



HP ProLiant DL160 G6 Server

Data sheet



Simple, flexible, manageable: Ideal for memory intensive, Web 2.0 and high performance computing environments

Today, the demands of high-performance computing (HPC) call for a server infrastructure with larger memory and enhanced processing power without compromising on reliability. In addition, it must be ready to tackle the increasing load of Web 2.0 applications like cloud hosting. To run at optimum efficiency within a tight budget – now that is a tall order.

The HP ProLiant DL160 G6 fits the bill. It is a high performance, economical, ultra-dense rack server node for memory intensive HPC environments. Designed for quality, performance and flexible deployments to meet the needs of the HPC, small and medium business and corporate scale-out deployments; the DL160 G6 is your answer to achieve high efficiency, high density, high compute at an affordable price.

Now, benefit from up to 192 GB of memory with 16 GB DIMMs designed to hit the largest memory footprints or use decreased cost, lower density memory to achieve larger memory footprints than before. Achieve large, inexpensive memory configurations with 18 DIMM slots available. The DL160 G6 has the flexibility and scalability appropriate to meet the needs of a range of computing tasks. Moreover, the 1U form factor allows better utilisation of server rack and data centre space, making it suitable for SMBs, growing businesses, Web 2.0 customers and large data centres.

Key features and benefits

Improved performance

The HP ProLiant DL160 G6 is an economical 2P server that cuts out unnecessary options – optimised for budget constrained and scale-out environments – enabling cost enhanced memory solutions.

- **Increased memory:** If you run a memory intensive business, enhanced memory is your foremost requirement. With the DL160 G6 you get up to 192 GB DDR3 system max memory footprint.

Say good bye to power wastage and reclaim lost data centre power. The HP ProLiant series meets energy saving yardsticks as defined by Climate Savers Computing Gold, 80PLUS Gold.

- **SAS/SATA technology:** Capitalise on the SAS/SATA technology that comes with the HP Smart Array Controllers. They use 6-gigabit per second (Gb/s) SAS technology. With SAS technology, Smart Array controllers provide higher throughput, increased performance and enhanced reliability.
- **QuickPath Interconnect (QPI) architecture:** Intel® QPI architecture integrates a memory controller into each microprocessor and connects processors and other components with a new high-speed interconnect. This provides high-speed connections between microprocessors and external memory and between microprocessors and the I/O hub. In cases where a processor needs to access the dedicated memory of another processor, it can do so through a high-speed Intel QuickPath Interconnect that links all the processors.
- **Hyper threading technology:** This enhances performance, improves business productivity and provides faster response times. With the CPU made to act like multiple CPUs, number of transactions can be processed simultaneously, which means faster response times, hence better customer experience.

High degree of reliability

Intense competition and the ever-changing business landscape mean that you need a data centre which you can rely on. Drawing strength from latest industry standard technologies, the DL160 G6 offers enhanced throughput and dependability at a low cost. It also offers:

- **Latest six-core Intel Xeon processors:** The new embedded six-core Intel Xeon® Processors help you address growing computing and data needs of many business-critical applications, while enabling virtualisation.
- **Increased bandwidth:** Standard industry leading PC3-10600 DDR3 registered and unregistered DIMMs with up to 192 GB memory to provide increased bandwidth for high uptime and memory intensive performance.
- **Miscellaneous features:** Embedded HP NC362i dual-port 1Gb NIC features load-balancing, jumbo frame, failover and sideband support.
- **Increased storage:** Scalable internal bays to meet your storage needs with up to four Large Form Factor 3.5" non-hot plug SATA or hot plug SATA/SAS or eight 2.5" Small Form Factor hot plug SATA/SAS hard drive bays.
- **Customised platform:** Build to order your platform with options based on your unique performance needs, including processors, memory, hard drives and HP Care Pack services.

Energy efficiency leadership

Striking a balance between enhanced productivity and rising energy can be challenging. It may seem like it is a choice between paying soaring power bills, increasing profits or rising prices. A better option is to choose energy efficient products. The HP ProLiant series reduces power consumption without compromising the performance. They satisfy the energy saving criteria defined by Climate Savers Computing Gold, 80PLUS Gold. Further, they can:

- **Reclaim lost data centre power:** Use the HP Power Advisor and select the right-size power supply. This helps IT administrators reclaim lost data centre power. Less oversubscription means more capacity opportunity.
- **Prevent power wastage:** G6 ProLiant systems can tell when power is being wasted and compensate for it. Smart Sensors throughout the server allow intelligent actions to preserve, protect and enhance performance and power savings.
- **Support registered and unregistered memory:** Systems are no longer burdened with the extra wattage consumed by fully buffered memory.

Data security

Customer and business information stored on corporate databases is a critical business asset, vulnerable to hackers and other similarly catastrophic mishaps. So, the DL160 G6 offers an optional feature called Trusted Platform Module (TPM) that encrypts the hard drive and prevents unauthorised access from another operating system (OS). It also prevents off-line viewing of the files that make up the OS itself.

Akin to the Smartcard, it:

- Protects secrets (data)
- Performs cryptographic functions
 - RSA, SHA-1, RNG
- Can create, store and manage keys
 - Provides a unique Endorsement Key (EK)
 - Provides a unique Storage Root Key (SRK)
- Performs digital signature operations
- Holds platform measurements (hashes)

Ease of use/simple deployment

The DL160 G6's easy-access chassis and internal component labels facilitates fast and simple maintenance, in-rack serviceability and expansion.

- **Simple:** The DL160 G6 comes with an easy set-up CD that enables quick installation/deployment.

