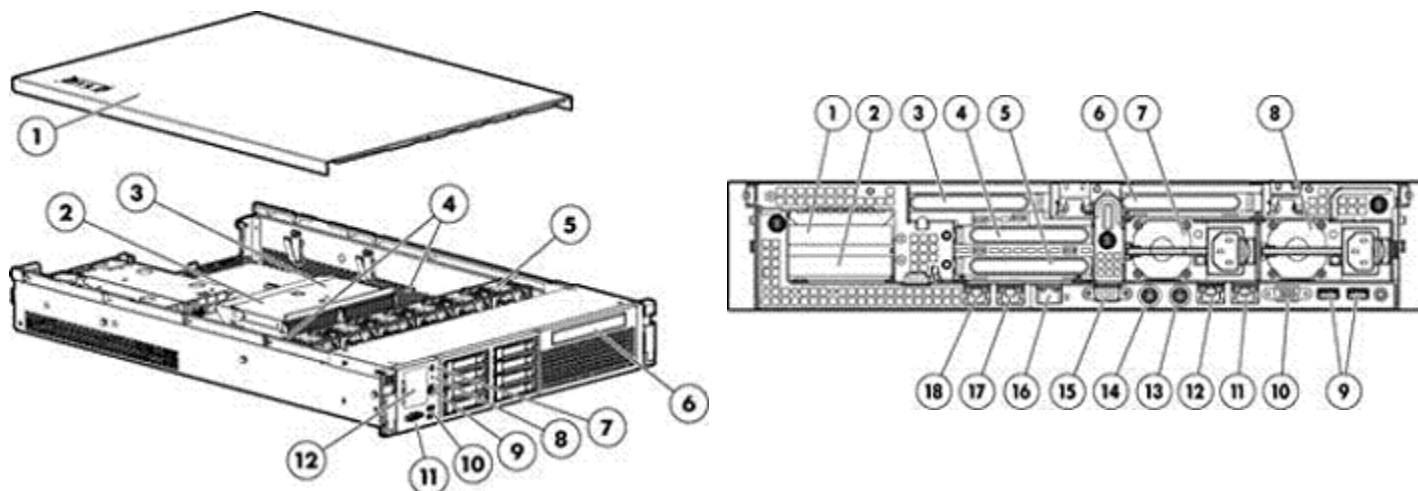*Overview*

Front View:

1. Quick removal access panel
2. AMD Six-Core Processor (Performance models include two processors)
3. Second AMD Six-Core Processor
4. Sixteen sockets for PC2-6400 DIMMs (800MHz) with Advanced ECC
5. Hot-plug fans, full redundancy
6. Slim SATA DVD-RW Optical Drive included on Performance models
7. UID LED button
8. Health LED
9. Power On/Standby button and system power LED
10. USB connectors (2)
11. Video connector
12. Systems Insight Display

Rear View:

1. PCI slot 5
2. PCI slot 6
3. PCI slot 4
4. PCI slot 2
5. PCI slot 3
6. PCI slot 1
7. Power supply 2
8. Power supply 1
9. USB connectors (2)
10. Video connector
11. NIC 1 connector
12. NIC 2 connector
13. Mouse connector
14. Keyboard connector
15. Serial connector
16. iLO2 connector
17. NIC 3 connector
18. NIC 4 connector

What's New

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

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

At A Glance

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

- **Processors**:

