

Improve Performance and Increase VM Density

Testing by Prowess Consulting shows that an Intel-to-Intel refresh using Supermicro® servers can help organizations modernize and prepare for AI-infused workloads with up to:



3.5x higher MySQL® throughput

3.6x higher PostgreSQL® throughput

The Need to Modernize

Rising transaction volumes, AI-infused workloads, and core-based licensing costs are straining aging infrastructure. At the same time, enterprises struggle to modernize without downtime, retraining, or disruptive architectural changes.

The Testing Approach

Prowess Consulting tested MySQL and PostgreSQL on Red Hat® OpenShift® virtual machines (VMs), comparing baseline systems with Intel® Xeon® Silver 4314 processors against systems with Intel Xeon 6737P processors using HammerDB online transaction processing (OLTP) benchmarks to quantify the benefits of database server modernization.

Additional Intel Xeon 6 Processor Modernization Advantages

- Intel® Advanced Vector Extensions 512 (Intel® AVX-512) accelerates compute-intensive database operations within existing power envelopes.
- Compute Express Link® (CXL®) enables coherent attachment of external memory; Flat Memory Mode unifies local and CXL memory into a single address space, expanding capacity and supporting larger in-memory datasets without application changes.
- Intel® QuickAssist Technology (Intel® QAT) offloads encryption, compression, and decompression, accelerating Red Hat OpenShift workflows such as Ceph® object services while freeing CPU resources for core application processing.
- Industry-leading reliability, availability, and serviceability (RAS) capabilities strengthen mission-critical reliability and align with OEM management and diagnostic tooling.
- Platform continuity supports zero-downtime Intel-to-Intel migrations via tools like the Red Hat® Migration Toolkit for Virtualization, minimizing retraining and operational risk.



Learn more

Read the full report at prowessconsulting.com

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