equivalent preconfigured Performance models. | |
| | HP DL385G5p 2384 HPM FIO Perf Pack | 500524-B21 |
| | HP DL385G5p 2389 HPM FIO Perf Pack | 533947-B21 |

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 factory integratable. Contact your local sales representative for additional information.

| | | |
|-------------------|---|------------|
| HP Unique Options | HP DL385G5p 8 SFF drive cage | 501263-B21 |
| | NOTE: Second drive cage installation replaces internal optical bay. | |
| | NOTE: Second drive cage requires second controller or HP SAS Expander Card (468406-B21). | |
| | HP Smart Array P400 with 256MB with Heat Sink | 507808-B21 |
| | NOTE: Supported on the DL385 G5p only. | |
| | HP Smart Array P400 with 512BBWC with Heat Sink | 508833-B21 |
| | NOTE: Supported on the DL385 G5p only. | |

HP Processors

Quad-Core Processors

| | |
|---|------------|
| AMD Opteron™ Processor 2389 (2.9 GHz, 75 Watts) Kit | 533916-B21 |
| AMD Opteron™ Processor 2387 (2.8 GHz, 75 Watts) Kit | 533918-B21 |
| AMD Opteron™ Processor 2381HE (2.5 GHz, 55 Watts) Kit | 535682-B21 |
| AMD Opteron™ Processor 2376HE (2.3 GHz, 55 Watts) Kit | 516259-B21 |
| AMD Opteron™ Processor 2372HE (2.1 GHz, 55 Watts) Kit | 516257-B21 |
| AMD Opteron™ Processor 2384 (2.7 GHz, 75 Watts) Kit | 500535-B21 |
| AMD Opteron™ Processor 2382 (2.6 GHz, 75 Watts) Kit | 500104-B21 |
| AMD Opteron™ Processor 2378 (2.4 GHz, 75 Watts) Kit | 500537-B21 |

Six-Core Processors

| | |
|---|------------|
| AMD Opteron™ Processor 2435 (2.6 GHz, 75 Watts) Kit | 570113-B21 |
| AMD Opteron™ Processor 2431 (2.4 GHz, 75 Watts) Kit | 570115-B21 |
| AMD Opteron™ Processor 2427 (2.2 GHz, 75 Watts) Kit | 570117-B21 |

NOTE: Second processor kits include additional two fans.

HP Memory

| | |
|---|------------|
| 2 GB REG PC2-6400 2 x 1 GB Kit | 497763-B21 |
| 4 GB REG PC2-6400 2 x 2 GB Kit | 497765-B21 |
| 8 GB REG PC2-6400 2 x 4 GB Kit | 497767-B21 |
| 8 GB REG PC2-6400 2 x 4 GB Low Power Kit | 504351-B21 |
| 16 GB REG PC2-5300 2 x 8 GB Dual Rank Kit | 408855-B21 |
| 64 GB REG PC2-5300 8 x 8 GB Dual Rank Kit | 495605-B21 |

HP Optical Drives

| | |
|--|------------|
| HP Slim SATA DVD-RW Optical Drive | 481043-B21 |
| NOTE: Included in performance models. | |
| HP Slim SATA DVD-ROM Optical Drive | 481041-B21 |

HP Hard Drives

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

NOTE: Hard drives have either a one year or three year warranty; refer to the specific



Core Options

[hard drive QuickSpecs for details.](#)

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

| | |
|---|------------|
| HP 300GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| HP 300GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 492620-B21 |
| HP 146GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |
| HP 146GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 504062-B21 |
| HP 146GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507125-B21 |
| HP 146GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418367-B21 |
| HP 72GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512545-B21 |
| HP 72GB 3G SAS 15K 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 LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516828-B21 |
| HP 450GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516816-B21 |
| HP 450GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 454232-B21 |
| HP 300GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516814-B21 |
| HP 300GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 416127-B21 |
| HP 146GB 3G SAS 15K 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 (2.5inch) Midline 1yr Warranty Hard Drive | 507610-B21 |
|--|------------|

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

| | |
|--|------------|
| 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 750GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458930-B21 |
| HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458928-B21 |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458926-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 |

Core Options

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

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

3.5" SATA Hot Plug Drives

| | |
|----------------------------------|------------|
| HP 750GB 1.5G SATA 7.2K 3.5" HDD | 432341-B21 |
| HP 500GB 1.5G SATA 7.2K 3.5" HDD | 395473-B21 |
| HP 250GB 1.5G SATA 7.2K 3.5" HDD | 349239-B21 |
| HP 160GB 1.5G SATA 7.2K 3.5" HDD | 349238-B21 |