- **Manageable:** Its rack-optimised 1U form factor facilitates fast deployment and efficient management of large-scale cluster and grid solutions. Inclusion of SNMP agents further aids comprehensive management.
- **Flexible:** Its easy-access chassis and internal component labels give you the flexibility to expand your data centre as and when the need arises.

Support

Enjoy dependable support from HP when you purchase the DL160 G6.

- **After sales support:** Global server support network to assist you with setup, installation and provides reliable after sales support when you need it from a single point of contact.
- **Mid-range technical computing:** A broad choice of pre-configured, factory-integrated and tested cluster packages ideal for mid-range technical computing

Ideal environment

If your business operation centres on memory intensive applications – like file and print, networking HPC and Web 2.0 applications, the HP DL160 G6 provides support for all of these.

High performance computing

- Maximum server performance with Intel's latest six-core technology and 12 MB Level 3 cache per processor, embedded HP NC362i dual-port 1Gb NIC with sideband support for management needs
- Up to 192 GB DDR3 system max memory footprint for memory intense applications and 3D models

SMB and midmarket

- Better server performance at prices that meet small and medium business' budget needs
- Ideal for infrastructure, file/print and Web serving – in a high density package
- Now supporting Next Generation Smart Array Controllers for your whole RAID and caching read/write needs

Web 2.0 Customers

- Now with four 3.5-inch HDD for up to 8 TB of storage in 1U or 8 2.5-inch HDDs for super fast SAS and RAID local storage sets
- Two PCI-Express 2.0 slots for maximum I/O performance
- Low power processors and high efficiency power supplies to help maximise performance in a watt sensitive scale-out environment
- 18 DDR3 DIMM slots allowing economical, robust memory footprints

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programmes to help you cost-effectively acquire, manage and ultimately retire your HP solutions. For more information, contact your local HP sales representative, or visit: www.hp.com/go/hpfinancialservices

For more information

For more information about the HP ProLiant DL160 G6 Server contact your local HP representative, or visit: www.hp.com/servers/dl160-g6

HP Services

When technology works, business works

The challenge of virtually every IT organisation is similar: To develop and maintain an agile, efficient server infrastructure that delivers the service levels your business needs.

HP Technology Services offer a comprehensive range of HP Care Pack Services to help design, deploy, manage and support your IT environment, enabling cost-effective upgrades to standard warranty with easy-to-buy, easy-to-use support packages.

Minimum recommended HP Care Pack options

- Three-year, next business day response, onsite 9-hour x 5-day coverage, hardware support
- Hardware installation only

Enhanced service level Care Pack options

- Three-year, same business day 4-hour response, onsite 13-hour x 5-day coverage, hardware support
- Hardware Installation plus operating system installation and start-up

Benefit from HP Care Pack Services helping you:

- Reduce deployment time and manage ProLiant server solutions smoothly and efficiently
- Increase uptime and performance of servers availability to your business
- Detect, diagnose and repair problems to quickly save time, money and resources

For more information, visit

www.hp.com/services/proliantservices or www.hp.com/go/proliant/carepack

Technical specifications

Processor Type	Intel® Xeon® 5500 and 5600 series
Available Processors	Six-Core Intel Xeon Processor X5680(3.33Ghz, 130W) Six-Core Intel Xeon Processor X5670(2.93Ghz, 95W) Six-Core Intel Xeon Processor X5660(2.80Ghz, 95W) Six-Core Intel Xeon Processor X5650(2.66Ghz, 95W) Six-Core Intel Xeon Processor L5640(2.26Ghz, 60W) Quad-Core Intel Xeon Processor E5640(2.66Ghz, 80W) Quad-Core Intel Xeon Processor E5630(2.53Ghz, 80W) Quad-Core Intel Xeon Processor E5620(2.40Ghz, 80W) Quad-Core Intel Xeon Processor L5630(2.13Ghz, 40W) Intel Xeon Processor E5506(2.13Ghz, 80W) Intel Xeon Processor E5503(2.0Ghz,DC)
Processor Core	6, 4 or 2
Processor Cache	4 MB, 8 MB or 12 MB Level 3 Cache
Max Processor Speed	3.33 GHz
Multi-processor	2
Max Front Side Bus Speed	NA
Memory Type	PC3-10600R (DDR3-1067) Registered Memory PC3-10600E (DDR3-1067) Unbuffered Memory
Standard Memory	4 GB (1x4 GB), 8 GB (2x4 GB) or 12 GB (3x4 GB) depending on model
Max Memory	192 GB
Memory Slots	18
Advanced Memory Protection	Advanced ECC
Storage Type	Hot plug 2.5-inch SAS Hot plug 2.5-inch SATA Hot plug Midline Solid State Drives Hot plug 3.5-inch SAS Hot plug 3.5-inch SATA Non-hot plug 3.5-inch SATA
Max Number of Hard Drive	8
Max Number of Hard Drive Note	Support for up to 8 Small Form Factor Hard Drives
Removable Media Bays	1
Expansion Slot	2
Storage Controller	HP Smart Array B110i SATA RAID Controller (standard) and Smart Array Controller (optional)
Form Factor	Rack
Rack Height	1U
Networking	Embedded HP NC362i Integrated Dual Port Gigabit Server Adapter
Remote Management	Lights-Out 100i
Redundant Power Supply	1 built-in power supply with N+1 Fans
Warranty	3 year parts



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delivered directly to your desktop

Technology for better business outcomes

To learn more, visit www.hp.com/servers/dl160-g6

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