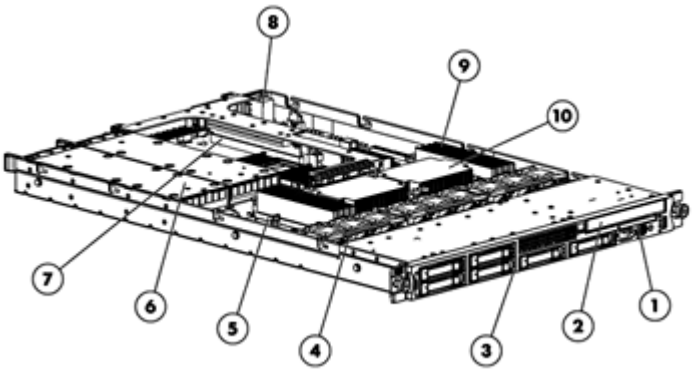
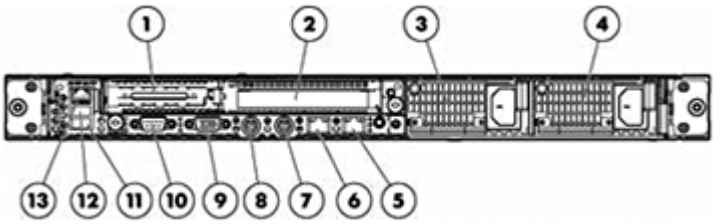
RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and informational purposes.

QuickSpecs

Overview





Front View:

1. Slide-out System Insight Display
2. Slimline removable media bay
3. Six SAS/SATA hot plug drive bays
4. Removable fans for easy serviceability
5. Choice of Smart Array P400i Controller or Smart Array E200i Controller
6. Redundant Hot Plug Power Supplies
7. Full length/height x8 PCI-Express Slot (optional PCI-X)
8. Low-profile x4 PCI-Express slot
9. Eight PC2-5300 667 MHz DDR2 DIMM slots
10. Up to two AMD Opteron™ processors

Rear View:

1. PCI Express expansion slot 1, low-profile, half-length
2. PCI Express expansion slot 2
3. Power supply bay 2
4. Power supply bay 1
5. NIC 2 connector
6. NIC 1 connector
7. Keyboard connector
8. Mouse connector
9. Video connector
10. Serial connector
11. USB connector
12. USB connector
13. iLO 2 NIC connector

At A Glance

A concentrated 1U server that delivers the right match of processing power, memory performance, I/O throughput, scalability, HP Insight Control , and essential fault tolerance. The HP ProLiant DL365 G5 is optimized for space constrained scaling installations. Quad-Cord AMD Opteron™ processors, DDR2 memory, Serial Attached SCSI (SAS) and PCI Express technology provide a high performance system ideal for the full range scale out applications. What's more, the DL365 G5 provides all this in an ultra-dense platform with redundant power, fans, and embedded RAID capability.

- Processors:
  - Up to 2 AMD Opteron™ 2300 Series Quad-Core processors, with 512 KB L2 Cache per core, 2 MB L3 Cache
  - Supports DirectConnect Architecture and HyperTransport Technology
  - Supports AMD PowerNow!™ Technology
- Memory:
  - Up to 32 GB of memory, supported by 8 slots of either PC2-5300 DDR2 (667 MHz) or PC2-6400 DDR2 (800 MHz) depending on the processor
- Storage Controller:
  - Entry Models: HP Smart Array E200i/64MB Controller (128 MB BBWC optional)
  - Base and High Efficiency Models: HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5) (512MB BBWC optional)
  - Performance Models: HP Smart Array P400i/256MB Controller with BBWC (RAID 0/1/1+0/5)

Overview

- Internal Drive Support:
  - Up to 6 small form factor (SFF) hot-plug drive bays
  - Slimline media bay supporting DVD or CD drive
- Network Controller:
  - Two embedded NC373i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through an optional Licensing Kit
- Expansion Slots:
  - Two PCI-Express expansion slots: (1) full-length, full-height slot; (1) low-profile slot
- USB 2.0 Ports:
  - 4 Total: (1) front, (1) internal and (2) rear accessible ports
- Redundancy:
  - Multiple layers of fault tolerance through critical component redundancy (power supply and fan redundancy), embedded RAID capability, and full-featured ProLiant Onboard Administrator
- 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 Integrated Light-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
- Form Factor:
  - 1U Rack form factor (1.75"), less than 28 in (70.5 cm) deep
- Operating Systems and Virtualization Software Support for ProLiant Servers:
  - Supports Windows, RHEL, SLES, OEL, Solaris, VMware
- Deployment/Serviceability:
  - Sliding rails for in rack servicing ship standard; optional 1U Cable Management Arm
  - 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/4AA1-5214ENW.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	AMD Opteron™ Processor 2384 (2.7 GHz, 75 Watts) AMD Opteron™ Processor 2382 (2.6 GHz, 75 Watts AMD Opteron™ Processor 2378 (2.4GHz, 75 Watts) AMD Opteron™ Processor 2356 (2.3 GHz, 75 Watts) AMD Opteron™ Processor 2354 (2.2 GHz, 75 Watts) AMD Opteron™ Processor 2352 (2.1 GHz, 75 Watts) AMD Opteron™ Processor 2346 HE (1.8GHz, 55 Watts)	
Chipset	Serverworks HT-2100 Northbridge and HT-1000 Southbridge Chipset	
Memory One of the following depending on Model	Type One of the following depending on Model	PC2-5300 DDR2 DIMMs (667 MHz) NOTE: Supported by 2352, 2354, 2356 processor models. PC2-6400 DDR2 DIMMs (800MHz) NOTE: Supported by 2384, 2382, 2378 processors models.
	Entry, Base Models	2 GB (2 x 1 GB) 667MHz or 800MHz
	Performance Models	4 GB (4 x 1 GB) 667MHz or 800MHz
	High Efficiency Models	2 GB (2 x 1 GB), Low Power 667MHz
	Maximum	32 GB (8 x 4 GB)
	NOTE: DIMMs must be installed in decreasing capacity with the largest DIMM installed in the banks furthest away from each processor.	
Network Controller	Two embedded NC373i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine, including support for Accelerated iSCSI through an optional Licensing Kit	

