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 7500 series processors, HP ProLiant DL580 G7 servers offer unprecedented reliability, scalability, flexibility, and performance—desired for complex IT environments—cost-effectively and energy-efficiently.

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 DL580 G7 server features industry-leading reliability, availability, and serviceability (RAS) features such as the new HP Memory Quarantine (requires OS support), which allows the operating system to detect and notify when there are processors or memory errors. The server supports the new Intel® Xeon® 7500 series processors with up to 8 cores per CPU, supports up to 1.0 Terabyte 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 Common Slot Power Supplies. These power supplies come in with multiple power ratings that offer the right size 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 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 server is also a 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 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 server simplifies and improves management tasks to achieve greater levels of efficiency and lower total cost of ownership (TCO), resulting in better return on your server investment.

What's new?

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

- Intel Xeon 7500 series processors with up to 8 cores per CPU, 24 MB shared cache, and integrated memory controllers
- HP iLO 3, for a best-in-class management solution
- Advanced RAS features include DIMM isolation, On-Die Error Protection, memory lockstep mode, and HP Memory Quarantine (requires OS support), DDR3 memory with four times (4x) the memory capacity as compared to previous generations— expandable up to 1 TB
- 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 cost of downtime with the high-availability features such as standard 4 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 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) allows the 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, latest 8-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 all-new Intel 7500 series processor 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 manage the health of virtual or physical servers, improve power consumption, and take complete remote control from anywhere. HP Insight Control/ Insight Dynamics reduces operational expenses by $48,300 per 100 users over 3 years[1]. HP Integrated Lights-Out 3 (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 deployment 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 travel time to server site.

- iLO 3, is a standard component of the HP ProLiant DL580 G7 server, that facilitates server health and remote server manageability. As 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 (iLO 3) for ProLiant features, visit: **www.hp.com/go/insightcontrol**

Lay the foundation of 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 return on investment.

- **HP ProLiant innovation**—HP is accelerating innovation with a new level of automation, simplicity, interoperability, and integration solutions that enable 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 **increasing agility, computing power, and data capacity at the same time**.

[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	Intel Xeon 7500 Series chipset
Processor type	Intel Xeon 7500 series processors
Number of processors	2 or 4
Available processors	Intel Xeon X7560 Processor (8C, 2.27 GHz, 24 MB cache, 130W) Intel Xeon X7550 Processor (8C, 2.00 GHz, 18 MB cache, 130W) Intel Xeon L7555 Processor (8C, 1.86 GHz, 24 MB cache, 95W) Intel Xeon X7542 Processor (6C, 2.66 GHz, 18 MB cache, 130W) Intel Xeon E7540 Processor (6C, 2.00 GHz, 18 MB cache, 105W) Intel Xeon E7530 Processor (6C, 1.86 GHz, 12 MB cache, 105W) Intel Xeon E7520 Processor (4C, 1.86 GHz, 18 MB cache, 95W)
Processor core	8, 6, or 4 core
Cache memory	Up to 24 MB shared L3 cache
Maximum processor speed	2.66 GHz
Memory type	PC3-10600E DDR3
Maximum memory	1 TB
Memory slots	64 DIMM slots
Advanced RAS	Advanced ECC, online spare, mirrored memory, memory lock step mode, DIMM isolation, HP Memory Quarantine (requires OS support)
Drives supported	Up to eight hot plug small form-factor SAS/SATA/SSD
Expansion slot	Base 2 PCI-E 2.0 x8, 3 PCI-E 2.0 x4 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
Network controller	NC375i Quad Port 1 GbE Multifunction NIC; optional Dual Port 10 GbE upgrade
Storage controller	Smart Array P410i/1 GB FBWC Smart Array P410i/512 MB FBWC

Deployment	
Form factor	Rack
Rack height	4U
Remote management	HP Integrated Lights-Out 3
Power supply type	Common slot hot-plug redundant power supply
System fans features	4 Hot plug, (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 Database
- 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 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**

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**

HP Services

When you buy the DL580 G7 server, it is also a good time to think about what level of service and support you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business needs.

Recommended services

- Hardware Support—3-year, either 6-hour or 24-hour call to repair onsite.
- HP Hardware Support Onsite Call-to-Repair Service provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within a specified timeframe from the initial service.

Deployment services

- HP Services offers complete implementation support to get your HP server solution up and running quickly. Options encompass server and storage, Microsoft, Linux, Solaris, and VMware operating software plus HP Insight Control software management solutions.

Related services

- Hardware Support—3-year, 24x7 same-business-day, onsite. 4-hour response coverage.
- HP hardware support onsite four-hour service provides you with an HP authorized representative who will arrive at your site any time and any day of the year to begin hardware maintenance service within four hours of the service request being logged in.
- Support Plus 24—same-business-day, 4-hour hardware response coverage, 2-hour remote software response
- Service delivered round-the-clock. Comprehensive hardware and software services enable you to increase the availability of your IT infrastructure. HP technical resources work with your IT team to help you resolve hardware and software problems, and selected third-party products.

Proactive Select

- Proactive Select is a flexible way to purchase HP proven consultancy and services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months, or three to five years.

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