hpeQSLink

HPE server performance benchmarks

Newsletter

May 2016

HPE dominates with the MOST #1 benchmark results on the latest Intel Leaderboard including Big Data Analytics on new TPCx-BB

Intel Leaderboard results:[1]

HPE ProLiant DL380 Gen9 Server

1. Big Data analytics: TPC Express Benchmark Big Bench (TPCx-BB) @ 3000
2. Business intelligence/Decision support: TPC-H @1000GB
3. Server-side Java: SPECjbb2015-Distributed max-jOPS

HPE ProLiant DL360 Gen9 Server

4. Big Data analytics: TPC Express Benchmark Big Bench (TPCx-BB) @ 3000
5. Server-side Java: SPECjbb2015-Distributed critical-jOPS

6. Server-side Java: SPECjbb2015-Composite max-jOPS

HPE ProLiant ML350 Gen9 Server

7. Server-side Java: SPECjbb2015-Composite critical-jOPS

Also, Hewlett Packard Enterprise is the FIRST vendor in the industry to publish results on the new, specialized Big Data Analytics TPCx-BB benchmark, the first of its kind. The benchmark is designed to work with Modern Big Data Analytics frameworks residing in the Hadoop ecosystem.

Read all about HPE winning results on performance briefs at hpe.com/servers/benchmarks.

HPE servers hold numerous leadership results!

In addition to having Intel results dominance, HPE servers uphold world record status in performance, price/performance, and performance scalability. HPE servers, including HPE ProLiant and Integrity Servers, continue to achieve worldwide #1 records across the performance landscape. Our latest unmatched results include the following:

hpeQSLink

ProLiant DL for Big Data

with ProLiant DL380 and DL360 Gen9 Servers

#1 performance and price/performance on 3000 scale factor – HPE ProLiant DL for Big Data with ProLiant DL360 and DL380 Gen9 on the TPCx-BB @ 3000

First result of any vendor!

1P

ProLiant DL120 Gen9 Server

SPECjbb2015-Composite:
#1 1P max-jOPS
#1 1P critical-jOPS

SPECjbb2015-MultiJVM:
#1 x86 1P max-jOPS
#1 x86 1P critical-jOPS

2P

ProLiant DL360 Gen9 Server

ProLiant ML350 Gen9 Server

ProLiant DL380 Gen9 Server

ProLiant DL360 Gen9

SPECjbb2015:

#1 2P max-jOPS in Composite category

#1 2P critical-jOPS in Distributed category

ProLiant ML350 Gen9

SPECjbb2015:

#1 2P critical-jOPS in Composite category

ProLiant DL380 Gen9

SPECjbb2015:

#1 2P max-jOPS in Distributed category

#1 overall performance and #1 overall price/performance onTPC-H @ 1000GB non-clustered

4P

ProLiant DL580 Gen9 Server

#1 4P x86 on SPECompG_peak metric

Plus, check out our sustaining #1 records and worldwide firsts

HPE continues to maintain its worldwide results, in addition to being the FIRST in the industry to achieve several benchmarks.

2P ProLiant servers

ProLiant DL360 Gen9

- #1 energy-efficient 1U server on the SPECpower_ssj2008 benchmark

ProLiant DL380 Gen9

- #1 2P performance using Microsoft Windows/SQL on the TPC-H @ 1000GB non-clustered benchmark
- FIRST two-socket server to achieve results in the "Performance with Server Power" and the "Performance with Storage and Server Power" categories on the VMmark 2.5 benchmark

4P ProLiant servers

ProLiant DL560 Gen9

- #1 4P energy efficiency on the SPECpower_ssj2008 benchmark and first 4P server to break the 8,000 overall ssj_ops/watt barrier

ProLiant DL580 Gen9

- #1 4P result on the non-clustered TPC-H benchmark at the 10000GB scale factor with #1 performance and price/performance
- #1 4P SPECfp results on both the SPECfp_base2006 and SPECfp2006 metric on the SPEC CPU2006 benchmark[2]
- #1 4P with Red Hat Enterprise Linux result on the two-tier SAP SD application benchmark

Integrity Superdome X

- #1 16-processor platform on two-tier SAP® sales and distribution (SD) standard application benchmark
- #1 overall performance and price/performance on the TPC-H @ 10000GB non-clustered benchmark
- #1 x86, #1 16P, and #1 x86 16P max-jOPS, and #1 x86 16P critical-jOPS in the MultiJVM category.