Standard Features

Expansion Slots

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Device No.**	Form Factor	Notes
1	PCI-e	x4	x8	72	0	Low profile slot	
2	PCI-e	x8	x16	75	0	Full length, full height slot	
2	PCI-X (133MHz, 3.3 Voltage)	64-bit	x16	2	1	Full length, full height slot	

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number
** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).
*** Indicates the number of physical electrical lanes running to the connector.

Manageability

- HP Insight Control suite: essential management, including proactive health management, lights out remote control, optimization of power usage, rapid server deployment, performance analysis, vulnerability scanning and patch management and virtual machine management. For more information, go to: www.hp.com/go/ice.
- HP ProLiant Onboard Administrator (powered by the Integrated Light-Out 2 management processor) for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration

Storage Controllers
One of the following depending on Model

Entry Models	HP Smart Array E200i/64 MB Controller (RAID 0/1) **Available upgrade**: 128 MB memory module with battery-backed write cache (BBWC) for RAID 0/1/5.
Base and High Efficiency Models	HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5) (512MB BBWC optional)
Performance Models	HP Smart Array P400i/256MB Controller with BBWC (RAID 0/1/1+0/5)

Storage

Optical Drives (Slimline Drive bay)	Optional DVD-ROM, DVD/CD-RW Combo, or DVD-RW
Drive Bays	6 Small Form Factor bays total NOTE: 4 bays active in most models. Smart Array P400i controller and Mini-SAS storage cable (P/N 399546-B21) required for activation of 5th and 6th drive bays.

Maximum Internal Storage Type

Hot Plug SAS	1.8TB	6 x 300GB
Hot Plug SATA	3.0TB	6 x 500GB

Standard Features

Interfaces	Keyboard	1
	Mouse	1
	Serial	1
	Video	2 (1 front, 1 rear)
	USB 2.0 Ports	2 rear, 1 front, 1 internal NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.
	Network RJ-45	2
	iLO 2 remote management port	1

Graphics

Integrated ATI ES1000, 32 MB 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 2 remote console is 1280 x 1024.

Form Factor

Rack (1U), (1.75 in/4.45 cm)

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 lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management • HP ProLiant Firmware Maintenance SmartStart version supported (minimum): SmartStart 7.60. 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

Standard Features

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 management consoles: 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 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 1.0b Compliant PCI 2.3 Compliant WOL Support Microsoft® Logo certifications PXE Support USB 1.1 and 2.0 supported

Standard Features

Intelligent Manageability	HP Systems Insight Manager SmartStart ROM-Based Setup Utility (RBSU) Remote-Flash Redundant ROM Integrated Management Log (IML) Server Health logging Automatic Server Recovery-2 (ASR-2) System Interconnect Status Indicators Dynamic sector repairing and drive parameter tracking (with Smart Array controllers) Power Down Utility Pre-Failure Warranty
Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Removable CD and Diskette Drive Assembly Serial interface control Administrator's password Integrated Lights-Out has 12 customizable user accounts and SSL encryption Integrated Lights-Out can be disabled via a Global Setting iLO Advance Pack supports directory services integration and two-factor authentication
Server Power Cords	High line cord ships standard with all part numbers. Localized cables included with geographic specific models in other world regions. NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the NEMA power cord (187335-001) must be ordered separately.
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	700 W, Optional (1+ 1 redundant) power supply NOTE: PN 399542-B21 contains the optional power supply and an IEC power cable only; purchase if connecting to PDU/UPS that supports IEC cables. PN 399542-291 includes IEC power cable and a Japan power cable. PN 399542-AA1 includes IEC power cable and a China power cable.
System Fans	9 fans ship standard; N+1 fan redundancy standard

Standard Features

Required Cabling	For required cabling information, refer to the Web site at: www.hp.com/servers/dl365.
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/DL365G5.
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 hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). • Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm). CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage. NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/dl365.
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.
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.racksolutions.com/hp/

Standard Features

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 capitalize 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
- 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