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

http://h18004.www1.hp.com/products/quickspecs/11940_div/11940_div.html

SATA Hot Plug Midline (MDL) Solid State Drives

| | |
|---------------------------------------|------------|
| HP 60GB 3G SATA 2.5in MDL 1y Wty SSD | 572071-B21 |
| HP 120GB 3G SATA 2.5in MDL 1y Wty SSD | 572073-B21 |

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

| | |
|---------------------------------------|------------|
| HP 60GB 3G SATA 3.5in MDL 1y Wty SSD | 570761-B21 |
| HP 120GB 3G SATA 3.5in MDL 1y Wty SSD | 570763-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html
(Worldwide)

HP Networking

Gigabit Ethernet Adapters

| | |
|--|------------|
| HP NC110T PCI Express Gigabit Server Adapter | 434905-B21 |
| HP NC360T PCI Express Dual Port Gigabit Server Adapter | 412648-B21 |
| HP NC364T PCI Express Quad Port Gigabit Server Adapter | 435508-B21 |
| HP NC373F PCI Express Multifunction Gigabit Server Adapter | 394793-B21 |
| HP NC373T PCI Express Multifunction Gigabit Server Adapter | 394791-B21 |
| HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter | 458492-B21 |

10 Gigabit Ethernet Adapters

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

NOTE: A minimum of two gigabyte (2 GB) of server memory is required per each NC522SFP adapter.

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

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

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 |

Additional Options

HP Insight Software

HP Insight Control server deployment

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

T9082AAE

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

T9084BAE

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

464423-B22

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

464422-B22

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 HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>.

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 Advanced

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

512485-B21

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

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 Rapid Deployment software

HP Insight Rapid Deployment software No Media 1-Server License including 1 year of 24x7 Technical Support and Updates

452151-B21

Additional Options

NOTE: This license allows 1 server to be deployed and managed via RDP. 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: For additional license kits, including electronic delivery options, please see the QuickSpecs at:
http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.html

| | | |
|------------------------|---|------------|
| HP Drive Cage Options | HP DL385G5p 8 SFF drive cage NOTE: This option increases the SFF Hard Drive maximum from 8 to 16. An additional SATA/SAS Smart Array Controller or HP SAS Expander Card (PN 468406-B21) is required with this option. Backplane and required SAS cables are already included with cage. | 501263-B21 |
| HP Security - TPM | HP Trusted Platform Module Option Kit | 488069-B21 |
| HP Storage Controllers | SAS Controllers Smart Array E200 Controller HP Smart Array E200/128 BBWC Controller 411508-B21 Smart Array P400 Controller HP Smart Array P400 with 256MB with Heat Sink 507808-B21 NOTE: Supported on the DL385 G5p only. HP Smart Array P400 with 512BBWC with Heat Sink 508833-B21 NOTE: Supported on the DL385 G5p only. Smart Array P800 Controller HP Smart Array P800/512 BBWC Controller 381513-B21 Smart Array P212 Controller 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 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 | |

Additional Options

| | |
|---|------------|
| 128MB Battery-Backed Write Cache NOTE: Supports the Smart Array E200 Controller. | 351580-B21 |
| 512 MB Battery-backed cache upgrade NOTE: For Smart Array P400 Controller. | 405148-B21 |
| Battery-backed write cache upgrade NOTE: For Smart Array P400 Controller. | 383280-B21 |
| HP SA-P400 and SA-E500 24 In Battery Cable Kit NOTE: This option kit contains a 24" battery cable and adhesive material for installing a battery into the server if a Smart Array P400 is integrated outside of the factory. For all solutions, please refer to the server QuickSpecs and User's Manual for detailed installation instructions. | 417836-B21 |
| 256 MB Cache NOTE: Supported on HP Smart Array P212 Controller only. | 462968-B21 |
| 512MB BBWC NOTE: Supported on HP Smart Array P410 Controller and HP Smart Array P411 Controller only. | 462967-B21 |
| HP 8484 to Mini SAS 33in Cable Assy NOTE: Needed to support internal drives on the HP ProLiant DL385 G6 with the Smart Array P800 Controller. | 591734-B21 |
| 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 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/12460_div/12460_div.html (Smart Array E200 Controller) http://h18000.www1.hp.com/products/quickspecs/12400_div/12400_div.html (Smart Array P400 Controller) 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) | 516471-B21 |
| SAS Controller Options | |
| HP SAS Expander Card | 468406-B21 |

Additional Options

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 SC44Ge Host Bus Adapter

416096-B21

NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS.

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/12617_div/12617_div.html
(SC44Ge HBA)

SCSI Controllers for External Drive/Storage Support

NOTE: All Ultra 320 controllers are PCI-X and require the Mixed Riser Cage Option Kit (PCI-E/PCI-X).

Smart Array 6402/128 Controller

273915-B21

NOTE: Ultra320 SCSI.

Smart Array 6404/256 Controller

273914-B21

NOTE: Ultra320 SCSI.