Whitepapers

Configuring and tuning HPE ProLiant Servers for low-latency applications. This document presents suggestions and best practice recommendations on BIOS configuration and on OS tuning to obtain the lowest-latency performance from HPE ProLiant BL c-Class server blades and HPE ProLiant DL, ML, SL, and XL servers. Updated May 2016.

Impressive performance gain results

Superdome X:

Outstanding 8P and 16P Online Transaction Processing (OLTP) performance gains with HPE ATX and Gen9 Blades

- Up to 58% performance gain with HPE-ATX software utility on 16P Superdome X Gen9*
- Up to 29.6% performance gain with HPE-ATX software utility on 8P Superdome X Gen8
- Up to 13.3% performance gain on 8P Superdome X with BL920s Gen9 and DDR4 memory compared to Superdome X with BL920s Gen8 and DDR3 memory
- Up to 39% improvement over 8P Gen8 with Gen9 and HPE-ATX

ProLiant DL560 Gen9:

The ProLiant DL560 Gen9 shows up to 70% performance scalability increase on the two-tier SAP Standard Distribution (SD) standard application benchmark.

- Major performance scalability increase with the latest Intel Xeon 3 processors:
- 4P EP: 70% performance gain when compared to 2P EP
- Exceptional performance using Red Hat Enterprise Linux operating system

ProLiant BL660c Server Blade:

Excellent generational performance gains with Gen9 on the SAP SD standard application benchmark

- 50% generational performance gain on the two-tier SAP SD standard application benchmark using four Intel Xeon E5-4669 v3 processors
- 74% scaling from two-processor EP to four-processor EP v3 on two-tier SAP SD standard application benchmark

ProLiant DL380 Gen9:

Significant performance gain with latest Intel technology on the two-tier SAP SD standard application benchmark

- 26% performance gain of SAP SD users

Fair use and compliance rules:

NOTE: The "as of date" for all listed benchmarks is 5-17-16 unless otherwise noted. All benchmark data is publicly available on the websites listed below. All performance briefs listed are publicly available on the hpe.com website and are customer viewable. See benchmark details below.

SPEC - See spec.org for detailed information.

The HPE ProLiant DL580 Gen9 has the #1 4P SPECfp results on both the SPECfp_base2006 and SPECfp2006 results and ties with the 4P Cisco UCS C460 M4 server for #1 4P SPECint_base2006 result.

VMmark - See all published disclosures at vmware.com/a/vmmark.

The competitive benchmark claims for the ProLiant DL380 Gen9 are based on published results in the Performance with Server Power and Performance with Server and Storage Power categories as of 9-08-2014.

hpeQSLink

TPC - See tpc.org for more detailed information.

- TPCx-BB results show the HPE ProLiant DL for Big Data with a #1 result of 337.26 BBQpm @ 3000 and $1102.94 USD/BBQpm @ 3000
  (see tpc.org/3502) with system availability of 3-31-2016.
- TPC-H results show the HPE ProLiant DL380 Gen9 Server with a non-clustered result of 678,492 QphH @ 1000GB and $0.64 USD/QphH @ 1000GB
  (see tpc.org/3320) with system availability of 7-31-2016.
- TPC-H results show the HPE ProLiant DL580 Gen8 Server with a result of 404,006 QphH @ 10000GB and $2.34/QphH @ 10000GB (see tpc.org/3298) with system availability of 4-16-2014, and the Lenovo System x3950 X6 server with a result of 652,239 QphH @ 10000GB (see tpc.org/3312) and $2.43/QphH with system availability of 4-6-2015.
- TPC-H results show the HPE Integrity Superdome X Server with a result of 606,822 QphH @ 10000GB and $1.82/QphH @ 10000GB see tpc.org/3314) with system availability as of 5-5-15.
- TPC-H results show the HPE Integrity Superdome X with a result of 780,346 QphH @ 10000GB and $2.27/QphH @ 10000GB (see tpc.org/3317) with system availability as of 2-3-2016.

SAP **-** See sap.com/benchmark for up-to-date information.

