HP PROLIANT DL980 G7 SERVER

Data sheet

Blending business-critical and industry-standard design principles, the HP ProLiant DL980 G7 Server with the HP PREMA Architecture, is an eight-socket, x86 server designed with balanced scalability, self-healing resiliency, and breakthrough efficiencies for the largest and most demanding enterprise-class workloads.

The first x86 server ever to cross the 25,000 users for SAP two-tier Sales and Distribution Standard Application benchmark[1] the HP ProLiant DL980 G7, featuring the HP PREMA Architecture with Smart CPU caching and a resilient system fabric, is designed to reduce bottlenecks, improve throughput and performance, as well as deliver enhanced reliability—features not previously available in an x86 environment. Together with the latest 10-core Intel® Xeon® Processor E7-family and 7500 series, expandable memory (up to 4 TB), and HP Integrated Lights-Out 3 (iLO 3) server management software, the DL980 G7 server is an ideal choice for organizations looking for balanced scaling, self-healing resiliency, and breakthrough efficiencies for today's enterprise compute environments.

Scale-up x86 workhorse built for extreme performance and scalability with new levels of resiliency

• HP PREMA Architecture enables extreme performance with reduced inter-processor communication traffic, boosting system availability by as much as 200 percent[2] and all at a fraction of the price[3]

• Intel Xeon Processor E7-family and 7500 series with up to 10 cores per CPU provide the performance required for demanding scale-up applications and virtualization environments.

• 128 DIMM slots are available, for a system maximum of 2 TB of memory (using 16 GB DIMMs), capable of 4 TB in future (with 32 GB DIMMs), and offer flexible expansion.

• Up to 16 I/O slots support the most I/O-intensive applications.

• Efficient power supplies help reduce power and energy costs.

HP PREMA Architecture: Features and benefits

Balanced scaling with the HP Smart CPU caching technology

• The HP Smart CPU caching technology improves CPU utilization and performance, helping processors to remain focused on the task with less interruption which results in up to 1.8x linear scaling.[1]

• A highly expandable CPU, memory, and I/O capacity allow you to efficiently use computing resources—with HP scalable design—and support up to eight processors and 80 processor cores and 160 logical processors, as well as 128 DDR3 DIMM slots for a maximum memory of 2 TB, capable of 4 TB in future.

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[1] Based on the two-tier SAP Sales and Distribution (SD) standard application benchmark.

[2] Based on system crash rates' comparison between the DL980 G7 to the DL785 G5. System crash rate is determined by availability features such as hot-swap components, resilient paths, ECC, and tolerant links such as QPI.

[3] Based on the TPC-H price performance per query results for non-clustered systems @ 3000 GB.

Increase application uptime with self-healing resiliency

- Enhance system availability in large x86 systems with a resilient system fabric. HP PREMA Architecture incorporates link level retry to retransmit data and spare wire I/O, to confirm data transmission is complete and without data integrity loss and adding a resilient path in case a link becomes unavailable. Improved system availability with estimated reduction in memory error failure by 10x using Double Device Data Correction compared to systems using Single Device Data Correction (SDDC).[4]
- Benefit from in-depth support with HP expertise and leadership in mission-critical support and services.

Breakthrough efficiencies deliver payback in as little as 60 days[5]

- Consolidate multiple larger workload systems onto a single server workhorse and reduce the number of systems that need to be managed and maintained.
- Reduce, reclaim, and extend the life of your data center with HP Thermal Logic technologies.
- Aggressively respond with HP iLO 3 (part of HP Insight Control) remote console management that operates 8x faster than the previous version.
- Upgrade to 10-Gigabit networking on the DL980 G7 server with the cost-effective HP NC524SFP or HP NC523SFP Dual Port 10GbE Module. The HP NC524SFP high-performance upgrade module combines the latest 10-Gigabit silicon and dual ports with connectivity to both copper and fiber-optic networks. The HP NC523SFP Dual Port includes enhanced performance and reduced power requirements with latest 10GbE Networking from QLogic.
- Achieve easy integration and management and reduce management complexity with familiar industry-leading ProLiant tools.
- Benefit from the depth and breadth of our partner relationships to hasten deployment.