Models

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

Models

HP DL365 G5 Entry Models **DL365G5 2352** 447598-xx1	**Processor(s)**	(1) AMD Opteron™ Processor 2352 (2.1GHz, 75 Watts)
	Memory	2 GB (2 x 1 GB) Standard; PC2-5300 DDR2 DIMMs (667 MHz)
	Network Controller	Two Embedded NC373i Multifunction Gigabit Server Adapters
	Storage Controller	Smart Array E200i/64 MB (RAID 0/1/1+0)
	Hard Drive	No drives included; (4) drive bays active
	Internal Storage	1.8TB SAS; 1.50TB SATA
	Optical Drive	Optional upgrade
	PCI-Express Slots	1 full-length x8 PCI-Express slot 1 low-profile x4 PCI-Express slot
	Power Supply	(1) 700W power supply, redundant optional
	Fans	(9) fans ship standard; N+1 fan redundancy standard
	Form Factor	Rack (1U), (1.75 in/4.45 cm)

HP DL365 G5 Base Models **DL365G5 2356** 447597-xx1 **DL365G5 2378** 510146-xx1	**Processor(s)** One of the following depending on model	(1) AMD Opteron™ Processor 2356 (2.3GHz, 75 Watts) (1) AMD Opteron™ Processor 2378 (2.4GHz, 75 Watts)
	Memory One of the following depending on model	2 GB (2 x 1 GB) Standard; PC2-5300 DDR2 DIMMs (667 MHz) (2352 processor) 2 GB (2 x 1 GB) Standard; PC2-6400 DDR2 DIMMs (800 MHz) (2378 processor)
	Network Controller	Two Embedded NC373i Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5)
	Hard Drive	No drives included; (4) drive bays active
	Internal Storage	1.8TB SAS; 1.50TB SATA
	Optical Drive	Optional upgrade
	PCI-Express Slots	1 full-length x8 PCI-Express slot 1 low-profile x4 PCI-Express slot
	Power Supply	(1) 700W power supply, redundant optional
	Fans	(9) fans ship standard; N+1 fan redundancy standard
	Form Factor	Rack (1U), (1.75 in/4.45 cm)

Models

HP DL365 G5 Performance Models DL365G5 2356 447596-xx1 DL365G5 2384 510143-xx1	Processor(s) One of the following depending on model	(2) AMD Opteron™ Processors 2356 (2.3GHz, 75 Watts) (2) AMD Opteron™ Processors 2384 (2.7GHz, 75 Watts)
	Memory One of the following depending on model	4 GB (4 x 1 GB) Standard; PC2-5300 DDR2 DIMMs (667 MHz)DIMMs (667 MHz) (2356 processor) 4 GB (4 x 1 GB) Standard; PC2-6400 DDR2 DIMMs (800 MHz) (2384 processor)
	Network Controller	Two Embedded NC373i Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P400i/256MB Controller with BBWC (RAID 0/1/1+0/5)
	Hard Drive	No drives included; (6) drive bays active
	Internal Storage	1.8TB SAS; 1.50TB SATA
	Optical Drive	Slimline CD-RW/DVD-ROM Combo Option Kit
	PCI-Express Slots	1 full-length x8 PCI-Express slot 1 low-profile x4 PCI-Express slot
	Power Supply	(2) 700W power supplies
	Fans	(9) fans ship standard; N+1 fan redundancy standard
	Form Factor	Rack (1U), (1.75 in/4.45 cm)

HP DL365 G5 High Efficiency Models DL365G5 2346HE 457647-xx1	Processor(s)	(1) AMD Opteron™ Processor 2346HE (1.8GHz, 55 Watts)
	Memory	2 GB (2 x 1 GB) Standard; PC2-5300 DDR2 Low Power DIMMs (667 MHz)
	Network Controller	Two Embedded NC373i Multifunction Gigabit Server Adapters
	Storage Controller	HP Smart Array P400i/256MB Controller (RAID 0/1/1+0/5)
	Hard Drive	No drives included; (4) drive bays active
	Internal Storage	(9) fans ship standard; N+1 fan redundancy standard
	Optical Drive	Optional upgrade
	PCI-Express Slots	1 full-length x8 PCI-Express slot 1 low-profile x4 PCI-Express slot
	Power Supply	(1) 700W power supply, redundant optional
	Fans	(9) fans ship standard; N+1 fan redundancy standard
	Form Factor	Rack (1U), (1.75 in/4.45 cm)

Country Code Key	Rack Code Key
XX=00	US
XX=20	Brazil
XX=29	Japan
XX=37	APD
XX=42	EURO
XX=AA	PRC

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on 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 DL365 G5 Rack CTO Chassis	454269-B21
	Factory Integrated Model ships with:	
	Two embedded NC373i Multifunction Gigabit Server Adapters Integrated Lights-Out 2 (iLO 2) embedded 1 full-length and 1 low-profile x8 PCI-Express slots 9 fans; N+1 fan redundancy (1) 700W power supply, redundant optional Rack (1U), (1.75 in/4.45 cm)	

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

Processors	AMD Opteron™ Processor 2356 (2.3 GHz, 75 Watts), FIO	447600-L21
	AMD Opteron™ Processor 2354 (2.2 GHz, 75 Watts), FIO	447602-L21
	AMD Opteron™ Processor 2352 (2.1 GHz, 75 Watts), FIO	447604-L21
	AMD Opteron™ Processor 2384 (2.7 GHz, 75 Watts), FIO	510145-L21
	AMD Opteron™ Processor 2382 (2.6 GHz, 75 Watts), FIO	510150-L21
	AMD Opteron™ Processor 2378 (2.4 GHz, 75 Watts), FIO	510148-L21
	AMD Opteron™ Processor 2346 HE (1.8 GHz, 55 Watts), FIO	457239-L21
Base Memory	1 GB REG PC2-5300 2 x 512 MB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408850-B21
	2 GB REG PC2-5300 2 x 1 GB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408851-B21
	2 GB REG PC2-5300 2 x 1 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483399-B21
	4 GB REG PC2-5300 2 x 2 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408853-B21
	4 GB REG PC2-5300 2 x 2 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483401-B21
	8 GB REG PC2-5300 2 x 4 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408854-B21
	8 GB REG PC2-5300 2 x 4 GB Low Power Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483403-B21
	2 GB REG PC2-6400 2 x 1 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497763-B21
	4 GB REG PC2-6400 2 x 2 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497765-B21