Overview

- ○ AMD Six-Core, 2400 series processors with 6MB Level 3 cache for blazing performance; systems support up to 2 processors (2 processors standard on all Performance models)
- ○ Preconfigured Performance models save valuable deployment time at a discounted bundle price
- ○ Serverworks HT-2100 Northbridge and HT-1000 Southbridge chipset
- **Memory**:
  - ○ Up to 128 GB (with PC2-5300 8GB DIMMs). PC2-6400 800MHz DDR2 Standard models support 2:1 Bank Interleaving. 4:1 Bank Interleaving (Data saved across 2 pairs of DIMMs) and Node interleaving support (data saved across 2 processors memory sets) also available
- **Storage Controller**:
  - ○ Performance Models: HP Smart Array P410/512MB with BBWC
  - ○ Base Models: HP Smart Array P410/256MB Controller
  - ○ Entry Models: HP Smart Array P410/Zero Memory Controller
    - ▪ Upgrade to 256MB cache with optional battery for BBWC, or 512MB BBWC option
- **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 (with optional drive cages)
- **Network Controller**:
  - ○ Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total)
- **Expansion Slots**:
  - ○ Up to 6 PCI slots (one occupied by controller)
  - ○ Standard BTO riser with PCIe (1) x8 FL/FH, (2) x4 HL/FH
  - ○ Optional second risers with PCIe (1) x8, (2) x4; or a PCIe/PCI-X mixed riser with (1) PCI-X, (1) x8, (1) x4; or a x16 225w PCIe riser with (1) x16; or a (2) x8 Dual Port 10GbE riser
- **USB 2.0 Ports**:
  - ○ 5 total ports: (2) ports in front; (2) ports in back; (1) port internal
- **Redundancy**:
  - ○ Fully redundant hot plug fans (Entry/Base four fans; Performance six fans)
  - ○ Hot plug power supply with optional redundancy (Included in Performance models)
- **Power Supply**:
  - ○ Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
    - ▪ HP 1200W CS HE Silver Power Supply
    - ▪ HP 750W CS HE Gold Power Supply
    - ▪ HP 460W CS HE Gold Power Supply
    - ▪ HP 1200W -48V DC CS Power Supply
- **Infrastructure Management:**
  - ○ Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
  - ○ HP 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 (ICE) suites, as product options, deliver essential infrastructure management that can help save time and money by making it easy to deploy, monitor, control and optimize your IT infrastructure through a single, simple management console. ICE suites support both Windows and Linux-based servers and management consoles
  - ○ HP Insight Dynamics - VSE suite for ProLiant servers, a product option, is an integrated command center that enables you to continuously analyze and optimize your adaptive infrastructure. This advanced infrastructure management software lets you reduce the cost of common data center tasks by as much as 40 percent while keeping pace with your changing business.
- **Operating Systems and Virtualization Software Support for ProLiant Servers**:
  - ○ Supports Windows, RHEL, SLES, OEL, Solaris, NetWare, VMware
- **Form Factor**:
  - ○ Rack (2U), (3.5-inch)
- **Deployment/Serviceability**:
  - ○ Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability
  - ○ Tool-less access to all system components for easy in rack serviceability
  - ○ Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement

Overview

- **Warranty**:
  - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
  NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Standard Features

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

Processor One of the following depending on Model	**Six-Core Processors** AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W) AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W) AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W) AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W) **NOTE:** Processor wattage references reflect Average CPU Power (ACP). For more information on ACP visit: http://www.amd.com/powernow. **NOTE:** Up to 2 processors supported. High Performance Model configurations include two processors, 16 GB system memory, 512MB storage controller memory, BBWC, DVDRW, Redundant 750W Power Supplies, and 6 hot plug redundant fans.
Cache Memory	6MB Level 3 cache memory
Upgradeability	Upgradeable to two processors
Chipset	Serverworks HT-2100 Northbridge and HT-1000 Southbridge Chipset
Memory Protection	Advanced ECC

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

Network Controller	Two HP NC382i Dual Port Multifunction Gigabit Server Adapters (four ports total) **NOTE:** 1GB of memory is sufficient to support up to eight Total Ports. 2GB of memory is required if nine or more Total Ports have been selected.

Expansion Slots

Primary Riser (Standard)	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
	1	PCI-Express	x8	x16	42	Full Length/Full Height	

Standard Features

	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
	2	PCI-Express	x4	x8	45	Half length, full height	
	3	PCI-Express	x4	x8	48	Half length, full height	Occupied by P410 controller

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

	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
PCIe Riser (Optional Secondary)							
	4	PCI-Express	x8	x16	4	Full Length/Full Height	
	5	PCI-Express	x4	x8	7	Low Profile	
	6	PCI-Express	x4	x8	A	Low Profile	

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
NOTE: Bus width - Indicates the number of physical electrical lanes running to the

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

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

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

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

	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
x16 PCIe Riser (Optional Primary)							
	1	PCI-Express	x16	x16	42	Full Length/Full Height	Supports up to 225W; single wide cards only

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

	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
Dual Port 10GbE Riser (Optional Primary)							
	1	PCI-Express	x8	x16	45	Full Length/Full Height	

Standard Features

	Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number	Form Factor	Notes
	2	PCI-Express	x8	x16	42	Half length, full height	

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

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

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

Storage Controller One of the following depending on Model	Entry Models:	HP Smart Array P410/Zero Memory Controller
	Base Models:	HP Smart Array P410/256 MB Controller **Available upgrades**: 512MB memory module with BBWC for RAID 0/1/1+0/5/6, battery for battery-backed write cache (BBWC). **NOTE:** RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).
	High Performance Models:	HP Smart Array P410/512 MB BBWC Controller

Storage	Diskette Drive	None Standard
	Optical Drive	None Standard
		HP Slim SATA DVD RW Optical Drive Standard on Performance Models
	Hard Drives	None Standard