Smart Array 642 Controller

291967-B21

NOTE: Ultra320 SCSI.

128-MB Battery-Backed Write Cache (BBWC)

351580-B21

NOTE: Supports the Smart Array E200 Controller, Smart Array 641 Controller, and Smart Array 642 Controller.

Ultra320 Expansion Module for SA-6402

273911-B21

SCSI HBA

HP SC11Xe Host Bus Adapter

412911-B21

NOTE: Recommended HBA for SCSI tape drive connect.

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

http://h18000.www1.hp.com/products/quickspecs/11943_div/11943_div.html
(Single Channel Ultra320 SCSI HBA)

http://h18000.www1.hp.com/products/quickspecs/11587_div/11587_div.html
(Smart Array 6400 Series)

http://h18000.www1.hp.com/products/quickspecs/12069_div/12069_div.html
(Smart Array 642)

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

Additional Options

HP Tape Storage

NOTE: For the complete listing of Tape Drive offerings, please see:
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For recommended tape drive offerings for this ProLiant server see the following:

Tape Drives

USB Rack-Mount Tape Solutions

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 160 USB Tape Drive AG703A

NOTE: Pre-configured with one DAT 160 USB tape drive.

DAT 320 USB External Tape Drive AJ823A

SAS Rack-Mount Tape Solutions

NOTE: HP recommends purchasing the HP SC44Ge HBA (416096-B21) for a dedicated SAS HBA for tape.

DAT 320 WW SAS External Tape Drive AJ828A

HP StorageWorks 1U SAS Rack-Mount Kit with one LTO-4 Ultrium 1760 EH946A

NOTE: Pre-configured with one LTO-4 Ultrium 1760 SAS tape drive.

HP StorageWorks 1U SAS Rack-Mount Kit AE459A

NOTE: Supports up to (2) half-height SAS tape drives.

HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive DW085A

NOTE: Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive EH847A

NOTE: Mounts inside the 1U SAS Rack-Mount Kit (AE459A).

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: <http://www.hp.com/go/connect>.

HP StorageWorks 1/8 G2 Tape Autoloader

HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader AK377A

HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 SAS Autoloader AH558A

HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit AH166A

NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions.

NOTE: Please reference the Tape Autoloader QuickSpecs at:
<http://www.hp.com/go/automation> for additional information needed to create a complete solution.

HP StorageWorks MSL2024 Tape Library

HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Drive Library AK378A

HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library AH559A

HP StorageWorks MSL4048 Tape Library

HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Drive Library AK380A

HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SAS Drive Library AH560A

NOTE: Please reference the MSL Tape Library QuickSpecs at:
<http://www.hp.com/go/automation> for additional information needed to create a complete solution.

Additional Options

HP Based Backup

RDX Removable Disk Backup

HP StorageWorks RDX500 External Removable Disk Backup System

AJ935A

NOTE: 500GB of Disk Storage.

NOTE: Please see the HP RDX Removable Disk Backup System QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html

D2D Backup

HP StorageWorks D2D2502i Backup System

EJ001A

NOTE: 2 TB raw capacity/1.5 TB useable capacity.

HP StorageWorks D2D2504i Backup System

EJ002A

NOTE: 4 TB raw capacity/3 TB useable capacity.

NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: <http://www.hp.com/go/d2d>

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 Converged Network Adapter

HP CN1000E 2P Converged Network Adapter

AW520A

Additional Options

| | | |
|------------------------|--|------------|
| HP Modular Smart Array | MSA SAN Storage Arrays | |
| | HP StorageWorks 50 Modular Smart Array | 364430-B21 |
| | NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html (Worldwide) | |
| | 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 2012sa Single Controller Modular Smart Array | AJ752A |
| | HP 2012sa Dual Controller Modular Smart Array | AJ753A |
| | NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/13045_div/13045_div.html (Worldwide) | |

| | | |
|----------------------------------|---|--------|
| HP Uninterruptible Power Systems | HP Rack-mountable UPS | |
| | HP R1500 G2 UPS | |
| | HP R1.5 VA 1U UPS, INTL | AF418A |
| | HP R1.5 VA 1U UPS, JPN | AF421A |
| | HP R1.5 VA 1U UPS, NA | AF419A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide) | |
| | HP R3000v Uninterruptible Power System | |
| | HP R3000v UPS | AF444A |
| | NOTE: The R3000v is available in China and India only. NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_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 . | |

Additional Options

HP Rack Series

HP Rack 5000 Series (Graphite Metallic)

HP 5642 Rack-Unassembled

358254-B21

NOTE: Please see the [HP Rack 5642 QuickSpecs](#) for additional part numbers and Technical Specifications such as height, width, depth, weight, and color:

http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.html
(Worldwide)