	8 GB REG PC2-6400 2 x 4 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497767-B21
	8 GB REG PC2-6400 2 x 4 GB Low Power Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	504351-B21
Storage Controllers	HP E200i Controller FIO NOTE: If selected, must choose one of the cache modules below.	399548-B21
	HP Smart Array E200 64 MB FIO Cache NOTE: Supports Smart Array E200 Controller only.	405102-B21
	128 MB Battery Backed Write Cache Enabler Option Kit NOTE: Supports Smart Array E200i Controller.	346914-B21
	HP P400i Controller FIO NOTE: If selected, must choose one of the two cache modules below.	413741-B21
	HP Smart Array P400 256 MB FIO Cache NOTE: Supports Smart Array P400 Controller and Smart Array P400i Controller only.	405139-B21
	512 MB Battery-backed cache upgrade NOTE: Supports Smart Array P400 Controller and Smart Array P400i Controller only.	405148-B21
	HP Smart Array P600/256 BBWC Controller NOTE: Requires PCI-X Riser option (PN 405154-B21). NOTE: Requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).	337972-B21
	HP Smart Array 6404/512 FIO CNTRLR	452240-B21

Step 3: Choose Additional Factory Integratable Options

Performance Packs	The HP ProLiant DL365 G5 performance packs are necessary to configure a HP ProLiant DL365 G5 Performance Model. HP ProLiant DL365 G5 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, redundant power supplies, Smart Array P400i Controller with 256MB of BBWC, and storage cable to enable the all 6 disk drive bays. NOTE: 331903-B21 Slimline CD-RW/DVD-ROM Combo Drive Option Kit should also be selected along with the Performance Pack skus below to achieve parity to the HP ProLiant DL365 G5 Performance Models.	
	HP DL365G5 X2356 HPM FIO Perf Pack	448448-B21
	HP DL365G5 X2384 HPM FIO Perf Pack	510151-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 ProLiant DL365 G5 Unique Options	AMD Opteron™ Processor 2384 (2.7GHz, 75 Watts) Option Kit	510145-B21
	AMD Opteron™ Processor 2382 (2.6GHz, 75 Watts) Option Kit	510150-B21
	AMD Opteron™ Processor 2378 (2.4GHz, 75 Watts) Option Kit	510148-B21
	AMD Opteron™ Processor 2356 (2.3GHz, 75 Watts) Option Kit	447600-B21
	AMD Opteron™ Processor 2354 (2.2GHz, 75 Watts) Option Kit	447602-B21
	AMD Opteron™ Processor 2352 (2.1GHz, 75 Watts) Option Kit	447604-B21
	AMD Opteron™ Processor 2346 HE (1.8GHz, 55 Watts) Option Kit	457239-B21
	PCI-X Riser option NOTE: To convert full-length PCI-Express slot to PCI-X slot.	405154-B21
Processor	AMD Opteron™ Processor 2384 (2.7GHz, 75 Watts) Option Kit	510145-B21
	AMD Opteron™ Processor 2382 (2.6GHz, 75 Watts) Option Kit	510150-B21
	AMD Opteron™ Processor 2378 (2.4GHz, 75 Watts) Option Kit	510148-B21
	AMD Opteron™ Processor 2356 (2.3GHz, 75 Watts) Option Kit	447600-B21
	AMD Opteron™ Processor 2354 (2.2GHz, 75 Watts) Option Kit	447602-B21
	AMD Opteron™ Processor 2352 (2.1GHz, 75 Watts) Option Kit	447604-B21
	AMD Opteron™ Processor 2346 HE (1.8GHz, 55 Watts) Option Kit	457239-B21
Memory	1 GB REG PC2-5300 2 x 512 MB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408850-B21
	2 GB REG PC2-5300 2 x 1 GB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408851-B21
	2 GB REG PC2-5300 2 x 1 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483399-B21
	4 GB REG PC2-5300 2 x 2 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408853-B21
	4 GB REG PC2-5300 2 x 2 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483401-B21
	8 GB REG PC2-5300 2 x 4 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408854-B21
	8 GB REG PC2-5300 2 x 4 GB Low Power Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483403-B21
	2 GB REG PC2-6400 2 x 1 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497763-B21
	4 GB REG PC2-6400 2 x 2 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497765-B21
	8 GB REG PC2-6400 2 x 4 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497767-B21
	8 GB REG PC2-6400 2 x 4 GB Low Power Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	504351-B21