Maximum Internal Storage	Hot Plug SFF SAS	8TB	16 x 500GB with standard internal hot plug SFF SAS (with optional drive cage)
	Hot Plug LFF SAS	6TB	6 x 1TB (with optional drive cage)

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

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 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 lifecyle. 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 8.25.
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-VSE suite 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 suites	HP Insight Control suites, as product options, deliver essential infrastructure management that can help save time and money by making it easy to deploy, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. Insight Control suites install and license software modules that are integrated into HP System Insight Manager. Two Insight Control suites are available, to serve environments requiring either Linux-based or Windows-based central management servers: HP Insight Control suite for Linux, and HP Insight Control suite. See www.hp.com/go/insightcontrol

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

	HP Insight Dynamics – VSE suite	The HP Insight Dynamics - VSE suite for ProLiant, a product option, is an integrated command center that enables you to continuously analyze and optimize your adaptive infrastructure. This advanced infrastructure

Standard Features

management software that allows you to analyze and optimize your adaptive infrastructure to manage physical and virtual resources in the same way. HP Insight Dynamics - VSE gives you a powerful toolkit to accelerate complex technology projects and simplify daily operations. It enables you to plan capacity and power continuously, balance across physical and virtual resources, ensure cost-effective high availability, and provision infrastructure consistently.

HP Insight Orchestration, an optional extension to Insight Dynamics - VSE, 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.

HP Insight Recovery, also an optional extension for Insight Dynamics - VSE, enables cost-effective disaster recovery for physical and virtual environments. Application environments can 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,
http://www.hp.com/go/insightorchestration,
http://www.hp.com/go/insightrecovery

Industry Standard Compliance	ACPI 2.0 Compliant PCIe 1.1 Compliant PCI 2.2 Compliant PCI-X 2.0a Compliant WOL Support Microsoft® Logo certifications USB 2.0 Support
Intelligent Manageability	HP Systems Insight Manager software SmartStart Management Agent Redundant ROM Remote Flash ROM ROM-Based Setup Utility (RBSU) Integrated Management Log Automatic Server Recovery (ASR) Dynamic Sector Repairing (with Smart Array controller) Drive Parameter Tracking (with Smart Array controller) Pre-Failure Warranty (covers processors, SAS hard drives and memory)
Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Parallel and serial interface control Administrator's password

Standard Features

Security - Trusted Platform Module	Trusted Platform Module option kit

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

NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.
NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss. |
| **UPS and PDU Power Cord Matrix** | Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords. |
| **Power Supply** | HP has a new design for ProLiant power. The new Common Slot 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 (see Redundant Options for part numbers).

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

Standard Features

options.

System Fans	Hot plug fans ship standard, N+1 fully redundant (3+1) for 1 processor, (5+1) for 2 processors **NOTE:** Processor option kits include 2 additional fans when upgrading to 2 processors.

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 10 for x86/x64 based Systems
VMware

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page www.hp.com/support/DL385G6

Rack Airflow Requirements

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

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

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

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

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/proliantdl385G6.

Rack Kit

Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.
NOTE: Cable management arm must be removed to access hot-plug power supplies when the cable management arm is mounted on the right.
NOTE: High Airflow Inserts (High Air Flow Rack Door Insert for the 7142 Rack (single) - PN: 327281-B21; or High Air Flow Rack Door Insert for the 7142 Rack (6-pack) - PN: 327281-B22) are required to support the HP ProLiant DL385 in 7000 series racks. The DL385 Cable Management Arm is not supported on 7000 series racks.

Standard Features

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 (http://www.racksolutions.com/hp/)

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
- **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:

Standard Features

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 this server under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand, 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

QuickSpecs

Models

Performance Models

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

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

Models

Base Models

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

Entry Models

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

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

Models

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

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with a CTO Chassis.
NOTE: FIO indicates that this option only available as a Factory Installable Option.

