



HP ProLiant ML110 G7 Server

Data sheet

Affordability, reliability, and simplicity make the HP ProLiant ML110 G7 Server the ideal first server for growing businesses.

Are you using your desktop as a server? If yes, then it is time for a change. A growing business like yours, with its limited in-house IT support, needs a server that is compact and suits the budget—and also one that you can remotely manage.

The HP ProLiant ML110 G7 Server delivers true server reliability and functionality for growing businesses, branch offices, and remote locations—all for the price of a typical desktop computer. It perfectly matches your business needs and helps you adapt to the future with confidence.

What makes the HP ProLiant ML110 G7 Server an ideal first server?

Going beyond the proven ProLiant reliability, the ProLiant ML110 G7 Server is powered by the latest Intel® Xeon®, Intel® Core™ i3, Intel Pentium® processor; network interface controllers (NICs); and DDR3 memory, which together enhance performance.

PCI Express (PCIe) Gen2 slots, DIMM slots, drive bays, and server options help deliver the expandability that your growing business needs. Additionally, the HP SmartStart CD augments the installation process and helps you step up to your first server network with ease.

The optional trusted platform module (TPM) is an added advantage that brings further security to your IT architecture. Support for an energy-efficient redundant power supply (RPS) and integrated HP Integrated Lights-Out 3 (iLO 3) remote management software brings down operational expenses by reducing the number of physical visits to the server site—making it a practical and affordable solution.



More on HP iLO 3

HP Insight Control is essential server management software that helps deploy servers quickly, manage virtual or physical server health proactively, control servers from outside of the office, and streamline power consumption. HP iLO 3 is a standard component of the ProLiant ML110 G7 Server that facilitates remote server manageability. It includes an intelligent microprocessor, secure memory, and a dedicated network interface. In addition to providing world-class remote management functionality, iLO 3 is also responsible for managing the health of your server. For more information about HP iLO 3 for ProLiant servers, visit www.hp.com/go/insightcontrol.

Key features and benefits

Proven HP dependability and support

- HP conducts some of the most rigorous and thorough testing in the industry. This testing, along with a worldwide network of HP service professionals, allows you to deploy the ProLiant ML110 G7 Server with confidence.
- The ProLiant ML110 G7 Server inherits ProLiant reliability. Our tireless efforts on system testing and process control can provide you with a very dependable solution.

Ease to expansion and growth with changing business needs

- Delivers off-the-shelf functionality and expandability to grow with your business with features such as two NICs, DDR3 memory, SAS and SATA hard drives, PCIe Gen2 slots, and USB 2.0 ports
- Requires less upfront investment due to the server's modular design, and offers an easy-to-use and easy-to-configure platform because all major server components can be removed or reinstalled with reduced effort
- Helps remote locations or branch offices reduce server downtime and improve productivity with iLO 3—remote management capability from HP

A true server at a desktop price

- Compact and simple design for better manageability and low-cost expansion
- Efficient power usage and remote management to reduce overall operational costs
- Improved processor and memory performance for better results
- Advanced remote management software drives down the cost of managing your servers by reducing the number of physical visits.

Proven ProLiant reliability and data protection

- ECC memory helps protect your business from data loss and unplanned system downtime. Unlike

standard memory, ECC memory can detect and correct single-bit errors.

- HP Smart Array options provide businesses with RAID mirroring and striping capabilities to protect critical data.
- The TPM hardware-based encryption and authentication feature provides increased data security.
- HP ProLiant 100 series servers have customizable features suitable for the varying usage needs of small and medium businesses and branch offices.
- RPS for better protection against data loss/attack and for essential productivity backup.

Ideal environment

Here is a quick checklist that can help you decide if the ProLiant ML110 G7 Server is the right solution for you.

Remote sites or branch offices of small- to medium-sized businesses running light applications, such as:

- File and print
- Web messaging
- Small vertical applications or databases
- Shared Internet access and LAN infrastructure

Budget-conscious businesses with the need for:

- An entry-level, single-processor server solution that is easy to use and easy to configure
- A reliable server that can protect your data 24x7
- A rack-mountable server that helps save data center space
- An affordable server that can be remotely managed and controlled
- An expandable server that can grow with your business needs

Technical specifications

HP ProLiant ML110 G7 Server



Processor and memory

Processor family	Intel Xeon E3 series, Intel Core i3, and Intel Pentium
Number of processors	1
Maximum number of cores	4
Processors supported	E3-1280, E3-1270, E3-1240, E3-1230, E3-1220, i3-2120, i3-2100, G850, G840, G620
Processor cores	Quad-core, Dual-core
Cache	8 MB Intel Smart Cache
Maximum processor speed	3.50 GHz
Memory type	PC3-10600E Unbuffered DDR3 ECC up to 1333 MHz
Memory slots	4 DIMM slots
Standard memory	2 GB or 4 GB, depending on model
Maximum memory	16 GB

