



HP ProLiant DL580 G7 Server

Proven scale-up capabilities for your data center

Data sheet

With the emerging trend of virtualization and business-critical workloads moving to x86 environments, RAS and scalability are becoming critical considerations for enterprise customers. Based on the HP ProLiant 4P architecture and combined with the latest Intel® Xeon® processor technology, the HP ProLiant DL580 G7 server offers unprecedented reliability, scalability, flexibility, and performance—desired for complex IT environments—in a cost-effective and energy-efficient manner.

HP continues to lead on technology innovation and engineering excellence. The new HP ProLiant DL580 G7 Server is the ideal scale-up 4P server designed with the reliability features required for the most demanding, data-intensive workload environment.

The ProLiant DL580 G7 Server features industry-leading reliability, availability, and serviceability (RAS) features such as the new HP Memory Quarantine (Ready) (requires OS support), based on Intel's Machine Check Architecture (MCA) Recovery, which allows the operating system to detect and notify users when there are processors or memory errors. The server supports the new Intel® Xeon® Processor E7 and 7500 series supporting up to 10 cores per CPU, supports up to 2.0 terabytes of memory footprint, and up to 11 PCIe 2.0 I/O slots (all full length/full height). This perfect balance of new system architecture with enhanced RAS features, extensive memory capacity, and I/O throughput significantly accelerates virtualization, removes performance bottlenecks, and delivers ultimate performance for the most demanding x86 workloads.

To improve power consumption, many HP ProLiant servers now offer new power options, including HP Common-Slot Power Supplies. These power supplies come with multiple

power ratings that offer the right-sized solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power that helps maintain high server availability and reduces the cost of downtime. HP Thermal Logic reduces, reclaims, and extends the life of the data center with HP Thermal Logic technologies and thereby triples data center capacity.

To build a converged infrastructure, HP offers servers that are designed to increase efficiency, simplify operations, and deliver automated intelligence in highly virtualized environments. Like other recent HP ProLiant servers, the DL580 G7 is also part of the HP Converged Infrastructure portfolio, which integrates servers, storage, network devices, and facility resources into a common environment. It enables data centers to respond quickly in an agile business environment. HP ProLiant servers provide modular, standards-based building blocks that help data centers advance toward a converged infrastructure.

With a wide range of features, the DL580 G7 simplifies and improves management tasks to achieve greater levels of efficiency and lower the total cost of ownership (TCO), resulting in a better return on your server investment.



What's new?

The ProLiant DL580 G7 Server is now available with the following robust and exciting new features:

- Intel® Xeon® Processor E7 series supporting up to 40 Cores and 80 threads (10 Cores and 20 threads per CPU), and Intel® Xeon® Processor 7500 series.
- HP Insight Control, powered by HP Integrated Lights-Out 3 (iLO 3), for an excellent management solution.
- Advanced RAS features include DIMM isolation; On-Die Error Protection; memory lockstep mode; HP Memory Quarantine (requires OS support); and Double Data Device Correction, DDDC (Ready), which extends the capability to withstand failures in two x4 DRAM devices. Systems supporting DDDC can fix both single- and double-DRAM device memory hard errors. This feature greatly extends system uptime.
- Up to 2.0 TB (32 GB DDR3 DIMMs) and support for a new (E7) memory cartridge.
- Up to 11 PCI Express 2.0 slots (all full length/full height), for more I/O bandwidth and more expansion capability.
- 10 Gb NIC upgrade option, solid-state drives (SSDs) option, flash-backed write cache (FBWC), and trusted platform module (TPM).

