

HP ProLiant DL585 G5 and DL385 G5 AMD Opteron servers lead with 4P, 2P world record performances on the SPECweb®2005 Benchmark

HP optimizes AMD's latest Quad-Core processor technology to deliver superior web-based business applications



The HP Advantage



The HP ProLiant DL585 G5 is a highly manageable, rack optimized, four-socket server designed for maximum performance in an industry standard architecture.



The HP ProLiant DL385 G5 delivers on the success of the DL380's history of design excellence with enterprise-class uptime and manageability for a variety of rack deployments and applications.

The HP Customer Value

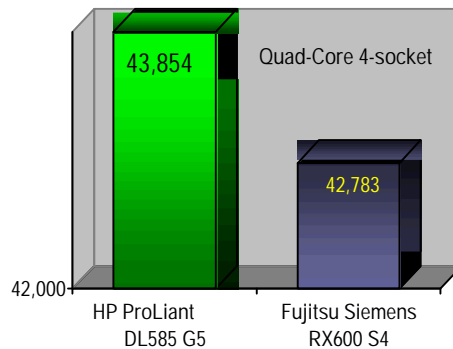
With web-based businesses requiring more peak performance and scalability to handle heavy user traffic while balancing cost and power concerns, the results from this benchmark are evidence of the clear value that Quad-Core AMD Opteron processors offer an Internet business – or any data center that requires the ultimate in performance, reliability, and power efficiency.

The record-breaking benchmark results of the HP ProLiant DL585 G5 and DL385 G5 processors demonstrate the outstanding performance and reliability these solutions deliver to high-traffic computing environments in massive scale out and cloud computing environments.¹

Key results at a glance:

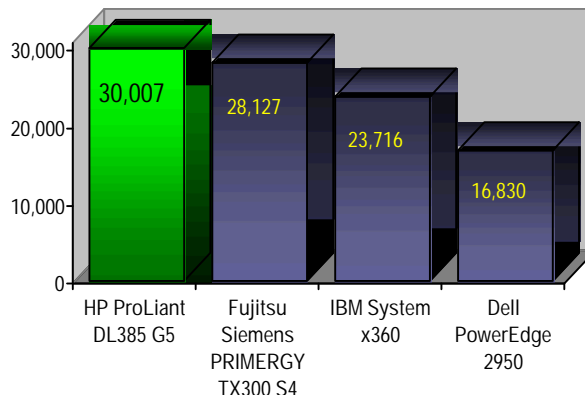
- HP ProLiant commands leadership by achieving the #1 result on the SPECweb®2005 benchmark with the four-socket Quad-Core ProLiant DL585 G5.
- The ProLiant DL585 G5 defeated the Fujitsu Siemens four-socket Quad-Core server RX600 S4 and the ProLiant DL385 G5 overtook two-socket Quad-Core competitors IBM, Dell, and Fujitsu Siemens with its excellent performance results.
- The ProLiant DL385 G5 trounced a similarly-configured Dell PowerEdge 2950 with 78% better performance!
- With AMD Quad-Core Opteron processors the HP ProLiant DL585 G5 showed approximately 100% increase in performance from its previous Dual-Core result in this benchmark.

Figure 1. Comparison of the simultaneous sessions of the HP ProLiant DL585 G5 AMD Opteron four-socket rack server to Fujitsu Siemens PRIMERGY RX600 S4 four-socket rack server on the SPECweb2005 Benchmark.



HP leads the way for both 4P and 2P world record performance on the SPECweb2005 benchmark, demonstrating its reliable hardware with leading application performance to drive distinct business advantages.

Figure 2. The Quad-Core two-socket HP ProLiant DL385 G5 had superior results on the SPECweb2005 when compared to other Quad-Core two-socket competitors, with performance advantages from 6% to 78%!



Benchmark configurations and comparisons

The recent HP ProLiant DL585 G5 test results took the #1 four-socket performance record on the SPECweb2005 benchmark, utilizing Quad-Core (16 core/4 chips/4 cores per chip) configuration with the AMD Opteron 8356 with 2.3GHz processors configured with 64GB (16x4GB) memory running Red Hat Enterprise Linux 5 operating system and Rock Web Server v1.4.6 System Web Server software. The server also ran with HP Smart Array P400i and 800 Controllers and with four Modular Smart Array 70 Enclosures.

The HP ProLiant DL385 G5 earned the two-socket performance world record on the SPECweb2005 benchmark configured with Quad-Core (8 core/2 chips/4 cores per chip) AMD Opteron 2356 2.30GHz processors with 32GB (8 x 4GB) memory running Red Hat Enterprise Linux 5 UI operating system and Rock Web Server v1.4.6 System Web Server software. In addition, the configuration included an HP Smart Array P800 Controller and two Modular Smart Array 70 Enclosures.

Table 1. Configurations and result summaries of the HP ProLiant DL585 G5 and ProLiant DL385 G5 rack servers compared to four-socket and two-socket competitors, respectively, on the SPECweb2005 benchmark.

