New HP 8-socket, single-node ProLiant DL980 G7 earns world record on SPECjAppServer2004 benchmark

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Executive summary

HP ProLiant’s newest scale-up x86 workhorse, the DL980 G7, is designed for superior performance, improved server efficiency, and utilization, proof points exhibited when the server achieved world-record single-node performance status with 20,092.36 SPECjAppServer2004 JOPS@Standard.

This benchmark result demonstrates that, with HP Converged Infrastructure and Oracle solutions, HP ProLiant DL980 G7 customers receive excellent server efficiency and increasing performance for real-world workloads.

Key Take Aways:

- The ProLiant DL980 G7 captured the highest ever single-node performance result on the SPECjAppServer2004 Benchmark.
- A powerful and scalable 8-socket server with eight-core Intel processors and new ProLiant Generation 7 technology, the HP ProLiant DL980 G7 also showed excellent performance scalability when compared to previous ProLiant 8-socket results.
- HP delivers the most comprehensive portfolio of scale-up servers, combining mission critical x86 expertise and technologies.

What this means for customers

Business value transformation

HP was uniquely positioned to build the Converged Infrastructure because HP is the only company to offer a full portfolio of standards-based, integrated solutions, and services developed specifically to solve the complexities of the data center. This means that companies can use the same architecture to run and manage multiple workloads across servers, storage, and networking. This significantly reduces complexity, resource requirements, and costs.

On the business side, a converged infrastructure enables faster time to value, improved service levels, and ultimately, business transformation. The business no longer has to wait 12, 15, or 18 months to bring a new application into production. A converged infrastructure allows things to happen faster. IT can now move at the speed of the business.

ONLY HP can bring it all together. With the HP converged infrastructure initiative, HP raises the bar for the industry. We believe that we are the only company that has everything needed to deliver a business-ready converged infrastructure. We have the strategy, the intellectual property, the open integration, and the expertise to make the vision a reality. Taking the lead on single-node performance in the SPECjAppServer2004 benchmark is just another proof point.
**Greater scalability with new generation (G7) ProLiant servers**

The ProLiant DL980 G7 server showed excellent 8-socket (8-core per socket) single-node results with over 2X better performance when compared to the previous generation 8-socket ProLiant G6 server results.

![Scaled performance derived from comparing HP ProLiant DL980 G7 to HP ProLiant DL785 G6.](image)

**Competitor performance comparison**

Comparing the highest HP ProLiant result against competitor’s highest single-node SPECjAppServer2004 results verifies the ProLiant DL980 G7 single-node server superior performance.

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The new ProLiant DL980 G7 eight-socket advantage

HP’s newest scale-up x86 workhorse, the ProLiant DL980 G7 server with the HP PREMA Architecture delivers on the HP key scale-up x86 server value proposition of balanced scaling, self-healing resiliency, and breakthrough efficiency. The server is optimized for the most demanding, data intensive x86 workloads and offers more than twice the performance and a 200% boost in availability\(^1\) allowing customers to scale up with confidence.

**HP PREMA Architecture** heightens reliability, scalability, and performance for 8-socket systems by leveraging our mission critical computing expertise. It extends the Intel 7500 series processors to deliver the following key features in the HP ProLiant DL980 G7:

- **Smart CPU Caching**
  - Performance improvements are enabled through a node controller, an HP unique hardware, 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.

**Significant advantage for customers**

**Converged Infrastructure, HP ProLiant servers, and SPECjAppServer2004 benchmark.** For those businesses striving to fully automate manufacturing, inventory, supply chain management, order/management, and customer billing, the SPECjAppServer2004 benchmark allows comparisons of database performance using industry published results. The benchmark is heavyweight, mission critical, and reflects the rigors of complex applications and high-volume transaction processing that are typical in today’s customer environments. The ProLiant DL980 G7 server SPECjAppServer2004 benchmark result is a proof point that HP provides organizations with robust and reliable platforms for these real-world applications and reassures customers can rely on them for superior performance. The HP converged infrastructure unifies software, servers, storage, and networking to improve business, application, and infrastructure functions.

**Benchmark Configurations**

The result of 20,092.36 SPECjAppServer2004 JOPS®Standard was achieved by utilizing one ProLiant DL980 G7 server configured with 8-Core Intel Xeon X7560 2.267GHz processors (64 cores, 8 chips, 8 cores/chip), 24MB L3 cache on chip per chip, 512GB main memory, with an HP NC550 SFP dual-port 10GbE Server adapter running Oracle Enterprise Linux 5 Update 5 and Oracle Database Enterprise Edition Release 11.2.0.1.0.

**About the SPECjAppServer2004**

**What SPECjAppServer2004 measures**

SPECjAppServer2004 (Java Application Server) is an industry standard multi-tier benchmark for measuring the performance of Java 2 Enterprise Edition (J2EE) technology-based application servers and each of the components that make up the application environment, including hardware, application server software, JVM software, database software, JDBC drivers, and the system network. The workload is an application that emulates information flow among an automotive dealership, manufacturing, supply chain management, and an order/inventory system. SPECjAppServer2004 is an end-to-end application which exercises all major J2EE technologies implemented by compliant application servers.

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\(^1\) The ProLiant DL980 G7 performance as compared to the ProLiant DL785 G6 performance.

For more information, check out:
HP Proliant DL980 G7: www.hp.com/servers/proliantdl980g7