HP Rack 10000 G2 Series (Carbon/Graphite Metallic)

S10614 (14U) Rack Cabinet - Shock Pallet

292302-B22

10642 G2 (42U) Rack Cabinet - Pallet

AF001A

10642 G2 (42U) Rack Cabinet - Shock Pallet

AF002A

10642 G2 (42U) Rack Cabinet - Crated

AF003A

10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet

AF004A

10636 G2 (36U) Rack Cabinet - Pallet

AF011A

10636 G2 (36U) Rack Cabinet - Shock Pallet

AF012A

10636 G2 (36U) Rack Cabinet - Crated

AF013A

10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet

AF014A

10622 G2 (22U) Rack Cabinet - Pallet

AF021A

10622 G2 (22U) Rack Cabinet - Shock Pallet

AF022A

10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet

AF034A

10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet

AF038A

10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet

AF041A

10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet

AF042A

10647 G2 (47U) Rack Cabinet - Shock Pallet

AF031A

10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet

AF044A

NOTE: Due to handling and shipping requirements, AF044A is only orderable through HP Factory Express. It is not for direct sales. Customer site surveys are required before an order is approved. CTO orders may require additional lead time.

10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet

AF045A

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

NOTE: xxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).

NOTE: Please see the [Rack 10000 G2 QuickSpecs](#) for Technical Specifications such as height, width, depth, weight, and color:

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

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

HP Rack Options

Keyboards and Monitors

TFT7600 Rackmount Keyboard Monitor, US

AG052A

TFT7600 Rackmount Keyboard Monitor, UK

AG053A

TFT7600 Rackmount Keyboard Monitor, GR

AG054A



Additional Options

| | |
|---|--------|
| TFT7600 Rackmount Keyboard Monitor, FR | AG055A |
| TFT7600 Rackmount Keyboard Monitor, IT | AG056A |
| TFT7600 Rackmount Keyboard Monitor, SP | AG057A |
| TFT7600 Rackmount Keyboard Monitor, DEN | AG058A |
| TFT7600 Rackmount Keyboard Monitor, NOR | AG059A |
| TFT7600 Rackmount Keyboard Monitor, SE/FI | AG060A |
| TFT7600 Rackmount Keyboard Monitor, SWI | AG061A |
| TFT7600 Rackmount Keyboard Monitor, PORT | AG062A |
| TFT7600 Rackmount Keyboard Monitor, BEL | AG063A |
| TFT7600 Rackmount Keyboard Monitor, JPN2 | AG064A |
| TFT7600 Rackmount Keyboard Monitor, RUS | AG065A |
| TFT7600 Rackmount Keyboard Monitor, INTL | AG066A |
| HP TAA TFT7600 US Rkmntkybd 17in Monitor | AG067A |
| 1U Rackmount Keyboard with USB, US | AG072A |
| 1U Rackmount Keyboard with USB, UK | AG073A |
| 1U Rackmount Keyboard with USB, GR | AG074A |
| 1U Rackmount Keyboard with USB, FR | AG075A |
| 1U Rackmount Keyboard with USB, ITL | AG076A |
| 1U Rackmount Keyboard with USB, SP | AG077A |
| 1U Rackmount Keyboard with USB, DEN | AG078A |
| 1U Rackmount Keyboard with USB, NOR | AG079A |
| 1U Rackmount Keyboard with USB, SE/FI | AG080A |
| 1U Rackmount Keyboard with USB, SWI | AG081A |
| 1U Rackmount Keyboard with USB, PORT | AG082A |
| 1U Rackmount Keyboard with USB, BEL | AG083A |
| 1U Rackmount Keyboard with USB, JPN2 | AG084A |
| 1U Rackmount Keyboard with USB, RUS | AG085A |
| 1U Rackmount Keyboard with USB, INTL | AG086A |

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

HP KVM Switch Options

| | |
|--|--------|
| 2 x 1 x 16 IP Console Switch with Virtual Media | AF601A |
| 4 x 1 x 16 IP Console Switch with Virtual Media | AF602A |
| 2 x 16 Server Console Switch with Virtual Media | AF600A |
| 0x2x16 KVM Server Console G2 Switch with Virtual Media and CAC | AF618A |
| 0x2x32 KVM Server Console G2 Switch with Virtual Media and CAC | AF619A |
| 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 |
| PS/2 Virtual Media Interface Adapter, 1 pack | AF604A |
| NOTE: Requires PS/2 and one USB port on server. | |
| HP Server console switch 0x2x8 | AF616A |