Key features and benefits

Maintain high server availability with built-in advanced RAS features

- **High availability**—reduces the cost of downtime with high-availability features such as four hot-plug redundant (N+1) fans standard on all models, common-slot power supplies, and a host of new RAS features never before available in a server of this class
- **Indefinite data retention**—provides indefinite cache data retention with the latest FBWC compared to the two-days retention with battery-backed write cache in earlier generations; no batteries required
- **Advanced error-handling capabilities**—helps administrators to manage health proactively with HP Insight Control, plus new features like HP Memory Quarantine (requires OS support), which allows the ProLiant DL580 G7 Server to be more error resistant in virtual environments and keeps the system going

Enhance performance and scalability

- **Highly expandable**—scale up your IT infrastructure as your business grows with the DL580 G7 server, which includes features such as enhanced I/O expansion capabilities, the latest 10-core Intel processors, and expandable DDR3 memory
- **Virtualization ready**—set up or expand virtualization in your data center with more memory, more cores, a 10 Gb NIC upgrade option, enhanced RAS capabilities, and industry-leading Insight Control management solutions
- **High-performance computing capability**—drive better performance in your server environment with the Intel® Xeon® Processor E7 and 7500 series architecture, fast memory, and I/O expansion slots

Breakthrough efficiency and simplicity with industry-leading management solutions

HP Insight Control is essential server management software that helps deploy servers quickly, proactively manages the health of virtual or physical servers, improves power consumption, and allows complete control from remote locations. HP Insight Control/Insight Dynamics reduces operational expenses by \$48,300 per 100 users over 3 years.¹ HP iLO 3, delivers remote console performance 800 percent faster than iLO 2—so it's as good as being there in person—and 360 percent faster than Virtual Media,² so everyday maintenance and deployments can be done in a fraction of the time. It sends alerts from iLO 3 regardless of the state of the host server, and it helps you access advanced troubleshooting features. Now, you can manage your data center remotely—significantly reducing the expense for onsite personnel and the travel time to the server site.

- iLO 3 is a standard component of the HP ProLiant DL580 G7 Server that facilitates server health and remote-server manageability. Because it includes an intelligent microprocessor, secure memory, and a dedicated network interface, iLO 3 is independent of the host server and its operating system.
- Insight Control helps you manage HP servers running Microsoft® Windows®, Linux, VMware, and Citrix XenServer environments. In addition, you can integrate Insight Control with leading third-party enterprise management consoles, such as Microsoft System Center and VMware vCenter Server.

For more information about HP Insight Control and Integrated Lights-Out 3 for ProLiant features, visit:

www.hp.com/go/insightcontrol

Lay the foundation of a converged infrastructure

- **Complete portfolio**—HP offers a complete portfolio of standards-based, integrated solutions, and services developed specifically to solve the complexities of the data center. Offered as common building blocks for a converged infrastructure, HP servers set the standard in ease of management, energy efficiency, and better ROI.
- **HP ProLiant innovation**—HP is accelerating innovation with a new level of automation, simplicity, and interoperability, and an integration solution that enables data centers to meet the growing demands of businesses. HP innovative solutions help in transforming IT environments into highly automated, virtualized data centers. These solutions are designed to dramatically reduce maintenance and operational costs—while at the same time **increasing agility, computing power, and data capacity.**

¹ IDC White Paper Sponsored by HP, Gaining Business Value and ROI with HP Insight Control, Doc #218069, May 2009.

² HP Performance Engineering Team, 2010 benchmark.