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

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

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

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

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

Processors	**Six-Core Processors**

Configuration Information - Factory Integrated Models

	AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W), FIO	570113-L21
	AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W), FIO	570115-L21
	AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W), FIO	570117-L21
	AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W), FIO	570119-L21
	NOTE: If two processors are desired, select one xxxxxx-L21 and one xxxxxx-B21. If selecting 570113-L21 and high performance features are desired, select High Performance Pack in Step 3 below.	
Base 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
	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
	NOTE: P/N: 495605-B21 includes 8 DIMMs instead of 2. It is counted as 4 kits instead of 1.	
Power Supply Options (Single or Redundant)	**NOTE:** Refer to HP Power Advisor when selecting a power supply for your configuration, www.hp.co/go/hppoweradvisor. Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: "www.hp.com/go/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.	
Storage Controllers	**NOTE:** Storage Controller is NOT required if selecting P/N: 570121-B21 in Step 3 below.	
	256MB Cache Module FIO	534108-B21
	NOTE: Supported on HP Smart Array P410/Zero Memory Controller only.	
	512MB BBWC	462967-B21
	Battery Kit upgrade	462969-B21
	NOTE: To enable BBWC on the 256MB Cache.	
	HP Smart Array P410/256 FIO Controller w/Battery	491195-B21
	HP Smart Array P410/256MB Controller	462862-B21
	HP Smart Array P410/512MB with BBWC	462864-B21
	HP Smart Array P410/Zero Memory FIO Controller	462860-B21
	HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support	516471-B21
	NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license	

Configuration Information - Factory Integrated Models

entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.
NOTE: RAID 6 requires purchase of HP Smart Array Advanced Pack (516471-B21).

Step 3: Choose Additional Factory Integratable Options

Insight Control suite	HP Insight Control suite, No Media 1-Server License Factory-Integratable Option (FIO) including 1 year of 24x7 Technical Support and Updates	582765-B21
Performance Packs	The HP ProLiant DL385 G6 performance packs are necessary to configure a HP ProLiant DL385 G6 Performance Model. HP ProLiant DL385 G6 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd processor, two additional fans, HP Smart Array P410/512MB with BBWC, and a second 750W CS HE power supply. To complete the configuration of a Performance model, select the Slim SATA DVD-RW Optical Drive Kit (481043-B21).	
	HP DL385G6 O2435 HPM FIO PERF PACK	570121-B21

Step 4: Choose Additional Options for Factory Integration

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

QuickSpecs

HP ProLiant DL385 Generation 6

Core Options

NOTE: Some options may not be available for factory integration. Please contact an HP sales representative for additional information.

HP ProLiant DL385 G6 Unique Options	HP StorageWorks RDX160 Removable Disk Backup System DL Server Module **NOTE:** Mounts in DL385 G6 second drive cage slot (160GB of Disk Storage)	AP724A
	HP StorageWorks RDX320 Removable Disk Backup System DL Server Module **NOTE:** Mounts in DL385 G6 second drive cage slot (320GB of Disk Storage)	AP725A
	HP StorageWorks RDX500 Removable Disk Backup System DL Server Module **NOTE:** Mounts in DL385 G6 second drive cage slot (500GB of Disk Storage)	AP726A
	HP 8SFF CAGE 385 G6 **NOTE:** Second drive cage installation replaces internal optical bay. **NOTE:** Second drive cage requires second controller or HP SAS Expander Card (468406-B21).	516914-B21
Processors	**Six-Core Processors**	
	AMD Opteron™ Processor Model 2435 (2.6 GHz, 6MB Level 3 Cache, 75W)	570113-B21
	AMD Opteron™ Processor Model 2431 (2.4 GHz, 6MB Level 3 Cache, 75W)	570115-B21
	AMD Opteron™ Processor Model 2427 (2.2 GHz, 6MB Level 3 Cache, 75W)	570117-B21
	AMD Opteron™ Processor Model 2425HE (2.1 GHz, 6MB Level 3 Cache, 55W)	570119-B21
	NOTE: Second processor kits include additional two fans.	
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
Optical Drives	HP Slim SATA DVD-ROM Optical Drive	481041-B21
	HP Slim SATA DVD-RW Optical Drive **NOTE:** Included in performance models.	481043-B21
	HP External USB CD/DVD R/RW Optical Drive	FS943AA
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. **NOTE:** 6G drives will run at 3G speed on the DL385 G6.	
	SAS Hot Plug SFF Enterprise (ENT) Drives	
	HP 300GB 6G SAS 10K SFF DP ENT HDD	507127-B21
	HP 300GB 3G SAS 10K SFF DP ENT HDD	492620-B21
	HP 146GB 6G SAS 15K SFF DP ENT HDD	512547-B21
	HP 146GB 3G SAS 15K SFF DP ENT HDD	504062-B21
	HP 146GB 6G SAS 10K SFF DP ENT HDD	507125-B21
	HP 146GB 3G SAS 10K SFF DP ENT HDD	418367-B21
	HP 72GB 6G SAS 15K SFF DP ENT HDD	512545-B21