Unleash the power of remote management

HP Insight Control software is essential server management software that helps deploy servers quickly, allowing you to proactively manage the health of virtual or physical servers, improve power consumption, and take complete remote control from almost anywhere.

- HP iLO 3 is a standard component of the HP ProLiant DL980 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 iLO 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 data centers. 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 (ROI).
- **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 at the same time increasing agility, computing power, and data capacity.

Ideal environments

The DL980 G7 server—our flagship scale-up x86 server model—is designed for balanced scaling, self-healing resiliency, and breakthrough efficiencies. That makes it the right choice for enterprise-class-databases, in-memory databases, I/O and memory intensive applications, consolidation, and large virtualization environments that need:

- Extreme performance with linear scalability
- Advanced resiliency
- Consolidation and virtualization flexibility and efficiencies
- Easy integration and management, with all the familiar industry-leading ProLiant tools and accessories

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[4] Based on calculations done through our internal ROI calculators using latest SPEC power estimates.

[5] Based on HP internal testing

HP ProLiant DL980 G7 Server

Processor and memory	
Chipset	Intel Xeon Processor E7-family and 7500 series chipset
Processor type	Intel Xeon Processor E7-family and 7500 series processors
Number of processors	8
Available processors	Intel Xeon E7-4870 Processor (2.40 GHz/10-core/30 MB/130 W) Intel Xeon E7-2860 Processor (2.26 GHz/10-core/24 MB/130 W) Intel Xeon E7-2850 Processor (2.00 GHz/10-core/24 MB/130 W) Intel Xeon E7-2830 Processor (2.13 GHz/8-core/24 MB/105 W) Intel Xeon E7-4807 Processor (1.86 GHz/6-core/18 MB/95 W) Intel Xeon X7560 Processor (8C, 2.26 GHz, 24 MB cache, 130 W) Intel Xeon X6550 Processor (8C, 2.00 GHz, 18 MB cache, 130 W) Intel Xeon E6540 Processor (6C, 2.00 GHz, 18 MB cache, 105 W) Intel Xeon E7520 Processor (4C, 1.86 GHz, 18 MB cache, 95 W)
Processor core	10-, 8-, 6-, or 4-core
Cache memory	Up to 30 MB per socket
Maximum processor speed	2.4 GHz
Memory type	DDR3 RDIMM
Maximum memory	2 TB, capable of up to 4 TB, with 32 GB DIMMs in future
Memory slots	128 DIMM slots
Advanced memory protection	DRAM Double Device Data Correction (DDDC), Advanced error checking and correcting (ECC), mirrored memory, and online spare
Drives supported	8 SFF SAS
Expansion slot	Up to 16 slots supported; 5 (full-height and length) slots standard, with optional mezzanine board for an additional 5 or 6 full-height and length slots, and second optional mezzanine board for 5 low profile slots
Network controller	(1) 1GbE NC375i Multifunction 4 ports
Storage controller	(1) Smart Array P410i Integrated

Deployment	
Form factor	Rack
Rack height	8U
Remote management	HP Integrated Lights-Out 3
Power supply type	Redundant standard on performance models, optional on entry and base models
System fans features	Hot-plug fully redundant
Warranty	3-year parts/3-year labor/3-year onsite

HP Financial Services

HP Financial Services provide 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**.

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

- 3-year, 4-hour response on site 24-hour x 7-day coverage, hardware support
- Server installation and start up service

Related HP Care Pack Service offerings

- 3-year, Support Plus 24: 24-hour x 7-day coverage, integrated hardware and software OS support
- 3-year, Proactive Select delivers flexibly priced consultancy. Purchase service credits and obtain expertise when needed.

HP Care Pack Services can help 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/proliant** or **www.hp.com/go/proliant/carepack**.

To learn how the HP ProLiant DL980 G7 Server can provide you with an ideal combination of performance, resiliency, and efficiency for demanding, data-intensive workloads, visit: **www.hp.com/servers/dl980-g7**.

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