HP ProLiant DL180 G5 takes giant lead over competitors with #1 energy efficient 2P performance on SPECpower_ssj™2008 benchmark

One of HP's newest servers tops IBM and Dell for power resourcefulness

The HP Difference

The DL180 G5 is a new low-cost 2-processor server designed to support growing organizations.

This 2U server provides a platform delivering high capacity storage for a variety of rack deployments and applications.

Key results at a glance:

n ProLiant leadership with the #1 overall rating for 2-processor performance on the SPECpower_ssj™2008 benchmark.

n The ProLiant DL180 G5 result defeated competitors IBM and Dell by 8.8% and 29.3%, respectively.

n The ProLiant DL180 G5 delivered the #3 overall result for energy-efficient performance.

n The performance result demonstrates how HP two-processor servers optimized the latest Quad-Core Intel® Xeon® technology utilizing the L processors for energy efficiency and high performance computing.

The HP ProLiant DL180 G5 accomplished a world record for energy efficient 2P performance on the SPECpower_ssj™2008 benchmark with a two-processor performance of 930 overall ssj_ops/watt. This result defeated other two-processor competitors, including IBM, Dell, and Fujitsu Siemens. SPECpower_ssj™2008 is the first generation SPEC benchmark for evaluating the power and performance characteristics of server class computers. This measurement provides a way to compare the power/performance or energy efficiency of servers. With multiple SPECpower_ssj2008 benchmark world records in as many months, HP demonstrates that its ProLiant servers, built upon the latest industry-standard technology, is an industry leader in energy efficiency.
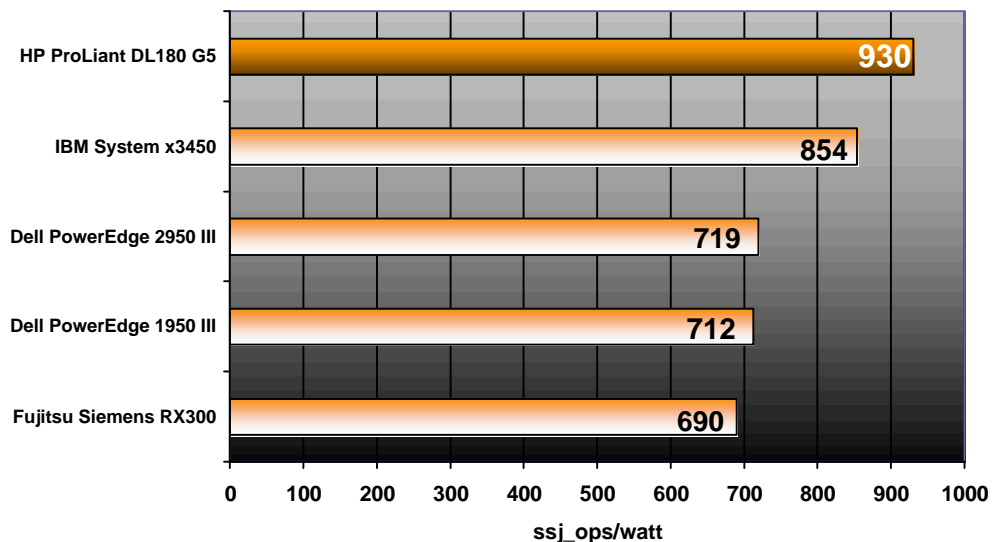
The HP DL180 G5 takes the lead for energy-efficient 2P performance!

More information about SPECpower benchmark results for all servers can be found at the following Web page:
http://www.spec.org/power_ssj2008.

Figure 1. Comparison of SPECpower_ssj™2008 results of the HP ProLiant DL180 G5 two-processor Quad-Core servers vs. two-processor competitors (All results as of 5-27-08).

HP ProLiant DL180 G5 earns most efficient 2P server on SPECpower_ssj2008

Server	ssj_ops/watt
HP ProLiant DL180 G5	930
IBM System x3450	854
Dell PowerEdge 2950 III	719
Dell PowerEdge 1950 III	712
Fujitsu Siemens RX300	690

Prepared by the ESS Competitive Intelligence Team

ProLiant server configurations

The most energy-efficient 2P server, the HP ProLiant DL180 G5, was configured with Intel Xeon L5420 2.50GHz processors with 8 cores/ 2 chips/4 cores per chip, 2x6MB L2 shared cache, 1333MHz system bus, 8GB (2x4096MB) low power (LP) PC2-5300P memory, 1 x 80GB, 7.2K rpm, Large Form Factor SATA drive, and an embedded ICH-9 SATA controller.

The ProLiant DL180 G5 was running Microsoft Windows Server 2003 x64 Enterprise Edition (EE) R2 and used one 1200W power supply.

