HP ProLiant DL980 G7 wins #1 8-socket x86 server results on SPECjbb2005
Powerful 64-core result with new Eight-Core Intel Xeon™ processors

August 2010

Executive summary
With the result of 3,816,799 SPECjbb2005 bops (business operations per second), the HP ProLiant DL980 G7 with the newest Eight-Core Intel Xeon processors achieved several records on the SPECjbb2005 benchmark.

Key Take Aways:
- A powerful and scalable server with eight-core Intel processors and new ProLiant Generation 7 technology, the HP ProLiant DL980 G7 beat the competitive systems in performance by up to 1.74X.
- Top 8-socket x86 result: more than 3.8 million SPECjbb2005 bops.
- #1 Java business application performance on Microsoft Windows Server.
- More than 90% performance improvement over previous generation 8-socket 32-core DL785 G6 result.

The new ProLiant DL980 G7 eight-socket advantage
ProLiant’s newest scale-up x86 workhorse, the HP ProLiant DL980 G7 server, with the HP PREMA Architecture delivers balanced scaling, self-healing resiliency, and breakthrough efficiency. It is optimized for the most demanding, data intensive x86 workloads.

HP PREMA Architecture boosts reliability, scalability, and performance for 8-socket systems by leveraging our mission critical computing expertise and delivers the following key features in the HP ProLiant DL980 G7:
- **Smart CPU Caching**
  - Performance improvements are enabled through an HP node controller, which minimizes the inter-processor traffic and enables rapid access to local memory without requiring coordination across all the processors.
- **Redundant System Fabric**
  - Reduces communication errors on overloaded systems.

Other major ProLiant DL980 G7 advantages include:
- Maximized application uptime with a 200% boost in server availability\(^1\) with self-healing resiliency
- Reduced data center footprint and cost with a consolidation ratio of at least 197:1 made possible through performance gains achieved by balanced scaling.\(^2\)

---

\(^1\) Data based on HP internal testing comparing the DL980 G7 to the DL785 G5 with similar configurations.

\(^2\) Based on HP internal testing of DL980 G7 comparing it with ProLiant DL360 G4 that results in a consolidation ratio of 197:1 and ROI of two months.
ProLiant G7 server management advantages

Breakthrough efficiency. Customers can achieve ROI of two months with HP-only innovations such as Thermal Logic which includes power capping, iLO3 remote management, and Insight Control. Only HP ProLiant servers give customers the freedom to unlock their full potential with the help of HP Insight Control. ProLiant G7 servers introduce next-generation Insight Control remote management functionality, powered by iLO. The 3rd generation of iLO brings new levels of remote server management performance, user experience, and standards support to ProLiant customers. HP Insight Control enables customers to deploy and migrate ProLiant servers quickly and reliably, proactively manage ProLiant server health – be it physical or virtual, control ProLiant servers from anywhere, and optimize power confidently. The net result is the ability to get work done faster whether your server is across the hall or across the globe. Users can take advantage of these next-generation remote management features by purchasing HP Insight Control or a ProLiant G7 Performance Model.

About the SPECjbb2005 benchmark

What SPECjbb2005 measures

SPECjbb2005 is SPEC’s benchmark for evaluating the performance of server side Java. Like its predecessor, SPECjbb2000, SPECjbb2005 evaluates the performance of server side Java by emulating a three-tier client/server system (with emphasis on the middle tier). The benchmark exercises the implementations of the JVM (Java Virtual Machine), JIT (Just-In-Time) compiler, garbage collection, threads and some aspects of the operating system. It also measures the performance of CPUs, caches, memory hierarchy, and the scalability of shared memory processors (SMPs). SPECjbb2005 provides a new enhanced workload, implemented in a more object-oriented manner to reflect how real-world applications are designed and introduces new features such as XML processing and BigDecimal computations to make the benchmark a more realistic reflection of today’s applications. The benchmark’s results portray server throughput in business operations per second or SPECjbb2005 BOPS. A higher number of SPECjbb2005 BOPS is better. For more information on SPECjbb2005, please visit www.spec.org. More information about SPECjbb2005 results can be found at http://www.spec.org. HP ProLiant performance: www.hp.com/servers/benchmarks. Results as of 08-16-2010.

For more information check out:

HP ProLiant servers: http://www.hp.com/go/servers

© 2010 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Java™ is a US trademark of Sun Microsystems, Inc. or its subsidiaries in the United States and other countries. Linux is the registered trademark of Linus Torvalds in the U.S. and other countries. Microsoft and Windows are registered trademarks of Microsoft Corporation. The results compared in the graph are the top up to 8-socket server SPECjbb2005 bops results: HP DL980 G7 (8 chips, 64 cores) SPECjbb2005 bops = 3816799, SPECjbb2005 bops/JVM = 119275; HP DL785 G6 (8 chips, 48 cores) SPECjbb2005 bops = 1984616, SPECjbb2005 bops/JVM = 248077; Sun Fire X4800 (8 Chips, 64 Cores) SPECjbb2005 bops = 3369694, SPECjbb2005 bops/JVM = 1390087, SPECjbb2005 bops/JVM = 86880. SPEC and the benchmark name SPECjbb2005 are trademarks of the Standard Performance Evaluation Corporation. Competitive benchmark results and best in category comparisons stated above reflect results published on http://www.spec.org as of August 16, 2010. For the latest SPECjbb2005 benchmark results, visit http://www.spec.org/osg/jbb2005. The SPEC logo is © 2010 Standard Performance Evaluation Corporation (SPEC), reprinted with permission. August 2010.