Core Options

Optical Drives	Slimline CD-RW/DVD-ROM Combo Option Kit	331903-B21
	Slimline DVD-ROM Drive (8X/24X) Option Kit	264007-B21
	HP DVD±R/RW 8X Slim	383975-B21
	Slimline CD-ROM Drive 24X	356963-B21
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 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 6G SAS 10K SFF DP ENT HDD	507125-B21
	HP 146GB 3G SAS 15K SFF DP ENT HDD	504062-B21
	HP 146GB 3G SAS 10K SFF DP ENT HDD	418367-B21
	HP 72GB 6G SAS 15K SFF DP ENT HDD	512545-B21
	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 SFF Midline (MDL) Drives	
	HP 500GB 6G SAS 7.2K SFF DP MDL HDD	507610-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 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
	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
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html (Worldwide)	

Communications	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	
Power Supplies	700W HP redundant power supply with IEC cord only	399542-B21
	700W HP redundant power supply with IEC cord and Japan cord (Japan)	399542-291

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 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.	452148-B22
	HP Insight Control Management Software Media Kit NOTE: Insight Software DVD media without licenses. Contains HP System 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	436222-B21
	HP Insight Control suite for Linux (ICE-LX)	
	HP Insight Control suite for Linux, Media pack (DVD) - No licenses included 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).	464422-B22
	HP Insight Control suite for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates 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	464423-B22
	HP Integrated Lights-Out Advanced	
	HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates 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	512485-B21
	HP Insight Rapid Deployment software	
	HP Insight Rapid Deployment software No Media 1-Server License, including 1 year of 24x7 Technical Support and Updates 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	452151-B21

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

Storage Controllers	SAS Controllers	
	Smart Array E500 Controller	
	Smart Array E500/256 MB Controller	435129-B21
	HP Smart Array P400 Controller **HP Smart Array P400i Controller**	
	HP Smart Array P400/256 MB Controller	405132-B21
	HP Smart Array P400i/256MB Controller	399550-B21
	Smart Array P600 Controller	
	HP Smart Array P600/256 BBWC Controller NOTE: Requires Mixed PCI-E/X riser cage.	337972-B21
	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
	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	
	128 MB Battery-Backed Write Cache with Battery Housing NOTE: Supports Smart Array E200 Controller.	346914-B21
	Battery-backed write cache upgrade NOTE: For Smart Array P400 Controller and Smart Array P400i Controller only.	383280-B21
	512 MB Battery-backed write cache upgrade NOTE: For Smart Array P400 Controller and Smart Array P400i Controller only.	405148-B21
	512 MB Battery-Backed Cache Upgrade NOTE: This 512 MB Battery-Backed Cache Module upgrade kit supports the Smart Array P600 Controller and the Smart Array 6400 series Controller.	372538-B21
	256 MB Cache Module NOTE: Supported on HP Smart Array P212 Controller only.	462968-B21
	512MB BBWC NOTE: When used with the embedded HP Smart Array P410i controller, this battery module also requires a 24 inch SFP Battery Cable (496029-B21). http://h18000.www1.hp.com/products/quickspecs/12460_div/12460_div.html (Smart Array E200 Controller)	462967-B21

http://h18000.www1.hp.com/products/quickspecs/12700_div/12700_div.html (Smart Array E500 Controller)
http://h18000.www1.hp.com/products/quickspecs/12400_div/12400_div.html (Smart Array P400 Controller)
http://h18000.www1.hp.com/products/quickspecs/12247_div/12247_div.html (Smart Array P600 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)

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.

HP 8 Internal Port SAS HBA with RAID 347786-B21
NOTE: Supports SAS and SATA disk drive. RAID 0,1 supported. Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS.
NOTE: When using the 8 Internal Port SAS HBA with SATA Hard Drives, 1.5G SATA Hard Drives are required.

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)
http://h18004.www1.hp.com/products/quickspecs/12332_div/12332_div.html (SAS HBA)

SAS Cables

HP Mini SAS 4i 13.4 inch/0.35 m cable 399546-B21
NOTE: Used to connect Smart Array P400i to DL365 5th and 6th drive bays.

HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable 411100-B21
NOTE: Used to connect SA-P600, SA-P400, SA-E200 Controllers to the HP ProLiant DL365 G5 drive backplane. This kit supports all six drive bays.

SCSI Controllers for External Drive/Storage Support

Smart Array 6402/128 Controller 273915-B21
NOTE: For support of external drives only.

Smart Array 6404/256 Controller 273914-B21
NOTE: For support of external drives only.

512 MB Battery-Backed Cache Upgrade 372538-B21
NOTE: This 512 MB Battery-Backed Cache Module upgrade kit supports the Smart Array P600 Controller and the Smart Array 6400 series Controller.

SCSI HBA

HP SC11Xe Host Bus Adapter 412911-B21
NOTE: Recommended HBA for SCSI tape drive connect.

Additional Options

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/10429_div/10429_div.html (SCSI Adapter)
http://h18000.www1.hp.com/products/quickspecs/11555_div/11555_div.html (U320 Adapter)
http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html (SC11Xe HBA)

Power Cords

NOTE: The HP ProLiant DL365 G5 ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).