DA - 13360   Worldwide QuickSpecs — Version 9 — 10.23.2009   Page 20

Core Options

HP 72GB 3G SAS 15K SFF DP ENT HDD	418371-B21
HP 72GB 3G SAS 10K SFF DP ENT HDD	384842-B21
SAS Hot Plug 3.5" Enterprise (ENT) Drives	
HP 600GB 6G SAS 15K 3.5" DP ENT HDD	516828-B21
HP 450GB 6G SAS 15K 3.5" DP ENT HDD	516816-B21
HP 450GB 3G SAS 15K 3.5" DP ENT HDD	454232-B21
HP 300GB 6G SAS 15K 3.5" DP ENT HDD	516814-B21
HP 300GB 3G SAS 15K 3.5" DP ENT HDD	416127-B21
HP 146GB 3G SAS 15K 3.5" DP ENT HDD	384854-B21
SAS Hot Plug SFF Midline (MDL) Drives	
HP 500GB 6G SAS 7.2K SFF DP MDL HDD	507610-B21
SAS Hot Plug 3.5" Midline (MDL) Drives	
HP 1TB 3G SAS 7.2K 3.5" DP MDL HDD	461137-B21
HP 750GB 3G SAS 7.2K 3.5" DP MDL HDD	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 Midline (MDL) Drives	
HP 500GB 3G SATA 7.2K 2.5in MDL HDD	507750-B21
HP 160GB 3G SATA 7.2K 2.5in MDL HDD	530888-B21
SATA Hot Plug 3.5" Midline (MDL) Drives	
HP 1TB 3G SATA 7.2K 3.5" MDL HDD	454146-B21
HP 750GB 3G SATA 7.2K 3.5" MDL HDD	458930-B21
HP 500GB 3G SATA 7.2K 3.5" MDL HDD	458928-B21
HP 250GB 3G SATA 7.2K 3.5" MDL HDD	458926-B21
SATA Hot Plug SFF Entry (ETY) Drives	
HP 250GB 3G SATA 5.4K SFF ETY HDD	460355-B21
HP 120GB 1.5G SATA 5.4K SFF ETY HDD	458924-B21
SATA Hot Plug 3.5" Entry (ETY) Drives	
HP 160GB 3G SATA 7.2K 3.5" ETY HDD	458945-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)

SATA Hot Plug Midline (MDL) Solid State Drives	
HP 60GB 3G SATA 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)

Core Options

Communications	**Gigabit Ethernet adapters**	
	HP NC112T PCIe Gigabit Server Adapter	503746-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	HP 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 2 gigabytes (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 additional information: www.hp.com/go/ProLiantNICs.

Riser Cage Options	HP DL38X (1) x16 PCI-E riser kit	494323-B21
	HP DL38X (1) x8, (2) x4 PCI-E riser kit	500580-B21
	HP DL38X PCI-X riser kit (1) PCI-X, (1) x8, (1) x4)	494322-B21
	HP DL38X (2) x8 Dual Port 10GbE Riser Kit	494326-B21

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

Additional Options

Power Supplies	HP 460W CS HE Gold Power Supply	503296-B21
	HP 750W CS HE Gold Power Supply	512327-B21
	HP 1200W CS HE Silver Power Supply	500172-B21
	HP 1200W-48V DC Common Slot Power Supply	437573-B21
	NOTE: DC power supplies contain a -48V DC power cord designed for in rack DC power rectifiers.	

HP Insight Control suites	**HP Insight Control suite**	
	HP Insight Control Environment, No Media 1-Server License including 1 year of 24x7 Technical Support and Updates	452148-B22
	NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.	
	HP Insight Control Management Software Media Kit	436222-B21
	NOTE: Insight Software DVD media without licenses. Contains HP Systems Insight Manager and Insight software products and components licensed by the Insight Control suite. Uses an integrated installer to perform quick and accurate software installation and updates.	
	NOTE: For additional license kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html	
	HP Insight Control suite for Linux (ICE-LX)	
	HP Insight Control suite for Linux, Media pack (DVD) - No licenses included	464422-B22
	NOTE: This optional Media pack DVD contains the ISO image for HP Insight Control Environment for Linux, HP System Insight Manager, HP Insight Power Manager, HP Insight Virtual Machine Management software, and an integrated installer. Servers must be acquired separately.	
	NOTE: This Media pack is optional because the latest ISO image and latest updates may be downloaded at no cost from: http://www.hp.com/go/ice-linux (click on Download button).	
	HP Insight Control suite for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates	464423-B22
	NOTE: This part number can be used to purchase one (1) license with a single activation key. 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 and Update Service.	
	NOTE: One certificate is shipped for each license.	
	NOTE: For additional License Kits, 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