Additional Options

| | |
|--|------------|
| HP Server console switch 0x2x16 | AF617A |
| HP TAA Server console switch 0x2x16 | AF626A |
| PS/2 Interface Adapter, 1 pack | 262588-B21 |
| PS/2 Interface Adapter, 8 pack | 262587-B21 |
| NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm . | |
| HP 1 x 4 Console Switch (ALL) | AF611A |
| PS2 Server Console Cable, 6 ft, 2 pack | AF612A |
| USB Server Console Cable, 6 ft, 2 pack | AF613A |
| NOTE: Required for supporting USB peripherals. | |
| NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm . | |
| HP Serial Console Server Options | |
| HP 16 Port Serial Console Server (worldwide) | AF101A |
| HP 48 Port Serial Console Server (worldwide) | AF102A |
| Serial Adapter, RJ45-DB9 DCE Female, 1 Pack | AF103A |
| Serial Adapter, RJ45-DB9 DCE Female, 8 Pack | AF110A |
| NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm . | |
| NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm . | |
| HP Rack Kits | |
| Rack Adapter Kit | 332815-B21 |
| NOTE: Not required for most racks. This kit allows HP rack servers to fit in racks that are 24" wide. | |

| | | |
|-----------------------|-----------------------------|------------|
| HP USB and SD Options | HP USB 04 Standard Keyboard | DT528A#ABA |
|-----------------------|-----------------------------|------------|

Additional Options

HP Care Pack Services

Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic 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 Insight Rapid Deployment software, 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

Onsite HW support 24x7, 4hr response and Red Hat Enterprise Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U8334E

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 G5p Base Models

Standard Memory

2 GB REG PC2-6400 2 x 1 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 50 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.

| | Slot | | | | | | | | | | | | | | | | Total | |
|----------|--------|-----|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|------|
| | Bank A | | Bank B | | Bank C | | Bank D | | Bank E | | Bank F | | Bank G | | Bank H | | | |
| Config | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| Standard | 1GB | 1GB | Empty | Empty | Empty | 2GB |
| Optional | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 1GB | 1GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 50GB |
| Maximum | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | Empty | 64GB |

HP ProLiant DL385 G5p Performance Models

Standard Memory

4 GB REG PC2-6400 4 x 1 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.



Memory

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.

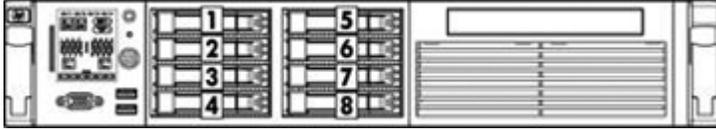
NOTE: Chart does not represent all possible configurations.

| | Slot | | | | | | | | | | | | | | | | |
|----------|--------|-----|--------|-------|--------|-------|--------|-------|--------|------|--------|-------|--------|-------|--------|-------|-------|
| | Bank A | | Bank B | | Bank C | | Bank D | | Bank E | | Bank F | | Bank G | | Bank H | | |
| Config | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | Total |
| Standard | 1GB | 1GB | Empty | Empty | Empty | Empty | Empty | Empty | 1GB | 1GB | Empty | Empty | Empty | Empty | Empty | Empty | 4GB |
| Optional | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 1GB | 1GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 1GB | 1GB | 100GB |
| Maximum | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8GB | 8 GB | 8 GB | 8 GB | 8 GB | 8 GB | 8 GB | 8 GB | 128GB |

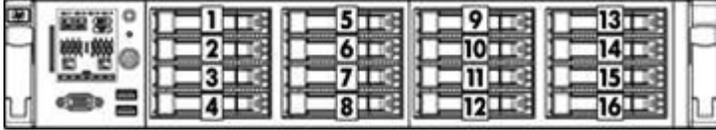
Following are memory options available from HP:

| | | |
|-----------|---|------------|
| HP Memory | 2 GB REG PC2-6400 2 x 1 GB Kit | 497763-B21 |
| | 4 GB REG PC2-6400 2 x 2 GB Kit | 497765-B21 |
| | 8 GB REG PC2-6400 2 x 4 GB Kit | 497767-B21 |
| | 8 GB REG PC2-6400 2 x 4 GB Low Power Kit | 504351-B21 |
| | 16 GB REG PC2-5300 2 x 8 GB Dual Rank Kit | 408855-B21 |
| | 64 GB REG PC2-5300 8 x 8 GB Dual Rank Kit | 495605-B21 |

Storage



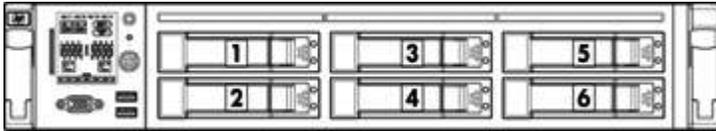
1-8 Eight SFF SAS hot plug hard drive bays