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

HPC Specific Options

HP IB 4X DDR Conn-X PCI-e Dual Port HCA	448397-B21
HP IB 4X DDR PCI-e DUAL PORT 0 mem HCA	483513-B21

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html

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Tape Storage

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

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 SC44Ge HBA (416096-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 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

Additional Options

	HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit NOTE: Required to install the 1/8 G2 Tape 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.	AH166A
	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; reference current compatibility information at: http://www.hp.com/go/ebs.	
Disk-Based Backup	**RDX Removable Disk Backup**	
	HP StorageWorks RDX500 External Removable Disk Backup System 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	AJ935A
	D2D Backup	
	HP StorageWorks D2D2502i Backup System NOTE: 2 TB raw capacity/1.5 TB useable capacity.	EJ001A
	HP StorageWorks D2D2504i Backup System 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	EJ002A

Additional Options

StorageWorks Options	StorageWorks Fibre Channel HBAs	
	NOTE: For the complete listing of Fibre Channel Host Bus Adapters for Windows 2000, Windows Server 2003 and Linux, please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Brocade Fibre Channel HBAs	
	HP StorageWorks 81B PCI-e FC HBA Single Port	AP769A
	HP StorageWorks 82B PCI-e FC HBA Dual Port	AP770A
	HP StorageWorks 41B 4Gb PCI-e FC HBA	AP767A
	HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA	AP768A
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E PCI-e FC HBA Single Port	AJ762A
	HP StorageWorks 82E PCI-e FC HBA Dual Port	AJ763A
	HP StorageWorks FC2142 4Gb PCI-e HBA	A8002A
	HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e FC HBA Single Port	AK344A
	HP StorageWorks 82Q PCI-e FC HBA Dual Port	AJ764A
	HP StorageWorks FC1142 4Gb PCI-e HBA	AE311A
	HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA	AE312A
	StorageWorks SCSI HBA	
	HP U320e SCSI Host Bus Adapter	AH627A
	NOTE: Recommended HBA for MSL SCSI Tape Library connect.	
HP StorageWorks Modular Smart Array	MSA SAN Storage Arrays	
	HP StorageWorks Modular Smart Array 20	335921-B21
	NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	
	NOTE: Please see the Modular Smart Array 20 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11942_div/11942_div.html (Worldwide)	
	HP StorageWorks Modular Smart Array 30 SB	302969-B21
	NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies.	
	NOTE: Please see the Modular Smart Array 30 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11738_div/11738_div.html (Worldwide)	
	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 2012sa Single Controller Modular Smart Array	AJ752A
	HP 2012sa Dual Controller Modular Smart Array	AJ753A

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	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 UPS QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide)	
	HP R3000 UPS	
	HP R3000 VA UPS, 2U, DTC, INTL	AF414A
	HP R3000 VA UPS, 2U, Low voltage L5-30, NA	AF422A
	HP R3000 VA UPS, 2U, High voltage L6-20, NA	AF423A
	HP R3000 VA UPS, 2U, High voltage L6-20, JPN	AF424A
	HP R3000 VA UPS, 2U, Low voltage L5-30, JPN	AF425A
	NOTE: Please see UPS QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/10671_div/10671_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 UPS QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html (Worldwide)	
	HP R/T3000 Uninterruptible Power System (UPS)	
	HP R/T3000 UPS, Low voltage NA/JPN	AF452A
	HP R/T3000 UPS, High voltage, NA/JPN	AF453A
	HP R/T3000 UPS, High voltage, detachable inlet cord INTL	AF454A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13417_div/13417_div.html (Worldwide)	
	HP Rack-Mountable R5500 UPS	
	HP R5500 VA UPS, INTL	AF416A
	HP R5500 VA UPS, NA/JPN	AF426A
	NOTE: Please see UPS QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/11871_div/11871_div.html (Worldwide)	
	NOTE: For additional information on HP Uninterruptable Power Systems please go to: www.hp.com/servers/rackups.	

Additional Options

Power Distribution Units	Monitored PDUs	
	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3Ø24A (NA/JPN)	AF503A
	HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN)	AF504A
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1Ø, 40A (NA/JPN)	AF505A
	HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN)	AF506A
	HP 22.1 kVA S2316 Monitored PDU- dual input, 3Ø, 16A (INTL)	AF507A
	HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL)	AF508A
	HP 14.7 kVA S2132 Monitored PDU- dual input, 1Ø, 32A (INTL)	AF509A
	HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF510A
	HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN)	AF914A
	HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF915A
	Modular PDUs 1U/0U (Up to 32 outlets)	
	NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 G2 and 9000 series racks).	
	3.6kVA Model - mPDU, 16A, High (WW)	252663-B24
	2.8 kVA Model - mPDU, 24A, Low (NA/JPN)	252663-D71
	4.9kVA Model - mPDU, 24A, High (NA/JPN)	252663-D72
	7.3kVA Model - mPDU, 32A, High (INT'L)	252663-B31
	8.3kVA Model - mPDU, 40A, High (WW)	252663-B21
	8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN)	252663-D73
	9.2kVA Model - mPDU, 40A, High (power cord attached) (INTL)	252663-B32
	8.3kVA Model - mPDU 40A, High (core only) (NA/JPN)	252663-D75
	9.2kVA Model - mPDU 40 A, High (core only) (Int'l)	252663-B34
	8.3kVA Model - mPDU 32A, High (core only) (Int'l)	252663-B33
	4.9kVA Model - mPDU 24A, High (core only) (NA/JPN)	252663-D74
	NOTE: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords: http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html (Worldwide)	

Additional Options

HP Rack Series	**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 - 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: xxxxxx-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
	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
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 Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.

