

# Improve PostgreSQL® Database Performance by up to 1.21x with Google Cloud™ N2 Virtual Machine Instances Featuring 2<sup>nd</sup> Gen Intel® Xeon® Scalable Processors

## Google Cloud N2 VM Instances Feature 2<sup>nd</sup> Generation Intel Xeon Scalable Processors



PostgreSQL



Handle 1.21x the customer transactions

*on small VM instances*



Up to 1.20x better PostgreSQL database performance

*on medium VM instances*



Handle 1.16x the customer transactions

*on large VM instances*

### Support More Transactions on PostgreSQL Databases with N2 VM Instances

While public cloud options reduce the day-to-day headaches of dealing with on-prem hardware, organizations still need to take hardware into account when deciding on a VM instance type for their workloads. For OLTP workloads such as databases that back e-commerce sites, the underlying hardware for VM instances is a factor that drives the number of customers and orders you can support. Choosing VM instances enabled by 2<sup>nd</sup> Generation Intel Xeon Scalable processors could let your business support more customers.

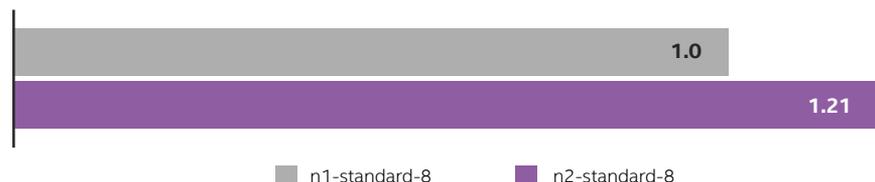
In PostgreSQL transactional database tests comparing Google Cloud virtual machine instances, newer N2 VM instances featuring 2<sup>nd</sup> Generation Intel Xeon Scalable processors outperformed N1 VM instances with older Intel Xeon E5-v4 processors at three different instance sizes, processing up to 1.21x the transactions per minute.

When your organization is deciding on the right VM instance for OLTP databases, consider how the underlying hardware translates into better performance and better value. Regardless of the size of your databases, investing in the N2 VM instances can ensure your e-commerce site is ready to support your growing customer base.

### Support More Customers on Small VM Instances

Deciding to expand resources requires balancing performance needs and cost. Whether your organization is large or small, the transactional databases that back your business need adequate resources to support peak periods and plan for future growth without slowing down. Investing in newer technology ensures you can support more customers as your business grows. Tests comparing performance of small instances with 8 vCPUs show that choosing Google Cloud N2 VM instances featuring 2<sup>nd</sup> Gen Intel Xeon Scalable processors deliver up to 1.21x the PostgreSQL transactions per minute of an N1 VM instance running on older processors.

Small instance comparison: normalized transactions per minute



## Support More Customers on Medium VM Instances

In HammerDB tests, medium VM instances supporting mid-sized databases had similar performance gains from choosing VM instances with updated processor technology. With 16 vCPUs, Google Cloud N2 VM instances featuring 2<sup>nd</sup> Generation Intel<sup>®</sup> Xeon<sup>®</sup> Scalable processors delivered 1.20x the PostgreSQL transactions per minute of an N1 VM instance.

This means that you can meet your performance goals and/or growth needs for databases of multiple sizes by selecting Google Cloud N2 VM instances with updated 2<sup>nd</sup> Generation Intel Xeon Scalable processors.

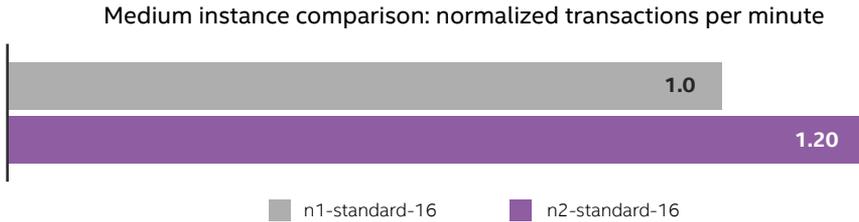


Figure 2. HammerDB test results comparing performance of the Google Cloud N2 VM instance type to N1 VM instance type with 16 vCPUs and 50GB database size.

## Support More Customers on Large VM Instances

HammerDB testing with large VM instances saw performance gains for Google Cloud N2 VM instances featuring 2<sup>nd</sup> Generation Intel Xeon Scalable processors compared to older N1 VM instances—handling up to 1.16x the transactions per minute.

If your organization plans to run PostgreSQL database workloads in the cloud, these results show that N2 VM instances offer better performance at multiple database sizes thanks to updated 2<sup>nd</sup> Generation Intel Xeon Scalable processor technology.

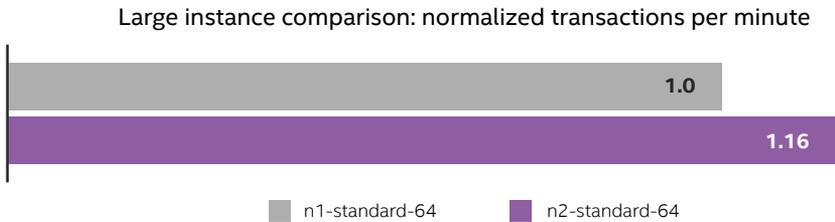


Figure 3. HammerDB test results comparing performance of the Google Cloud N2 VM instance type to N1 instance type with 64 vCPUs and 100GB database size.

## Learn More

To begin your PostgreSQL database deployments on Google Cloud N2 VM instances with 2<sup>nd</sup> Generation Intel Xeon Scalable processors, visit <https://intel.com/googlecloud>.

For more test details, visit <http://facts.pt/0Q5h9xl>.



Performance varies by use, configuration and other factors. Learn more at <https://intel.com/benchmarks>.

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