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 E200/64 MB Controller |
| 300GB 3G SAS 10K DP | | 1-16 | HP Smart Array E200/128 BBWC Controller |
| 146GB 6G SAS 15K DP | NOTE: Depending on Model | | HP Smart Array P400/256 MB Controller |
| 146GB 3G SAS 15K DP | | | HP Smart Array P400/512 MB BBWC Controller |
| 146GB 6G SAS 10K DP | | | HP Smart Array P800/512 BBWC Controller |
| 146GB 3G SAS 10K DP | | | HP Smart Array P212/Zero Memory Controller |
| 72GB 6G SAS 15K DP | | | HP Smart Array P212/ 256 MB Controller |
| 72GB 3G SAS 15K DP | | | HP Smart Array P410/256 MB Controller |
| | | | HP Smart Array P410/512 MB BBWC Controller |
| | | | HP Smart Array P411/256 MB Controller |

Storage

HP Smart Array P411/512 MB BBWC 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 E200/64 MB Controller |
| 450GB 6G SAS 15K DP | | | HP Smart Array E200/128 BBWC Controller |
| 450GB 3G SAS 15K DP | | | HP Smart Array P400/256 MB Controller |
| 300GB 6G SAS 15K DP | | | HP Smart Array P400/512 MB BBWC Controller |
| 300GB 3G SAS 15K DP | | | HP Smart Array P800/512 BBWC Controller |
| 146GB 3G SAS 15K DP | | | 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 P411/256 MB Controller | | |
| | HP Smart Array P411/512 MB BBWC Controller | | |

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 E200/64 MB Controller |
| | | 1-16 | HP Smart Array E200/128 BBWC Controller |
| | | NOTE: Depending on Model | HP Smart Array P400/256 MB Controller |
| | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

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

| | Quantity Supported | Position Supported | Controller |
|----------------------|--|--------------------|--|
| 1TB 3G SAS 7.2K DP | Up to 6 | 1-6 | HP Smart Array E200/64 MB Controller |
| 750GB 3G SAS 7.2K DP | | | HP Smart Array E200/128 BBWC Controller |
| | | | HP Smart Array P400/256 MB Controller |
| | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | HP Smart Array P411/512 MB BBWC Controller | | |

Storage

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

| | Quantity Supported | Position Supported | Controller |
|--------------------|--------------------|--------------------|--|
| 500GB 3G SATA 7.2K | Up to 16 | 1-8 | HP Smart Array E200/64 MB Controller |
| 160GB 3G SATA 7.2K | | 1-16 | HP Smart Array E200/128 BBWC Controller |
| | | NOTE: | HP Smart Array E500/256 MB Controller |
| | | Depending on Model | HP Smart Array P400/256 MB Controller |
| | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC 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 E200/64 MB Controller |
| 1TB 3G SATA 7.2K | | | HP Smart Array E200/128 BBWC Controller |
| 750GB 3G SATA 7.2K | | | HP Smart Array E500/256 MB Controller |
| 500GB 3G SATA 7.2K | | | HP Smart Array P400/256 MB Controller |
| 250GB 3G SATA 7.2K | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | 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 P411/256 MB Controller | | |
| | HP Smart Array P411/512 MB BBWC 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 E200/64 MB Controller |
| 120GB 1.5G SATA 5.4K | | 1-16 | HP Smart Array E200/128 BBWC Controller |
| | | NOTE: | HP Smart Array E500/256 MB Controller |
| | | Depending on Model | HP Smart Array P400/256 MB Controller |
| | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

Storage

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 E200/64 MB Controller |
| 160GB 3G SATA 7.2K | | | HP Smart Array E200/128 BBWC Controller |
| | | | HP Smart Array E500/256 MB Controller |
| | | | HP Smart Array P400/256 MB Controller |
| | | | HP Smart Array P400/512 MB BBWC Controller |
| | | | HP Smart Array P800/512 BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug LFF (3.5-inch) Drives

| | Quantity Supported | Position Supported | Controller |
|----------------------|--------------------|--------------------|---|
| 750GB 1.5G SATA 7.2K | Up to 4 | 1-4 | HP SC44Ge Host Bus Adapter |
| 500GB 1.5G SATA 7.2K | | | NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. |
| 250GB 1.5G SATA 7.2K | | | |
| 160GB 1.5G SATA 7.2K | | | |
| | | | HP Smart Array E200/128 BBWC Controller |
| | | | HP Smart Array P400/256MB Controller |
| | | | HP Smart Array P400/512MB BBWC Controller |
| | | | HP Smart Array P800/512MB BBWC Controller |
| | | | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

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



Storage

| | 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 P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