HP KVM Switch Options

2x1x16 IP Console Switch with Virtual Media	AF601A
4x1x16 IP Console Switch with Virtual Media	AF602A
2x16 Server Console Switch with Virtual Media	AF600A
PS/2 Virtual Media Interface Adapter, 1 pack	AF604A

NOTE: Requires PS/2 and one USB port on server.

Server console switch 0x2x8	AF616A
Server console switch 0x2x16	AF617A
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 1x4 Console Switch (ALL)	AF611A
PS2 Server Console Cable, 6 ft, 2 pack	AF612A

Additional Options

	USB Server Console Cable, 6 ft, 2 pack	AF613A
	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.	
	Rack Kits	
	1U Cable Management Arm	365403-B21
	NOTE: Package contains two cable management arms.	
USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
	HP USB 04 Standard Keyboard	DT528A#ABA
	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	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 4-Hour On-site Service**	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4496E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4497E
	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	U4498E
	Hardware Services Next Business Day On-Site Service	
	Hardware Installation, Electronic	U4506E
	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	U4507E
	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	U4508E
	Support Plus 24	

Additional Options

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	U4509E
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	U6310E
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	U8332E

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 DL365 G5 Models

Standard Memory

NOTE: One of the following depending on model:
Performance Models: 4 GB PC2-5300 DDR2 DIMMs (667 MHz) installed (4 x 1 GB)
Base and Entry Models: 2 GB PC2-5300 DDR2 DIMMs (667 MHz) installed (2 x 1 GB)
High Efficiency Models: 2 GB PC2-5300 DDR2 Low Power DIMMs (667MHz) installed (2 x 1 GB)

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 512 MB or 4 x 1 GB for example) yields 2-way bank interleaving.
2) Two dual ranked DIMMs populated per node (2 x 2 GB or 2 x 4 GB for example) yields 2-way bank interleaving.
3) Four dual ranked DIMMs populated per node (4 x 2 GB or 4 x 4 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 is independent of bank interleaving.

Standard Memory Plus Optional Memory

Up to 26 GB memory is available with the standard memory of 1 GB and the optional installation of PC2-5300 DDR2 DIMMs (667 MHz) memory kits. - 6 slots would be available, and potentially could be filled with 4GB DIMM's.

Standard Memory Replaced with Optional Memory

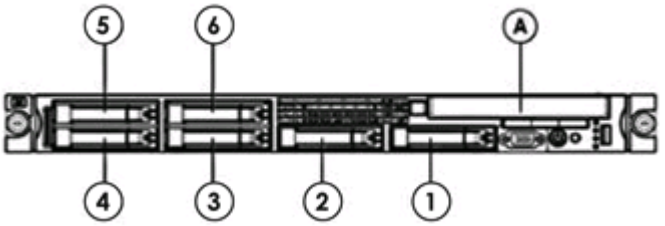
Up to 32 GB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC2-5300 DDR2 DIMMs (667 MHz) memory kits.
NOTE: DIMM banks are active only when the corresponding processor socket is populated.
NOTE: Chart does not represent all possible configurations.

Memory		Slot							
		1	2	3	4	5	6	7	8
Standard (Base, Entry, and Performance Models)	2 GB	1 GB	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	26 GB	1 GB	1 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Maximum	32 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB

Following are memory options available from HP:

1 GB REG PC2-5300 2 x 512 MB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408850-B21
2 GB REG PC2-5300 2 x 1 GB Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408851-B21
2 GB REG PC2-5300 2 x 1 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483399-B21
4 GB REG PC2-5300 2 x 2 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408853-B21
4 GB REG PC2-5300 2 x 2 GB Low Power Single Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483401-B21
8 GB REG PC2-5300 2 x 4 GB Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	408854-B21
8 GB REG PC2-5300 2 x 4 GB Low Power Dual Rank Kit NOTE: Supported on 2352, 2354, and 2356 processor models.	483403-B21
2 GB REG PC2-6400 2 x 1 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497763-B21
4 GB REG PC2-6400 2 x 2 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497765-B21
8 GB REG PC2-6400 2 x 4 GB Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	497767-B21
8 GB REG PC2-6400 2 x 4 GB Low Power Kit NOTE: Supported on 2384, 2382, and 2378 processor models.	504351-B21

Storage



1-6 6 x SFF Hot Pluggable Hard Drive Bays

A Slimline Bay: Optional optical drive

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
Slimline DVD-Rom Drive (8x/24x) Option Kit (Servers)	Up to 1	A	
Slimline DVD/CD-RW Combo Option Kit	Up to 1	A	Integrated IDE
Slimline DVD-RW Drive (8X) Option Kit	Up to 1	A	

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 Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
300GB 6G SAS 10K DP 300GB 3G SAS 10K DP 146GB 6G SAS 15K DP 146GB 6G SAS 10K DP 146GB 3G SAS 15K DP 146GB 3G SAS 10K DP 72GB 6G SAS 15K DP 72GB 3G SAS 15K DP 72GB 3G SAS 10K DP	6	1-6	HP Smart Array E200i/64 MB Controller HP Smart Array P400/256 MB Controller HP Smart Array P400/512 MB BBWC Controller HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P212/ZM 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 Please see NOTES below regarding hard drive quantity supported by Smart Array Controller.

NOTE: The Smart Array E200i Controller can support a maximum of 4 hard drives.

NOTE: The Smart Array P400 Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).