Storage

Storage type	Non-hot-plug 3.5 in. SAS Non-hot-plug 3.5 in. SATA
Drives supported	4 LFF HDD NHP and HP SAS/SATA 8 SFF
Maximum internal storage	8 TB
Maximum internal drives	4
Removable media bays	2
Expansion slots	4 slots: <ul style="list-style-type: none">• Slot 1: PCIe Gen2, x16 (x16 connector), full height and full length• Slot 2: PCIe Gen2, x4 (x8 connector), full height and full length• Slot 3: PCIe Gen2, x4 (x8 connector), full height and full length• Slot 4: PCIe Gen2, x4 (x1 connector), full height and full length
Storage controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10)

Operating system

Windows	<ul style="list-style-type: none">• Microsoft® Windows® Server 2008 for Embedded Systems—SP2 and R2 with SP1• Microsoft Windows Server 2008, Standard Edition (x86 and x64)—SP2 and R2 with SP1• Microsoft Windows Server 2008, Enterprise Edition (x86 and x64)—SP2 and R2 with SP1• Microsoft Windows Server 2008, Web Server (x86 and x64)—SP2 and R2 with SP1• Microsoft Windows Foundation Server 2008 (x64)—SP2 and R2 with SP1• Microsoft Windows Server 2008 Embedded Systems (x64)—SP2 and R2 with SP1• Microsoft Windows Small Business Server 2011 Essentials (Aurora)• Microsoft Windows Small Business Server 2011• Microsoft Windows 8 Server
Linux	<ul style="list-style-type: none">• RHEL 5 (includes KVM) • RHEL 6 (includes KVM)• SLES 10 (includes XEN) • SLES 11 (includes XEN)
Enabled OS	<ul style="list-style-type: none">• OEL 6 • Asianux (latest version based on RHEL 6) • CentOS (latest version based on RHEL 6)• Debian (latest version) • Ubuntu (latest version) • Fedora (latest version) • OpenSUSE (latest version)

Deployment

Form factor	Tower with rackmount option kit
Rack height	4U
System fans	Standard
Power supply	Standard 350 W non-hot-plug, non-redundant power supply (70% ¹ efficiency) RPS 460 W (92% ² efficiency)
Graphics card (tested)	64 MB; supports all display resolutions up to 1600 x 1200 @ 75 Hz NVIDIA Quadro 600 NVIDIA Quadro FX 380 LP
Port	10 USB 2.0
Networking	2 Intel 82574 Gigabit NIC
Remote management	HP Integrated Lights-Out 3 HP SmartStart CD
Warranty	Worldwide, except Brazil: 1-year parts/1-year labor/1-year onsite Brazil only: 3-year parts/1-year labor/1-year onsite

¹ ML110 Power Supply Single PS Efficiency test conducted by Foxconn, January 2011.

² The 80 PLUS certification is an incentive program funded by electric utilities to encourage manufacturer development and customer application of more energy-efficient power supplies. To earn the 80 PLUS certification, a power supply must be proven through independent testing to be 80 percent (or more) energy efficient—when delivering 20, 50, and 100 percent of the rated load capacity with a true power factor of 0.9 or more. For further information on the 80 PLUS program, visit www.80plus.org

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information, contact your local HP representative or visit

www.hp.com/go/hpfinancialservices.

Take your organization to the next level of productivity and efficiency

For a simple, surprisingly affordable, and reliable server-based computing, choose the HP ProLiant ML110 G7 Server. Visit www.hp.com/servers/ml110-g7 for more information.

HP Services

When technology works, business works.

HP Technology Services has a robust portfolio of packaged lifecycle support solutions that enable you to leverage ProLiant server support for better business outcomes.

Optimized Care: delivers superior performance and availability of crucial ProLiant systems through deployments and proactive management practices.

- HP ProLiant Server Hardware Installation
- 3-year HP 6-hour Hardware Support Onsite Call-to-Repair

Standard Care: maintains a high level of server availability along with expert help to cut the cost and complexity of implementing and supporting ProLiant servers.

- HP ProLiant Server Hardware Installation
- 3-year HP 24x7 4-hour response, Hardware Support Onsite Service

Basic Care: delivers minimum recommended support service level with expert advice, implementation, and support.

- HP ProLiant Server Hardware Installation
- 3-year HP 13x5 4-hour response, Hardware Support Onsite Service

All come with HP Insight Remote Support, available at no additional cost, delivering remote monitoring, diagnosis, and problem resolution.

Only HP brings together deep expertise, proactive and business-critical support, and a strong partner network.