HP ProLiant DL580 G7 Server



Processor and memory	
Chipset	Industry-standard Intel® 7500 Chipset
Processor type	Intel® Xeon® Processor E7 series supporting up to 40 cores and 80 threads (10 cores and 20 threads per CPU), and Intel® Xeon® Processor 7500 series
Number of processors	2 or 4
Available processors	<p>10-core processors Intel® Xeon® Processor E7-4870 (2.40 GHz/10 core/30 MB/130 W) Intel® Xeon® Processor E7-4860 (2.26 GHz/10 core/24 MB/130 W) Intel® Xeon® Processor E7-4850 (2.00 GHz/10 core/24 MB/130 W) Intel® Xeon® Processor E7-8867L (2.13 GHz/10 core/30 MB/105 W); low voltage</p> <p>Eight-core processors Intel® Xeon® Processor E7-8837 (2.67 GHz/8 core/24 MB/130 W); no HT Intel® Xeon® Processor E7-4830 (2.13 GHz/8 core/24 MB/105 W) Intel® Xeon® Processor E7-4820 (2.00 GHz/8 core/18 MB/105 W) Intel® Xeon® Processor X7560 (2.26 GHz, 24 MB cache, 130 W) Intel® Xeon® Processor X7550 (2.00 GHz, 18 MB cache, 130 W) Intel® Xeon® Processor L7555 (1.86 GHz, 24 MB cache, 95 W); low voltage</p> <p>Six-core processors Intel® Xeon® Processor E7-4807 (1.86 GHz/6 core/18 MB/95 W); no HT Intel® Xeon® Processor E7540 (2.00 GHz, 18 MB cache, 105 W) Intel® Xeon® Processor E7530 (1.86 GHz, 12 MB cache, 105 W) Intel® Xeon® Processor X7542 (2.66 GHz, 18 MB cache, 130 W); no HT</p> <p>Quad-core processors Intel® Xeon® Processor E7520 (1.86 GHz, 18 MB cache, 95 W)</p> <p>Note: New Intel Microarchitecture with Intel Virtualization Technology FlexMigration and industry-standard Intel® 7500 chipset with four high-speed interconnects delivering up to 6.4 GT/s</p>
Processor core	10, 8, 6, or 4 core
Cache memory	Up to 30 MB shared L3 cache
Maximum processor speed	2.26 GHz (10 cores)
Memory type	PC3-10600E DDR3
Maximum memory	2 TB (support for 32 GB DDR3 and low-voltage DIMMs)
Memory slots	64 DIMM slots
Advanced RAS	Advanced ECC; Double Device Data Correction, DDDC (Ready); online spare; mirrored memory; memory lockstep mode; DIMM isolation; HP Memory Quarantine (requires OS support)
Drives supported	Up to eight hot plug small form-factor SAS/SATA/SSD
Expansion slot	<p>Base 2 PCI-E 2.0 x8, 3 PCI-E 2.0 x4</p> <p>Optional mezzanines 2 PCI-E 2.0 x16, 1 PCI-E 2.0 x4, 2 PCI-X 4 PCI-E 2.0 x8, 1 PCI-E 2.0 x4, 1 PCI-E 1.1 x4 Up to 11 slots supported; all full length/full height</p>
Network controller	NC375i Quad Port 1 GbE Multifunction NIC; optional dual-port 10 GbE upgrade
Storage controller	HP Smart Array P410i Controller/1 GB FBWC HP Smart Array P410i Controller/512 MB FBWC
Deployment	
Form factor	Rack
Rack height	4U
Remote management	HP Integrated Lights-Out 3
Power supply type	Common-slot Platinum and Silver hot-plug redundant power supply
System fan features	4 hot-plug with N+1 redundancy
Warranty—years(s) (parts/labor/onsite)	3/3/3

Ideal environments and applications

The DL580 G7 server is well-suited for the following environments:

- Server consolidation and virtualization environments
- Space-constrained corporate data centers and service provider environments
- Database, messaging, and business application environments

The DL580 G7 server is ideal for:

- Virtualization
- Consolidation
- Enterprise databases
- Enterprise resource planning (ERP)/customer relationship management (CRM)/enterprise data warehouse (EDW)
- Virtual Desktop Infrastructure (VDI)
- Web applications
- Mail server applications
- VMware Elastic Sky X (ESX) applications
- Oracle E-Business Suite (EBS) applications
- Microsoft Hyper-V and SQL Server applications
- System Application Programming (SAP) ERP applications

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 on these services, contact your local HP representative, or visit:

www.hp.com/go/hpfinancialservices

HP Services

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

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

- HP ProLiant Server Hardware Installation
- HP Installation and Startup for Insight Control
- 3-Year HP Critical Advantage

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

- HP ProLiant Server Hardware Installation
- HP Installation and Startup for Insight Control
- 3-Year HP 6-hour Hardware Support Onsite Call-to-Repair
- 3-Year HP 24x7 Software Support for Insight Control

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

- HP ProLiant Server Hardware Installation
- HP Installation and Startup for Insight Control
- 3-Year HP 24x7 4-hour Response, Hardware Support Onsite
- 3-Year HP 24x7 Software Support for Insight Control

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

To understand how the HP ProLiant DL580 G7 Server can set up or expand virtualization in your data center and help you build a change-ready infrastructure, visit www.hp.com/servers/dl580-g7.



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