Configurations and results for HP ProLiant DL585 G5, ProLiant DL385 G5, and competitors Fujitsu Siemens, IBM, and Dell on the SPECweb2005 benchmark				
4-Socket Results				
Server	ProLiant DL585 G5		Fujitsu Siemens RX600 S4	
Database server configuration	Quad-Core AMD Opteron 8356 2.31GHz 16 core/4 chips/ 4 cores per chip 64GB memory; Red Hat Enterprise Linux (RHEL) 5 OS		Quad-Core Intel Xeon X7350 2.93GHz 16 core/4 chips/4 cores per chip 72GB (16 x 4 + 4x2) memory; RHEL 5.1 OS	
Simultaneous Sessions	43,854		42,783	
2-Socket Results				
Server	ProLiant DL385 G5	Fujitsu Siemens TX300 S4	IBM System x3650	Dell PowerEdge 2950
Database server configuration	Quad-Core AMD Opteron 2356 2.30GHz 8 core/2 chips/ 4 cores per chip 32GB (8 x 4 GB) memory; RHEL 5 UI OS	Quad-Core Intel Xeon X5460 3.16GHz 8 core/2 chips/ 4 cores per chip 64GB (16 x 4GB) memory RHEL 5.1 OS	Quad-Core Intel Xeon X5355 2.66GHz 8 core/2 chips/4 cores per chip 32GB memory RHEL 5 OS	Quad-Core Intel Xeon X5355 2.66GHz 8 core/2 chips/4 cores per chip 32GB (8 x 4GB) memory RHEL 4 AS Update 3 OS
Simultaneous Sessions	30,007	28,127	23,716	16,830
HP Performance Advantage		+6%	+27%	+78%!

Table 2. ProLiant DL505 G5 Quad-Core and Dual-Core Scalability on the SPECweb2005 benchmark.

ProLiant DL 585 G5 Scalability	
ProLiant DL585 G5	ProLiant DL585 G5
Quad-Core AMD Opteron 8356 2.31GHz 16 core/4 chips/ 4 cores per chip 64GB memory; Red Hat Enterprise Linux (RHEL) 5 OS	Dual-Core AMD Opteron 8222 SE 3.0GHz 8 core/4 chips/ 2 cores per chip 64GB (16 x 4GB) memory; RHEL 4 OS
43,854	22,254
More than twice the performance with Quad-Core than Dual-Core processors!	

The ProLiant Advantage

HP ProLiant DL585 G5

The HP ProLiant DL585 G5 is a highly manageable, rack optimized, four-socket server designed for maximum performance in an industry standard architecture. With up to four Quad-Core AMD Opteron processors and a large memory footprint, the DL585 G5 delivers the performance and performance-per-watt needed for compute-hungry database, virtualization, and consolidation applications. Its industry leading remote management functions help reduce costs and improve the ability to respond quickly to business changes.

Additionally, in this benchmark, the 4P results are among the first to be tested using a 10 Gigabit Ethernet (10GigE) network infrastructure, showing that Quad-Core AMD Opteron processors can meet the latest demands of web-based companies and emerging technology.

HP ProLiant DL385 G5

The HP ProLiant DL385 G5 continues to build on the success of the DL380 G5, delivering on its heritage of engineering excellence, enterprise-class uptime and manageability, proven 2-socket Quad-core AMD Opteron performance and 2U density for a variety of rack deployments and applications.

The ProLiant DL385 G5 is designed for customers requiring dense multipurpose rack servers with the ideal balance of (corporate customers, SPs, and SMBs).

Key benefits include:

- Engineered for reliability and ease of ownership
- Performance and power efficiency with latest Opteron Quad-Core processors and Dual Dynamic Power Management (split plane) technology to provide a performance advantage
- Industry leading management to enable powerful administration

HP Smart Array Controller P800



The HP Smart Array P800 is a 16 port, PCI-E SAS controller. It ships standard with 512MB cache, dual batteries and RAID 6 (ADG) support. This controller supports up to 108 hard drives and is the highest performing controller in the Smart Array portfolio.

HP StorageWorks 70 Modular Smart Array



The HP StorageWorks 70 Modular Smart Array is an end-to-end flexible storage array, offering data availability, enhanced reliability, enhanced performance, and tiered storage capability with SAS and SATA drives and investment protection. Small and midrange business growing storage needs can be managed by deploying this low cost, flexible tiered storage system with up to 14.4TB capacity supporting SAS or SATA.

Excerpted from AMD Press Release, "Quad-Core AMD Opteron(TM) Processors Deliver World-Record Web Performance", July 28, 2008. <http://biz.yahoo.com/bw/080728/20080727005037.html?.v=1>

About SPECweb2005

This next-generation SPEC benchmark was designed by industry leading companies, including Hewlett-Packard, in order to evaluate the performance of state-of-the-art web servers. The three workloads, banking (https), e-commerce (https and http), and support (http) are designed to closely match today's real-world web server access patterns. Each workload measures simultaneous user sessions; however, the overall score of SPECweb2005 is unit-less. A server achieving a higher score represents a server with an overall better performance running all three workloads.



spec

SPEC, the SPEC logo, and the benchmark name SPECweb are registered trademarks of the Standard Performance Evaluation Corporation (SPEC). The SPEC logo is ©2008 Standard Performance Evaluation Corporation (SPEC), reprinted with permission. Herein two comparisons presented above are based on the top performing 4-socket, 2-socket, and all servers respectively. The competitive benchmark results stated herein reflect results published on www.spec.org as of July 2008.

For the latest SPECweb2005 benchmark results, please visit www.spec.org/web2005.

For more information

HP ProLiant DL585 G5: www.hp.com/servers/proliantdl585

HP ProLiant DL385 G5: www.hp.com/servers/proliantdl385

HP ProLiant storage solutions: <http://h18004.www1.hp.com/products/servers/platforms/storage.html>

ProLiant benchmarks: www.hp.com/servers/benchmarks

ⁱ Excerpted from AMD Press Release, "Quad-Core AMD Opteron(TM) Processors Deliver World-Record Web Performance", July 28, 2008. <http://biz.yahoo.com/bw/080728/20080727005037.html?v=1>

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