- Hewlett Packard Enterprise received certification from SAP SE of the results of the HPE ProLiant DL560 Gen9 Server (certification #2015027) on the two-tier SAP SD standard application benchmark performed in Houston, TX, USA, on May 22, 2015. The ProLiant DL560 Gen9 achieved 27,315 SAP SD benchmark users and 149,420 SAPS. The HPE ProLiant DL560 Gen9 was configured with four Intel Xeon processors E5-4699 v3 2.10 GHz (4 processors/72 cores/144 threads total) with 1 TB of RAM with 32x32 GB PC4-14900 R2 2133P-R (DDR4-2133 MHz DIMMs). The server was running Red Hat Enterprise Linux 7.1, SAP Adaptive Server® Enterprise (SAP ASE) 16, and enhancement package 5 for SAP ERP 6.0.

  The result was compared to the HPE DL580 Gen9 that received certification (certification **#**2015020) from SAP SE of the results of the ProLiant DL580 Gen9 on the two-tier SAP SD standard application benchmark performed in Houston on April 20, 2015. The ProLiant DL580 Gen9 achieved 31,000 SAP SD benchmark users and 169,720 SAPS. The server was configured with four Intel Xeon processors E7-8890 v3 2.5 GHz (4 processors/72 cores/144 threads total) with 1 TB of RAM. The server was running Red Hat Enterprise Linux 6.7, SAP Adaptive Server® Enterprise 16 PL05, and SAP enhancement package 5 for SAP ERP 6.0. .

- Hewlett Packard Enterprise received certification on February 15, 2016, from SAP SE of the results of the HPE Integrity Superdome X (certification #2016002) on the two-tier SAP® SD standard application benchmark performed in Houston on February 9, 2016. The Superdome X has achieved the leadership 16-processor result on the two-tier SAP sales and distribution (SD) standard application benchmark of 100,000 SAP benchmark users and 545,780 SAPS. To achieve this result, the Superdome X used 16 Intel® Xeon® Processors E7-8890 v3 at 2.5 GHz and 4 TB of memory running Microsoft Windows Server 2012 R2 Datacenter Edition, Microsoft SQL Server 2014, and SAP enhancement package 5 for the SAP ERP application 6.0.
- Hewlett Packard Enterprise received certification from SAP SE of the results of the ProLiant BL660c Gen9 (certification # 2015026) on the two-tier SAP SD standard application benchmark performed in Houston, TX, USA on May 22, 2015. The ProLiant BL660c Gen9 achieved 27,200 SAP SD benchmark users and 148,850 SAPS on the two-tier SAP SD standard application benchmark. The ProLiant BL660c Gen9 was configured with four Intel Xeon processors E5-4699 v3 2.10 GHz (4 processors/72 cores/144 threads total) with 1 TB of RAM with 32x16 GB PC3-14900 R 2133 MHz DIMMs. The server was running Microsoft Windows Server 2012 Datacenter Edition operating system, Microsoft SQL Server 2012 Enterprise Edition x64 database, and SAP enhancement package 5 for SAP ERP 6.0.

  This benchmark result was compared to HPE ProLiant BL660c Gen8 (certification #2014025) with Intel Xeon processors E5-4657L v2, 2.40 GHz, 4P/48 cores/96 threads, 512 GB HPE DDR3 SmartMemory. The result was 18,110 SAP SD users and 99,230 SAPS with the server running Microsoft Windows Server 2012 Datacenter Edition; Microsoft SQL Server 2012; and SAP enhancement package 5 for SAP ERP 6.0. The ProLiant BL660 Gen9 result was compared also to the HPE ProLiant DL380 Gen9 (certification #2014037) with Intel Xeon processors E5-2699 v3, 2.3 GHz, 2 processors/36 cores/72 threads, 256 GB HPE DDR4 SmartMemory. The server achieved 15,635 SAP SD users and 85,580 SAPS while running Microsoft Windows Server 2012 Datacenter Edition; Microsoft SQL Server 2012; SAP enhancement package 5 for SAP ERP 6.0.

- Hewlett Packard Enterprise received certification on March 16, 2016, from SAP SE of the results of the HPE ProLiant DL380 Gen9 (certification #2016010) with Intel Xeon E5-2699 v4 processors**:** 2 processors/44 cores/88 threads, 2.2 GHz; 256 GB RAM at 2400 MHz; Microsoft Windows Server 2012 R2 Data Center Edition; MS SQL Server 2012; and SAP enhancement package 5 for SAP ERP 6.0.