External Storage

| | Quantity Supported | Position Supported | Host Controller or Adapter |
|--|--------------------|--------------------|--|
| 50 Modular Smart Array | Up to 4 | External | HP Smart Array E500/256MB Controller HP Smart Array P800/512 BBWC Controller |
| 60 Modular Smart Array | Up to 4 Up to 8 | External | HP Smart Array E500/256MB Controller HP Smart Array P212/Zero Memory Controller HP Smart Array P212/ 256 MB Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller |
| 70 Modular Smart Array | Up to 2 Up to 4 | External | HP Smart Array E500/256MB Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller |
| HP 2000sa Modular Smart Array Controller | Up to 4 | External | HP SC08Ge Host Bus Adapter |

Maximum Storage Capacity - (with MSA50)

| | |
|----------|----------------------------|
| Internal | 4.0TB (8 x 500GB SATA) |
| External | 6.0TB (20 x 300GB SAS SFF) |
| Total | 10.0TB |

Tape and Disk-Based Backup

NOTE: For a complete listing of compatible tape and disk-based backup offerings, please visit: www.hp.com/go/connect

| | Position Supported | Controller | Controller Part Number |
|--|--------------------|----------------------------|------------------------|
| HP StorageWorks SCSI Tape Drives, External | External | HP SC11Xe Host Bus Adapter | 412911-B21 |
| LTO-1 Ultrium 232 | | | |
| LTO-2 Ultrium 448 | | | |
| LTO-3 Ultrium 960 | | | |
| LTO-3 Ultrium 920 | | | |
| LTO-4 Ultrium 1760 | | | |
| LTO-4 Ultrium 1840 | | | |

Storage

DAT 40
DAT 72
DAT 160
1U Rack-Mount Kit
3U Rack-Mount Kit

| | | | |
|--|----------|--------------|-----|
| HP StorageWorks USB Tape Drives, External DAT 40 USB DAT 72 USB DAT 160 USB 1U Rack-Mount Kit | External | USB 2.0 Port | N/A |
|--|----------|--------------|-----|

| | | | |
|---|----------|----------------------------|------------|
| HP StorageWorks SAS Tape Drives, External DAT 160 SAS LTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS LTO-4 Ultrium 1760 SAS LTO-4 Ultrium 1840 SAS 1U Rack-Mount Kit 3U Rack-Mount Kit | External | HP SC44Ge Host Bus Adapter | 416096-B21 |
|---|----------|----------------------------|------------|

| | | | |
|--|----------|----------------------------|------------|
| HP StorageWorks SCSI Tape Automation, External DAT 72x10 Autoloader 1/8 Tape Autoloader MSL2024 MSL4048 MSL8096 MSL6000 | External | HP SC11Xe Host Bus Adapter | 412911-B21 |
|--|----------|----------------------------|------------|

| | | | |
|---|----------|----------------------------|------------|
| HP StorageWorks SAS Tape Automation, External 1/8 G2 Autoloader MSL2024 MSL4048 | External | HP SC44Ge Host Bus Adapter | 416096-B21 |
|---|----------|----------------------------|------------|

| | | | |
|--|----------|--|-----|
| HP StorageWorks Fibre Tape Automation, External MSL2024 MSL4048 MSL8096 MSL6000 | External | Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information. | N/A |
|--|----------|--|-----|

Storage

| | | | |
|--|----------|--------------|-----|
| HP StorageWorks RDX Removable Disk Backup System, External RDX160 RDX320 RDX500 | External | USB 2.0 Port | N/A |
|--|----------|--------------|-----|

| | | | |
|--|----------|-----------------------------|-----|
| HP StorageWorks D2D Backup Systems D2D120 D2D130 D2D2500i D2D4000i | External | Embedded Network Controller | N/A |
|--|----------|-----------------------------|-----|

Power Specifications

| | | | | | | | |
|--|---------------------------------|------|------------|------|------|------|------|
| Power Supply Specification | HP's Generic Part Number | | 499249-001 | | | | |
| | HP's Spares Part Number | | 511777-001 | | | | |
| Input Voltage Range (V rms) | 100-240 | | | | | | |
| 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 1200Watt High Efficiency Power Supply Specifications (meets Climate Savers Silver ratings @ 90%)

| | | | | | | | |
|--|--------------------|-------|------------|-------|-------|-------|--|
| Power Supply Specification - AC | Part number | | 490594-001 | | | | |
| | Spare Kit | | 500172-B21 | | | | |
| Operational Input Voltage Range (Vrms) | 90 to 264 | | | | | | |
| Frequency Range (Nominal) (Hz) | 47 to 63 (50/60) | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 208 | 220 | 230 | 240 | |
| Max Rated Output Wattage Rating | 800 | 900 | 1200 | 1200 | 1200 | 1200 | |
| Nominal Input Current (A rms) | 9.15 | 8.46 | 6.44 | 6.08 | 5.81 | 5.59 | |
| Max Rated Input Wattage Rating (Watts) | 912 | 1011 | 1329 | 1326 | 1325 | 1322 | |
| Max. Rated VA (Volt-Amp) | 915.6 | 1015 | 1340 | 1338 | 1337 | 1335 | |
| Efficiency (%) | 88.2 | 89.1 | 90.3 | 90.5 | 90.6 | 90.8 | |
| Power Factor | 0.996 | 0.996 | 0.992 | 0.991 | 0.991 | 0.990 | |