For more information, visit www.hp.com/services/proliant.



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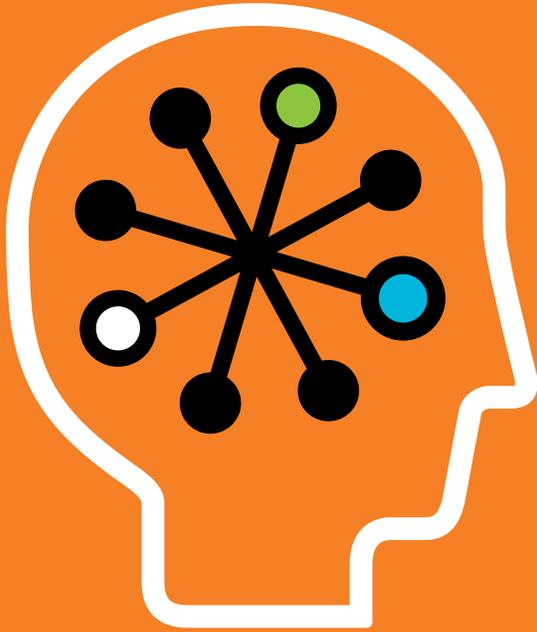
Current HP driver, support, and security alerts delivered directly to your desktop

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HP ProLiant ML150 G6 Server

Data sheet



Expandable and affordable for growing businesses

The HP ProLiant ML150 G6 Server now supports Intel® Xeon® 5500 series processors, delivering enhanced compute performance. It also brings huge improvements in memory capacity, storage, and deployment options, making it expandable and affordable for growing businesses.

With next-generation Intel processors and essential remote management features, the ML150 G6 tower server provides advanced server functionality and outstanding value at an entry-level price point. In

addition, high efficiency redundant power supply and redundant fan options provide greater power and thermal protection to keep your business running.

There are also hot-pluggable hard disk drives (HDDs) and optional RAID controllers that can help limit network downtime. In addition, with data security being a major concern today, the Trusted Platform Module (TPM) option can prove useful through its support for data encryption.

Designed to meet your IT needs today, while providing new capabilities for the future, the HP ProLiant ML150 G6 is well suited for small-to-medium businesses as well as compute-intensive cluster environments that require dependable server performance.

Growing businesses can look to the HP ProLiant ML150 G6 Server for a server platform that delivers reliability and quality while providing headroom for expansion plans. Engineered to meet the needs of corporate small sites, it comes with improved performance, easy management, and scalability—enabling you to establish a worry-free IT environment.

Key features and benefits

Faster computing power

Built upon the latest industry-standard technology, the HP ProLiant ML150 G6 Server comes with the following features:

- Latest Intel Xeon 5500 processors with QuickPath Interconnect architecture provide ultimate processor performance
- Large cache size yields more transaction processing
- 12 DIMM slots supporting up to 48 GB of DDR3 1066 MHz Registered/Unbuffered memory—make the ML150 G6 ideal for demanding workloads
- Integrated PCI-E Generation 2 slots deliver greater bandwidth
- Up to 8 Large Form Factor (LFF) SAS/SATA disk drives—through optional second drive cage—provide storage expandability to meet future business growth needs
- Embedded HP Smart Array B110i SATA RAID Controller and a wide array of Smart Array controller options allow you to meet your storage requirements with ease

Easy management

Embedded Lights-Out 100 (LO100) remote management allows you to monitor your server from any location, anytime, through a LAN or the Internet. This offers basic remote control through telnet, browser, and Intelligent Platform Management Interface (IPMI 2.0). These features enable access to system management information to dramatically

reduce the need to physically visit or find onsite assistance for troubleshooting, deployment, and updating.

- Lights-Out remote management enables you to monitor server health and react proactively to events, should they occur
- Licenses are available to provide additional LO100 advanced remote management capabilities

Convertibility and Connectivity

The ML150 G6 comes with convertibility and connectivity options that facilitate easy deployment.

- The Tower to Rack Conversion Tray Universal Kit enables easy connection to the existing rack-mount server

Reliability

- Optional Trusted Platform Module helps address security requirements for businesses that require higher-level of identity, data, and network security (<http://h20000.www2.hp.com/bc/docs/support/SupportManual/c01681891/c01681891.pdf>)
- Latest HP Smart Array Option cards offer seamless upgradeability from zero memory to 512 BBWC and high performance RAID protection
- Optional high efficiency 750W redundant power supply and redundant fan offer more protection, enabling you to keep your business running
- Support for hot-pluggable SAS and SATA drives facilitates greater flexibility in storage management
- Advanced ECC (error correcting code) memory delivers unsurpassed memory protection and server availability