Drive Cage Options	HP 8SFF CAGE 380G6	516914-B21
Security	HP Trusted Platform Module Option Kit	488069-B21

Storage Controllers	**SAS Controllers**	
	HP Smart Array P800 Controller	
	HP Smart Array P800/512 BBWC Controller	381513-B21
	HP Smart Array P212 Controller	
	HP Smart Array P212/Zero Memory Controller	462828-B21
	HP Smart Array P212/256 MB Controller	462834-B21
	HP Smart Array P411 Controller	
	HP Smart Array P411/256 MB Controller	462830-B21
	HP Smart Array P411/512 MB with BBWC Controller	462832-B21
	Optional Upgrades	
	256 MB Cache Module	462968-B21
	NOTE: Supported on HP Smart Array P212 Controller and HP Smart Array P410/Zero Memory Controller only.	
	512MB BBWC	462967-B21
	Battery Kit upgrade	462969-B21
	NOTE: To enable BBWC on the 256MB cache.	
	HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support	516471-B21
	NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information:	
	http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html (Smart Array P800 Controller)	
	http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller)	
	http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html (Smart Array P411 Controller)	
	http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html (Smart Array Advanced Pack)	
	SAS Controller Options	
	HP SAS Expander Card	468406-B21
	Mini SAS 4i to Mini SAS 4i, 8.00"	496012-B21
	NOTE: BTO Models will require Mini SAS 4i to Mini SAS 4i, 8.00" (496012-B21), included on CTO built models.	

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
	NOTE: Please see the following QuickSpecs for additional information: http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html (SC08Ge HBA)	
	SCSI HBA	
	HP SC11Xe Host Bus Adapter **NOTE:** Recommended HBA for SCSI tape drive connect.	412911-B21
	NOTE: Please see the following QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html (SC11Xe HBA)	
HPC Specific Options	HP InfiniBand 4X DDR Conn-X PCI-E G2 Dual Port HCA	483514-B21
	HP InfiniBand 4X DDR PCI-E 0 Memory Dual Port HCA	483513-B21
	HP InfiniBand 4X DDR PCI-E Dual Port HCA	448397-B21
	HP InfiniBand 4X DDR PCI-E Dual Port Host Adapter	409376-B21
Tape Storage	**Tape Drives**	
	USB Rack-Mount Tape Solutions	
	HP StorageWorks 1U USB Rack-Mount Kit with one DAT 160 USB Tape Drive **NOTE:** Pre-configured with one DAT 160 USB tape drive.	AG703A
	SAS Rack-Mount Tape Solutions **NOTE:** HP recommends purchasing the HP Smart Array P212 (462828-B21) for a dedicated SAS HBA for tape.	
	HP StorageWorks 1U SAS Rack-Mount Kit with one LTO-4 Ultrium 1760 **NOTE:** Pre-configured with one LTO-4 Ultrium 1760 SAS tape drive.	EH946A
	HP StorageWorks 1U SAS Rack Mount Kit **NOTE:** Supports up to (2) half-height SAS tape drives.	AE459A
	HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive **NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).	DW085A
	HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive **NOTE:** Mounts inside the 1U SAS Rack-Mount Kit (AE459A).	EH847A
	NOTE: For an up-to-date listing of the latest O/S and software support details for HP 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 **NOTE:** Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions.	AH166A
	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 Tape Library	AK378A
	HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library	AH559A

Additional Options

	HP StorageWorks MSL4048 Tape Library	
	HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Tape 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.

Disk-Based Backup	**RDX Removable Disk Backup**	
	HP StorageWorks RDX500 External Removable Disk Backup System	AJ935A

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

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

Additional Options

HP StorageWorks Modular Smart Array	**MSA SAN Storage Arrays**	
	HP StorageWorks 50 Modular Smart Array	364430-B21
	NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html (Worldwide)	
	HP StorageWorks 60 Modular Smart Array	418408-B21
	NOTE: Please see the Modular Smart Array 60 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html	
	HP StorageWorks 70 Modular Smart Array	418800-B21
	NOTE: Please see the Modular Smart Array 70 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html (Worldwide)	
	HP 2012sa Single Controller Modular Smart Array	AJ753A
	HP 2012sa Dual Controller Modular Smart Array	AJ752A
	NOTE: Please see the Modular Smart Array 2000sa QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/13045_div/13045_div.html (Worldwide)	

Uninterruptible Power Systems - Rack	**HP Rack-mountable UPS**	
	HP R1500 G2 UPS	
	HP, R1.5kVA UPS, 1U, NA	AF419A
	HP, R1.5kVA UPS, 1U, INTL	AF418A
	HP, R1.5kVA UPS, 1U, JPN/TW	AF421A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide)	

HP Rack and Rack Options	**Rack 5000 series** (Graphite Metallic)	
	HP 5642 Rack-Unassembled	358254-B21
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.html (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	
	Rack Options	
	Console switches (KVM)	
	Server console switch 0x2x8	AF616A

Additional Options

USB Options	HP USB 04 Standard Keyboard	DT528A#ABA
	HP 4GB USB Flash Media Key Kit	580385-B21

NOTE: Blank USB media device is supported for use with ProLiant iVirtualization. USB media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization.

