



HPE Integrity Superdome X OLTP performance with new technology

Optimize performance with Gen9 and HPE Application Tuner Express (ATX)

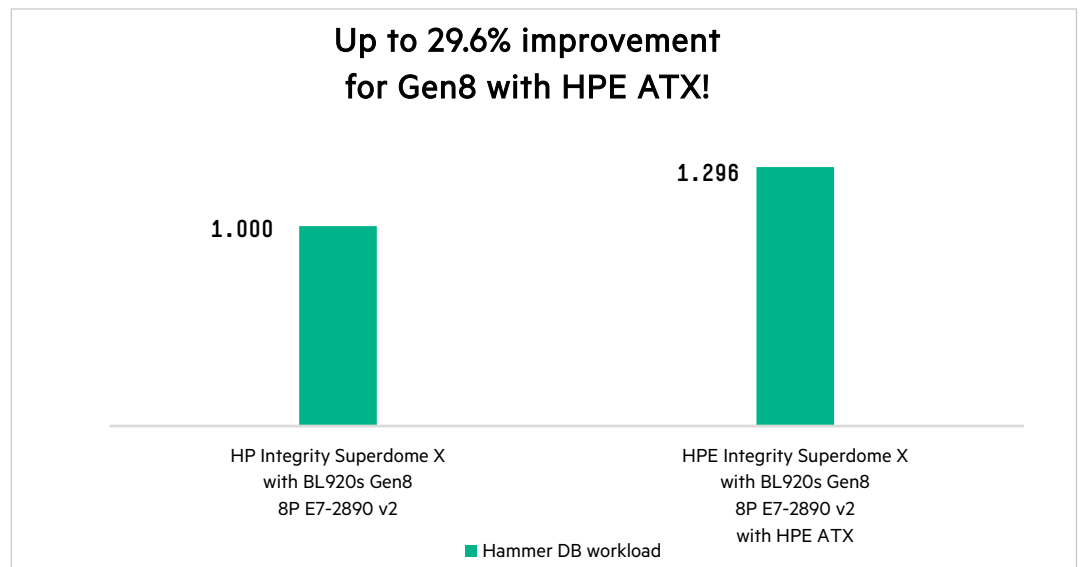
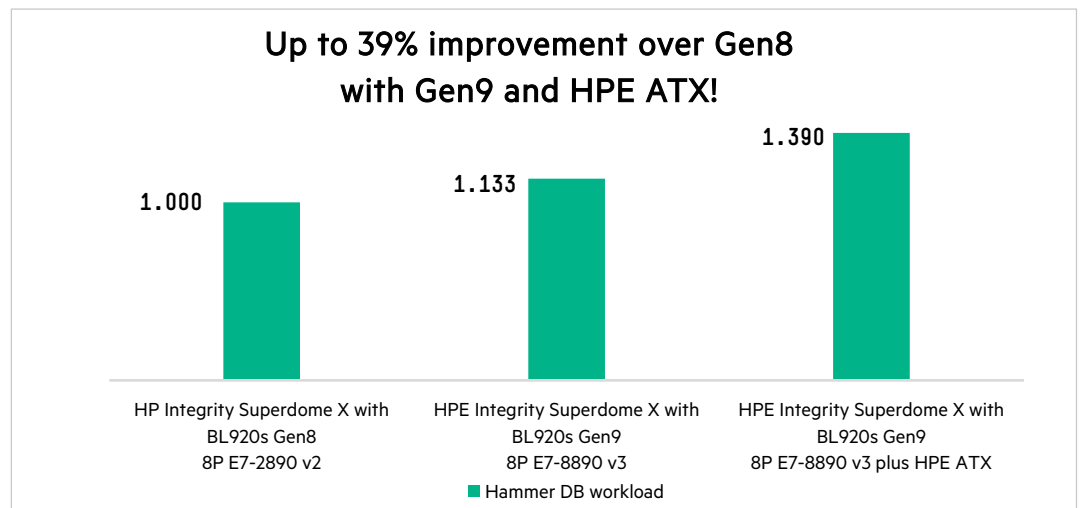
Executive Summary

Hewlett Packard Enterprise has more proof points of its ability to discern and develop needed performance boosting capabilities in the mission critical space. The HPE Integrity Superdome X with HPE BL920s Gen9 Server Blades showed outstanding eight-socket Online Transaction Processing (OLTP) performance gains over the Superdome X with HPE BL920s Gen8. The latest Intel® Xeon® processors and HPE DDR4 SmartMemory provided significant performance boosts for the Gen9 blades. The newly developed HPE Application Tuner Express (ATX) software utility delivers additional gains for both server generations. Together, these performance proof points demonstrate a performance win-win for both customers with existing Superdome X Gen8 and customers deploying the latest Gen9 technology.¹



Key takeaways

- Gen8 to Gen9 bare metal:**
 Up to 13.3% performance gain with Superdome X with BL920s Gen9 and DDR4 memory compared to Superdome X with BL920s Gen8 and DDR3 memory
- Gen8 to Gen9 plus HPE ATX software utility:**
 Up to 39.0% performance gain for Superdome X with BL920s Gen9 and DDR4 memory and the new HPE ATX software utility compared to Superdome X with BL920s Gen8 and DDR3 memory
- Gen8 plus HPE ATX software utility:**
 Up to 29.6% performance gain with HPE ATX software utility on Superdome X Gen8



Configurations

Historical result of Superdome X with BL920s Gen8 Server Blades

- Intel Xeon E7-2890 v2
- Red Hat Enterprise Linux 6.6
- Oracle 12c OLTP Hammer DB workload
- External storage for database
- SSD drives for log and data
- Separated storage partitions for log and data
- Balanced performance across NUMA nodes
- Up to 8S NUMA configuration
- 15c/30 threads per socket (HT enabled)
- Additional run with above configuration and addition of HPE ATX software utility

Results of Superdome X with BL920s Gen9 Server Blades

- Intel Xeon E7-8890 v3
- Red Hat Enterprise Linux 6.6
- Oracle 12c OLTP Hammer DB workload
- External storage for database
- SSD drives for log and data
- Separated storage partitions for log and data
- Balanced performance across NUMA nodes
- Up to 8S NUMA configuration
- 18c/36 threads per socket (HT enabled)
- Additional run with above configuration and addition of HPE ATX software utility

HPE ATX:

Accelerating Superdome X application performance

The HPE ATX software utility has been developed for customers to meet the need for boosting performance in unique situations. It is a launch policy controller that facilitates application processes and threads for a NUMA environment with policies such as fill first and round robin. HPE ATX makes non-NUMA applications NUMA-aware. The product's primary goal is increasing performance for multi-process or multi-threaded applications.

Superdome X

Transform mission-critical environments with Superdome X:

- Respond rapidly to business demands with groundbreaking performance, with several leading benchmark results and a platform that performs at scale
- Support the largest enterprise applications and helps reduce costs with up to 16 sockets and 24 TB of memory
- Deliver a superior x86 availability experience, as it is designed with five nines (99.999%) availability and unique RAS features

Customer value with Hewlett Packard Enterprise

HPE believes in the power of collaboration – building long-term relationships with its customers and partners. HPE is driven to innovate – creating both practical and breakthrough advances. The company's focus is building the right kind of partnership – the one that works best for customers where collaborative ideas come together and carries them forward faster.

¹ HP internal testing. Performance results with HPE ATX on the Superdome X with Gen8 were achieved at 240 users with 1-to-1 mapping of users to logical CPUs. Configurations that are over-subscribed may show less performance gain.