NOTE: The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

SAS Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	6	1-6	HP Smart Array E200i/64 MB Controller HP Smart Array P400/256 MB Controller HP Smart Array P400/512 MB BBWC Controller HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P212/ZM 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 Please see NOTES below regarding hard drive quantity supported by Smart Array Controller.

NOTE: The Smart Array E200i Controller can support a maximum of 4 hard drives.
NOTE: The Smart Array P400 Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).
NOTE: The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

SATA Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K 160GB 3G SATA 7.2K	6	1-6	HP 8 Internal Port SAS HBA with RAID NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the 8 Internal Port SAS HBA with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP SC44Ge Host Bus Adapter NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP Smart Array E200i/64 MB Controller HP Smart Array P400/256 MB Controller HP Smart Array P400/512 MB Controller HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P212/ZM 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

NOTE: The Smart Array E200i Controller can support a maximum of 4 hard drives.
NOTE: The Smart Array P400 Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).
NOTE: The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

SATA Hot Plug SFF Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K 120GB 1.5G SATA 5.4K	6	1-6	HP 8 Internal Port SAS HBA with RAID NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the 8 Internal Port SAS HBA with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP SC44Ge Host Bus Adapter NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP Smart Array E200i/64 MB Controller HP Smart Array P400/256 MB Controller HP Smart Array P400/512 MB Controller HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P212/ZM 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

NOTE: The Smart Array E200i Controller can support a maximum of 4 hard drives.
NOTE: The Smart Array P400 Controller can support a maximum of 6 hard drives. To support drives 5 and 6, the optional HP Mini SAS 4i 13.4 inch/0.35 m cable is required (PN 399546-B21).
NOTE: The Smart Array P600 Controller requires HP SAS 4i to Mini SAS 4i 31 inch/.79 meter cable (PN 411100-B21).

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	6	1-6	HP 8 Internal Port SAS HBA with RAID NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the 8 Internal Port SAS HBA with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP SC44Ge Host Bus Adapter NOTE: Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. HP Smart Array E200i/64 MB Controller HP Smart Array P400/256 MB Controller HP Smart Array P400/512 MB Controller HP Smart Array P600/256 BBWC Controller HP Smart Array P800/512 BBWC Controller HP Smart Array P212/ZM 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

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
20 Modular Smart Array	Please see the QuickSpecs to determine configuration requirements	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
30 Modular Smart Array	Please see the QuickSpecs to determine configuration requirements.	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
50 Modular Smart Array	2	External	HP Smart Array P600/256 BBWC Controller
HP 2000sa Modular Smart Array Controller	Up to 4	External	HP SC08Ge Host Bus Adapter

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	External	HP SC44Ge Host Bus Adapter	416096-B21

Storage

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

HP StorageWorks SCSI Tape Automation, External DAT 72x10 Autoloader 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096 MSL6000	External	HP SC11Xe Host Bus Adapter	412911-B21
		HP U320e SCSI Host Bus Adapter NOTE: Recommended for MSL tape libraries.	AH627A
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
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

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
To drill down to calculators:
- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL365 G5
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

System Unit	**Dimensions** (H x W x D)	1.70 x 16.78 x 27.75 in (4.32 x 42.62 x 70.49 cm)	
	Weight	Maximum (six hard drives installed, two power supply, two processor)	37 lb (16.78 kg)
		No hard drives installed, one power supply, one processor	27.5 lb (12.47 kg)
	Input Requirements	Rated Input Voltage	100 to 240 VAC
		Rated Input Current	7.1 Amps (at 120VAC) to 3.5 Amps (240 at VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	852 W
	BTU Rating	2910 BTU/HR (at 120 VAC); 2870 (at 240 VAC) NOTE: The BTU rating listed is for the Rated Input Power of 585 W.	
	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 To drill down to calculators: - Click on: "ProLiant Servers" - Click on the Server of interest. Example: DL365 G5 - Click on: "Power Calculator" link. (You may need to scroll down to see it)	
	Power Supply Output (per power supply)	Rated Steady-State Power	700 W
	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).
		Storage	-30° to 60°C - Maximum rate of change is 20°C/Hr.
	Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C maximum wet bulb temperature
		Storage	5 to 95% relative humidity (Rh), 38.7°C maximum wet bulb temperature.
	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:	
		L WAd (BELS)	6.4
		L pAm (dBA)	49

		Operating:	
		L WAd (BELS)	6.4
		L pAm (dBA)	49
	Emissions Classification (EMC)	FCC Rating	Class A
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1
		NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.	

Smart Array E200i 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	DDR-1/266 MHz provides up to 4.2 GB/s maximum bandwidth.
	Server Interface	x4 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 64 MB or 128 MB cache: ECC protection, battery-backed, and transportable
	Logical Volumes Supported	Up to 32 logical volumes
	Maximum Volume Capacity	3TB (6 x 500 GB)
	Host Memory Addressing	64-bit, supporting greater than 4 GB server memory space
	RAID Support	RAID 5 (Distributed Data Guarding) requires 128 MB BBWC option RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)
	Upgradeable Firmware	Upgradeable Firmware

Technical Specifications

Two embedded NC373i Multifunction Gigabit Server Adapters	Network Interface	10/100/1000-T	
	Compatibility	EEE 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)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP up to 328 ft (100 m)
		10/100/1000 Base-TX	Category 5 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.