Power Specifications

| | | | | | | |
|-----------------------------------|------|------|------|------|------|------|
| Leakage Current (mA) | 0.44 | 0.52 | 0.91 | 0.96 | 1.00 | 1.04 |
| Max. Inrush Current (A peak) | 30 | 30 | 30 | 30 | 30 | 30 |
| Max. Inrush Current duration (mS) | 10 | 10 | 10 | 10 | 10 | 10 |

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 G5p
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Technical Specifications

| | | | |
|--------------------|--|--|--|
| System Unit | Dimensions (H x W x D) (with bezel) | 3.38 x 17.54 x 27.25 in (8.59 x 44.54 x 69.98 cm) | |
| | 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 VAC, 120VAC, 200-240 VAC |
| | | Rated Input Current | 9.15 A (at 100 VAC), 8.4 A (at 120 VAC), 6.7 A (at 200 VAC) |
| | | Rated Input Frequency | 50 to 60 Hz |
| | | Rated Input Power | 912W (at 100 VAC), 1011 W (at 120 VAC), 1334 W (at 240 VAC) |
| | BTU Rating | Maximum | 3118BTU/hr (at 100 VAC), 3447 BTU/hr (at 120 VAC), 4549 BTU/hr (at 240 VAC) |
| | Power Specifications | <p>NOTE: To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor</p> <p>- Click on the system of interest. Example: DL385 G5p - Follow the instructions of the next screens.</p> | |
| | Power Supply Output Power (per power supply) | Rated Steady-State Power For HP 460W HE CS PSU | 460 W (at 100-240VAC) |
| | | For HP 1200W HE CS PSU | 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200-240 VAC) |
| | | Maximum Peak Power For 460W HE CS PSU | 460 W (at 100-240VAC) |
| | | For HP 1200W HE CS PSU | 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200-240 VAC) |
| | System Inlet Temperature | Operating | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating |

Technical Specifications

| | | |
|---------------------------------------|--|---|
| Relative Humidity (non-condensing) | Non-operating | with a fan fault or above 30°C (86°F). -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. |
| | Non-operating | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing. |
| Altitude | Operating | 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| | Non-operating | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| Acoustic Noise | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). | |
| | 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.

Technical Specifications

| | | |
|------------------------------------|---|--|
| Smart Array P400 Controller | Disk Drive and Enclosure Interface | 3 G SAS (Serial Attached SCSI) 1.5 G SATA (Serial Advanced Technology Attachment) |
| | SAS Connectors | 2 internal (SFF8484) x4 wide port connectors |
| | Cache Memory Speed | DDR2-533MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth. |
| | Server Interface | x8 2.5 G PCIe provides 2GB/s maximum bandwidth. |
| | SAS Speed | x8 3 G SAS provides 2.4GB/s maximum bandwidth. |
| | Cache Memory | 40-bit 256 MB cache (72-bit 512MB module upgrades available); ECC protection, battery-backed, and transportable |
| | Logical Drives Supported | Up to 32 logical drives |
| | Maximum Logical Drive Capacity | 3TB (6 x 500 GB) |
| | Host Memory Addressing | 64-bit, supporting greater than 4GB server memory space |
| | RAID Support | RAID 6 with ADG (Advanced Data Guarding) requires Battery Backed Write Cache Upgrade RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping) |

| | | |
|------------------------------------|---|---|
| Smart Array E200 Controller | Disk Drive and Enclosure Interface | 3 G SAS (Serial Attached SCSI) 1.5 G SATA (Serial Advanced Technology Attachment) |
| | SAS Connectors | 2 internal (SFF8484) x4 wide port connectors |
| | Cache Memory Speed | DDR1-266 MHz provides up to 4.2 GB/s maximum bandwidth. |
| | Server Interface | x8 2.5 G PCIe provides 2 GB/s maximum bandwidth. |
| | SAS Speed | x8 3 G SAS provides 2.4 GB/s maximum bandwidth. |
| | Cache Memory | 40-bit 64MB cache or a 128 MB battery backed cache: ECC protection, battery-backed, and transportable |
| | Logical Volumes Supported | Up to 32 logical volumes |
| | Maximum Volume Capacity | 3 TB (6 x 500 GB) |
| | Host Memory Addressing | 64-bit, supporting greater than 4GB server memory space |
| | RAID Support | RAID 5 (Distributed Data Guarding) 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 | Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. |
|--|--------------------------------------|--|

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

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