HP ProLiant ML150 G6 Server



Processor and Memory	
Processor type	Intel Xeon processor E5500 series
Available processors	Quad-Core Processors Intel Xeon Processor E5540 (2.53 GHz, 8 MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel Xeon Processor E5530 (2.40 GHz, 8 MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel Xeon Processor E5520 (2.26 GHz, 8 MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) Intel Xeon Processor E5506 (2.13 GHz, 4 MB L3 cache, 80W, DDR3-800) Intel Xeon Processor E5504 (2.00 GHz, 4 MB L3 cache, 80W, DDR3-800) Dual-Core Processors Intel Xeon Processor E5502 (1.86 GHz, 4 MB L3 cache, 80W, DDR3-800)
Processor core	Dual and Quad
Processor cache	Integrated 1 x 8 MB level 3 cache (E5540, E5530, E5520 sequence) Integrated 1 x 4 MB level 3 cache (E5506, E5504, E5502 sequence)
Max processor speed	2.53 GHz
Multi-processor	2
Max front side bus speed	1066 MHz
Memory type	12 DIMM sockets, DDR3 1066 MHz Unbuffered and Registered
Standard memory	2 GB/4 GB
Max memory	48 GB (RDIMM)/24 GB (UDIMM)
Memory slots	12 DIMM slots
Advanced memory protection	Advanced ECC
Storage type	Hot plug 3.5-inch SAS Hot plug 3.5-inch SATA Non-hot plug 3.5-inch SAS Non-hot plug 3.5-inch SATA
Max Number of hard drives	8 4 LFF SAS or SATA non-hot plug drive support Optional 2nd drive cage for additional 4 LFF SAS or SATA hot plug drive support
Removable media bays	(3) 5.25" media bays: Note: One populated by DVD drive; the other two are empty. You can also combine the two empty bay to support a full height tape device
Expansion slot	5 Total: 1 x 32-bit/33 MHz PCI 3.3V 1 x 8 PCI-Express (Gen 1 x4 link) 1 x 8 PCI-Express (Gen 2 x4 link) 1 x 16 PCI-Express (Gen 2 x16 link) 1 x 8 PCI-Express (Gen 2 x4 link)
Storage controller	Performance model: HP Smart Array P410/256 MB RAID Controller (RAID 0/1/1+0/5/5+0) Base model: HP Smart Array P410/0 MB RAID Controller (RAID 0, 1, std) Entry model: HP Smart Array B110i SATA RAID Controller (RAID 0, 1, 10)
Deployment	
Form factor	Tower
Rack height	5U
Networking	Embedded HP NC107i PCI Express Gigabit Server Adapter
Remote management	HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 100 Baseboard Management Controller) with optional LO100 Advanced Licenses for Virtual KVM and Virtual Media Easy Set-up CD and ISO image for Web download Enhanced HP ProLiant 100 series environmental monitoring that is similar and consistent to that of ProLiant 300 series servers and above. This server now offers the HP Insight Management Agents and HP Insight Management WBEM Providers to facilitate robust system health monitoring through HP Systems Insight Manager (SIM)
Redundant power supply	Optional
Redundant fans	Optional
Warranty	1-year parts/1-year labor/1-year onsite; 3-year/1-year/1-year (Brazil and Asia Pacific except Japan)

Ideal environment

The HP ProLiant ML150 G6 Server is ideal for small and medium environments, corporate workgroups, and remote locations.

Small and medium organizations with 10-100 clients and limited IT resources

- Simple to service and upgrade
- Easy to deploy
- Highly expandable platform
- Trusted by value-conscious businesses

Enterprises with 1,000-10,000 employees spread across small offices

- Expandable to higher load/performance
- Well-suited for cost-conscious enterprises running “non-critical” hardware applications

Corporate workgroups or remote locations

- Entry-level server solution for budget-conscious corporations

Ideal applications

Packed with industry-standard technologies, the ML150 G6 provides the power needed to tackle demanding business applications such as:

- File and print
- Small or medium e-mail server
- Small vertical applications or databases
- Shared Internet access and LAN infrastructure

HP Financial Services

HP Financial Services provides financing and financial asset management programs. For more information, contact your HP representative or visit www.hp.com/go/hpfinancialservices

HP Services

When Technology Works, Business Works.

The challenge of virtually every IT organization 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 portfolio 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 offerings

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

Enhanced service level Care Pack offerings

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

Benefit from HP Care Pack Services helping you

- Reduce deployment time and manage ProLiant server solutions smoothly and efficiently
- Increase uptime and performance of server 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

For more information

For more information about the HP ProLiant ML150 G6 Server, contact your local HP representative, or visit www.hp.com/servers/ml150-g6

Technology for better business outcomes

To learn more, visit www.hp.com/servers/ml150-g6

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