Service and Support Offerings (HP Care Pack Services)	**Hardware Services On-site Service**	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4544E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4545E
	Hardware Services 6-Hour Call to Repair On-site Service	
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4546E
	Installation & Start-up Services	
	Hardware Installation, Electronic	U4554E
	Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic	U4555E
	Installation and Startup for Essentials Rapid Deployment Pack, Electronic	U5683E
	Support Plus	
	Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4556E
	Support Plus 24	
	Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U4557E
	Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U6312E
	Onsite HW support 24x7, 4hr response and Red Hat ES 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

HP ProLiant DL385 G6 Base Models

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

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

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

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

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

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

Standard Memory Replaced with Optional Memory
Up to 64 GB of memory is available with the removal of the standard memory and the optional installation of 8 x 8 GB PC2-530(DIMMs.
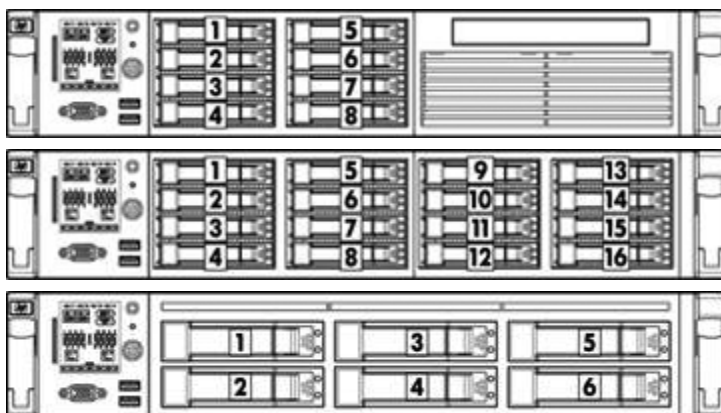
NOTE: Chart does not represent all possible configurations.
NOTE: DIMM banks are active only when the corresponding processor socket is populated.

	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	To
Standard	4GB	4GB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	8(
Optional	8GB	8GB	8GB	8GB	8GB	8GB	4GB	4GB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	56
Maximum	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	64

HP ProLiant DL385 G6 Performance Models

Standard Memory
16 GB REG PC2-6400 4 x 4 GB installed

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

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

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

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

Memory

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 PC2-5
DIMMs.

NOTE: Chart does not represent all possible configurations.

Config	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	4GB	4GB	Empty	Empty	Empty	Empty	Empty	Empty	4GB	4GB	Empty	Empty	Empty	Empty	Empty	Empty	16GB
Optional	8GB	8GB	8GB	8GB	8GB	8GB	4GB	4GB	8GB	8GB	8GB	8GB	8GB	8GB	4GB	4GB	112GB
Maximum	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	128GB

Following are memory options available from HP:

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

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.

1-6   Six LFF SAS hot plug hard drive bays

NOTE: This configuration does not support optical drive.

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
Slim SATA DVD RW Optical Drive **NOTE:** Included in performance models.	Only 1 available removable media bay	Slimline bay	Integrated SATA
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.
NOTE: 6G drives will run at 3G speed on the DL385 G6.

SAS Hot Plug SFF Enterprise (ENT) Drives

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

SAS Hot Plug 3.5" Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K DP	Up to 6	1-6	HP Smart Array P800/512 BBWC Controller
450GB 6G SAS 15K DP			HP Smart Array P212/Zero Memory Controller
450GB 3G SAS 15K DP			HP Smart Array P212/256 MB Controller

Storage

300GB 6G SAS 15K DP		HP Smart Array P410/256 MB Controller
300GB 3G SAS 15K DP		HP Smart Array P410/512 MB BBWC Controller
146GB 3G SAS 15K DP		HP Smart Array P411/256 MB Controller
		HP Smart Array P411/512 MB BBWC Controller