Competition comparison

Table 1. Configuration comparison of two-processor benchmark competitors

2-socket server	overall ssj_ops/watt	Operating System
HP ProLiant DL180 G5 Intel Xeon L5420, QC, 8/2/4, 8GB RAM LP	930	Microsoft Windows Server 2003 x64 Enterprise Edition R2
IBM System X3450 Intel Xeon E5462, QC, 8/2/4, 16GB RAM LP	854	Microsoft Windows Server 2003 x64 Enterprise Edition R2 SP1
Dell PowerEdge 2950 III Intel Xeon E5440, QC, 8/2/4, 16GB RAM	719	Microsoft Windows Server 2003 x64 Enterprise Edition SP2
Dell PowerEdge 1950 III Intel Xeon E5440, QC, 8/2/4, 8GB RAM	712	Microsoft Windows Server 2003 x64 Enterprise Edition R2 SP2
Fujitsu Siemens RX300 Intel Xeon E5440, QC, 8/2/4, 16GB RAM	690	Microsoft Windows Server 2003 x64 Enterprise Edition SP1

All results as of 05-27-08. More details on configurations can be found at http://www.spec.org/power_ssj2008/results/

Other HP ProLiant #1 Positions

In addition to the ProLiant DL180 G5 recent #1 two-processor record, HP holds another worldwide #1 performance with the latest ProLiant DL580 G5 4-processor SPECpower_ssj2008 result with 546 overall ssj_ops/watt. No other vendor has submitted a 4P result.

What SPECpower_ssj2008 measures

Currently, many vendors report some energy efficiency figures, but these are often not directly comparable due to differences in workload, configuration, test environment, etc. SPEC defines server power measurement standards in the same way it has done for performance. Development of this benchmark provides a means to measure power in conjunction with a performance metric. This should help IT managers to consider power characteristics along with other selection criteria to increase the efficiency of data centers.

Being a Standard Performance Evaluation Corporation (SPEC) benchmark, SPECpower_ssj™2008 is a consortium-policed benchmark that provides a way for server vendors to compare benchmark results in a fair manner.
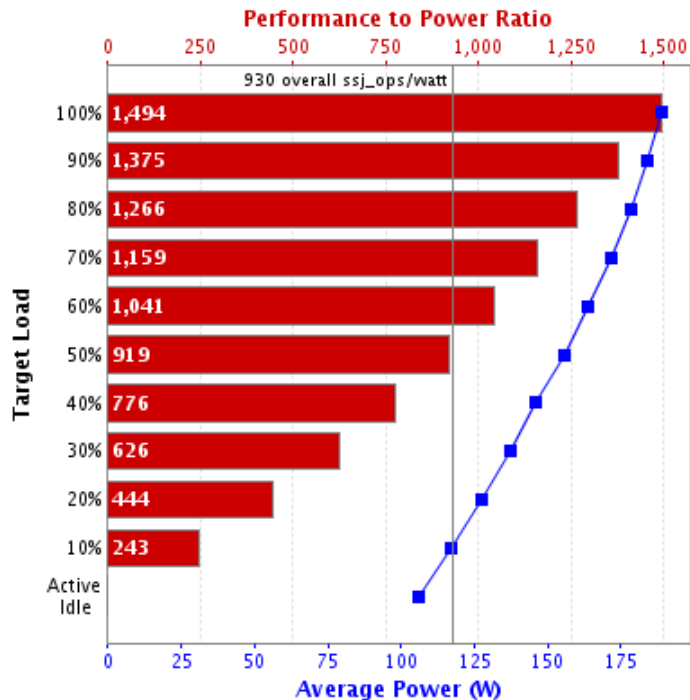
Figure 2. The SPECpower_ssj™2008 primary metric is the "overall ssj_ops/watt". The HP ProLiant DL180 G5 showed a 930 overall ssj_ops/watt ratio. This metric is computed by taking the sum of the ssj_ops scores for all target loads, and then dividing by the sum of the power consumption averages for all target loads – including the "active idle" (0% utilization) measurement interval.
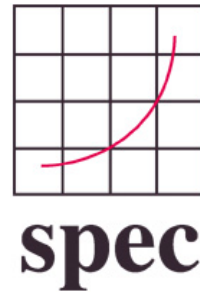
For more information

HP ProLiant DL180 G5: www.hp.com/servers/dl

HP ProLiant benchmarks: www.hp.com/servers/benchmarks
For more information on SPEC benchmarks: www.spec.org
Overview of the SPECpower_ssj2008 benchmark:
ftp://ftp.compaq.com/pub/products/servers/benchmarks/specpower_ssj_overview.pdf