HP ProLiant SL2x170z G6 is #1 on SPECpower_ssj2008® benchmark
Server scores 3,106 overall ssj_ops/watt
April 2010

Executive summary
The HP ProLiant SL2x170z G6 establishes a world-record performance result on the SPECpower_ssj2008® benchmark.

Key Take Aways:
- HP ProLiant SL2x170z G6 is the industry leader in energy efficient server performance.
- HP ProLiant SL2x170z G6 is the top multi-node performer.
- Excellent proof point for industry-leading energy efficient and high density solutions.

Figure 1. Top five results on the SPECpower_ssj2008 benchmark

Delivering the data center of the future with Converged Infrastructure
Industry is at an inflection point where our technology is coming together to help our clients build the data center of the future; and it will be based on a Converged Infrastructure. Over the next 90 days, HP will accelerate innovation, with new standards based solutions in every core area of the data center and beyond. These innovations will deliver a new level of simplicity, integration and automation to enable our clients to focus on meeting business demands.

HP Virtual Resource Pools to deliver a common modular Infrastructure - HP is the only company that can deliver a single common, modular architecture across the data center from x86 to Superdome and from simple DAS to shared storage to multi-PB scale-out storage.

Data Center Smart Grid - Through groundbreaking innovations, HP can offer unmatched functionality, including Sea of Sensors to monitor energy consumption and automatically adjust cooling resources, and Thermal Logic reduces energy consumption and lets you reclaim data center capacity.

FlexFabric - Unlike other approaches, by using HP FlexFabric clients can avoid the latency and contention issues caused by traditional switching in the data center and instead integrate servers with a seamless, virtual network fabric.

HP Matrix Operating Environment that delivers a Common Management Platform - Only HP, with the HP Matrix Operating Environment, has a common management platform that extends from infrastructure-to-application, across servers, storage and networks, managing both HP and other vendors’ technologies. With these solutions, our clients’ time-to-delivery of technology services decreases from months to hours.
How HP platforms save energy

HP ProLiant SL6000 family of servers

The HP ProLiant SL6000 Scalable System uses a highly efficient and modular shared power and cooling infrastructure that enables a suite of pluggable server modules optimized around a standard 19" rack. Results on this benchmark further establish the outstanding efficiency that customers can achieve with the SL6000 family of servers. The SL2x170z G6 permits four servers to be deployed in a 2U enclosure. Four independent HP ProLiant SL2x170z G6 Servers, two per 1U tray, go into the 2U HP ProLiant z6000 G6 Chassis. Each server supports up to two Intel processors with 16 DDR3 DIMM sockets, 1 IFF SATA hard drive and support for a low-profile x16 PCIe Gen 2. Utilization of the latest memory technology, Samsung’s low voltage PC3LV-10600E 4GB DIMMs, provides even greater power savings for the SL2x170z G6 with no loss of performance. The HP ProLiant SL2x170z G6 is optimized for ultra dense environments. Up to 84 of the SL2x170z G6 servers can be deployed in a 42U rack.

Bottom Line

We believe that HP is the only company that has everything it takes to deliver a converged infrastructure that enables exponentially improved server efficiency while increasing performance. We have the intellectual property, we have the open integration, and we have the expertise to make it happen. The HP ProLiant SL2x170z G6 performance on the SPECpower_ssj2008 benchmark is just one of many proof points.

Table 1. Configuration details for top five results on the SPECpower_ssj2008 benchmark

<table>
<thead>
<tr>
<th>System Description</th>
<th>Overall ssj.ops/watt</th>
<th>Processor, Chips/Cores/Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ProLiant SL2x170z G6, 2U SL6000 Chassis, 2P per node, 4 nodes</td>
<td>3,106</td>
<td>Intel Xeon X5670 2.93 GHz 6-core, 8/48/96</td>
</tr>
<tr>
<td>IBM iDataPlex dx360 M3 2U Flex Chassis, 2P per node, 2 nodes</td>
<td>3,038</td>
<td>Intel Xeon X5670 2.93 GHz 6-core, 2/4/48</td>
</tr>
<tr>
<td>IBM System x3650 M3 2P, single node</td>
<td>2,927</td>
<td>Intel Xeon X5670 2.93 GHz 6-core, 2/12/24</td>
</tr>
<tr>
<td>Fujitsu PRIMERGY RX200 S6, single node</td>
<td>2,850</td>
<td>Intel Xeon X5670 2.93 GHz 6-core, 2/12/24</td>
</tr>
<tr>
<td>IBM System x3550 M3, single node</td>
<td>2,843</td>
<td>Intel Xeon X5670 2.93 GHz 6-core, 2/12/24</td>
</tr>
</tbody>
</table>

About the SPECpower_ssj2008 benchmark

SPECpower_ssj2008 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. As with previous SPECpower_ssj2008 benchmark world records, HP demonstrates that its ProLiant server family, built upon the latest industry-standard technology, is an industry leader in energy efficiency.

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 with the same keen attention to detail that it has applied to performance. This benchmark provides a means to measure power in conjunction with a performance metric, enabling IT managers to consider power characteristics to increase the efficiency of data centers. Being a Standard Performance Evaluation Corporation (SPEC) benchmark, SPECpower_ssj2008 is a peer-reviewed benchmark that provides a way for server vendors to compare benchmark results in a fair manner. More information about SPECpower_ssj2008 results can be found at the following Web page: [http://www.spec.org](http://www.spec.org). Results as of 04-20-10.

For more information check out:

HP ProLiant SL2x170z G6: [http://www.hp.com/servers/sl2x170z](http://www.hp.com/servers/sl2x170z)

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