SAS Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	Up to 16	1-8	HP Smart Array P800/512 BBWC Controller
		1-16	HP Smart Array P212/Zero Memory Controller
		NOTE:	HP Smart Array P212/256 MB Controller
		Depending on	HP Smart Array P410/256 MB Controller
		Model	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 3.5" Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 3G SAS 7.2K DP	Up to 6	1-6	HP Smart Array P800/512 BBWC Controller
750GB 3G SAS 7.2K 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

SATA Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K	Up to 16	1-8	HP Smart Array P800/512 BBWC Controller
160GB 3G SATA 7.2K		1-16	HP Smart Array P212/Zero Memory Controller
		NOTE:	HP Smart Array P212/256 MB Controller
		Depending on	HP Smart Array P410/256 MB Controller
		Model	HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug 3.5" Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
1TB 3G SATA 7.2K	Up to 6	1-6	HP Smart Array P800/512 BBWC Controller
750GB 3G SATA 7.2K			HP Smart Array P212/Zero Memory Controller
500GB 3G SATA 7.2K			HP Smart Array P212/256 MB Controller
250GB 3G SATA 7.2K			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 Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller

Storage

250GB 3G SATA 5.4K	Up to 16	1-8	HP Smart Array P800/512 BBWC Controller
120GB 1.5G SATA 5.4K		1-16	HP Smart Array P212/Zero Memory Controller
		NOTE:	HP Smart Array P212/256 MB Controller
		Depending on	HP Smart Array P410/256 MB Controller
		Model	HP Smart Array P410/512 MB BBWC Controller
			HP Smart Array P411/256 MB Controller
			HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug 3.5" Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
160GB 3G SATA 7.2K	Up to 6	1-6	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 Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 16	1-8	HP Smart Array P800/512 BBWC Controller
120GB 3.0G SATA SSD		1-16	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 3.5" Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD	Up to 6	1-6	HP Smart Array P800/512 BBWC Controller
120GB 3.0G SATA SSD			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

External Storage

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

Maximum Storage Capacity - (with MSA70)

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

Tape and Disk-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 LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 960 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter	412911-B21
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	External	HP Smart Array P212/Zero Memory Controller	462828-B21

Storage

1U Rack-Mount Kit
3U Rack-Mount Kit

HP StorageWorks SCSI Tape Automation, External DAT 72x10 Autoloader 1/8 G2 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 Smart Array P212/Zero Memory Controller	462828-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
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

HP 460W Power Supply Part Number - AC 460W PSU	503296-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**208**	**200**	**220**	**230**	**240**
Maximum Rated Output Wattage	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 (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	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	30	30	30	30	30	30
Maximum Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

HP 750W Power Supply Part Number - AC 750W PSU	512327-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**208**	**200**	**220**	**230**	**240**
Maximum Rated Output Wattage	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Max Rated Input Wattage Rating (Watts)	857	847	824	825	820	820	820
Max. Rated VA (Volt-Amp)	894	884	859	859	854	854	854
Efficiency (%)at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20

Power Specifications

Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

HP 1200W Power Supply Part Number - AC	500172-B21						
Operational Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	**100**	**120**	**208**	**200**	**220**	**230**	**240**
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	9.1	5.9
Max Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Max. Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)at Max. Rated Output Wattage	86	87	89	89	89	89	89
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

HP 1200W PSU 48VDC Input Part Number	437573-B21		
Input Voltage Range (DCV)	36-72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (Vrms)	**36**	**48**	**72**
Maximum Rated Output Wattage	1200	1200	1200
Nominal Input Current (A rms)	38	28	19
Max Rated Input Wattage Rating (Watts)	1380	1350	1365
Max. Rated VA (Volt-Amp)	1380	1350	1365
Efficiency (%)at Max. Rated Output Wattage	87	89	88
Power Factor	N/A	N/A	N/A
Leakage Current (mA)	N/A	N/A	N/A

Power Specifications

Max. Inrush Current (A peak)	20	25	35
Max. Inrush Current duration (mS)	1	1	3
Maximum British Thermal Unit Rating (BTU-Hr)	4713	4610	4662

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

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

Technical Specifications

System Unit	**Dimensions** (H x W x D) (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 to 120 VAC 200 to 240 VAC
		Rated Input Current	For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)
	BTU Rating	Maximum	For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC)
	Power Specifications	**NOTE:** To review typical system power ratings use the HP Power Advisor which is available online located at url: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor	
	Power Supply Output (per power supply)	Rated Steady-State Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
		Maximum Peak Power	For 1200 W Power Supply:

Technical Specifications

		800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

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

Technical Specifications

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

Two HP NC382i Dual Port Multifunction Gigabit Server Adapters	Network Interface Compatibility	10Base-T/100Base-TX/1000Base-TX	
		IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	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)

Technical Specifications

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.