intel.

Process up to 1.25x the MariaDB OLTP Transactions with Google Cloud Platform N2 Standard VM Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors

MariaDB

Up to 1.22x the MariaDB TPM on small and medium N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors

vs. N2 standard VM instances with previous-gen processors

Up to 1.25x the MariaDB TPM on large N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors

vs. N2 standard VM instances with previous-gen processors

Elevate OLTP Database Performance by Choosing N2 Standard VM Instances with 3rd Gen Intel Xeon Scalable Processors Over VM Instances with Previous-Generation Processors

If you currently run your databases in the cloud for e-commerce sites, reservations systems, or other online transaction processing (OLTP) workloads, you can gain performance at a similar price by using the latest technology. Now, Google Cloud Platform has introduced 3rd Gen Intel Xeon Scalable processors to its N2 standard VM instance offerings. These latest processors can provide a significant boost in database performance over 2nd Gen Intel Xeon Scalable processors, which can help you meet peak demand and plan for future growth.

Testing shows that organizations running MariaDB, an open-source relational database platform, on Google Cloud Platform can increase the transactions per minute processed per instance by choosing N2 standard VM instances with 3rd Gen Intel Xeon processors. Across multiple VM instance sizes with varying vCPU and memory configurations (8 vCPU/ 32GB RAM, 16 vCPU/ 64GB RAM, and 64 vCPU/ 256GB RAM), Google Cloud Platform N2 standard VM instances with the latest in processor technology delivered up to 1.25x the performance of the same instances running on previous-generation processors.

Get More OLTP Performance on Small VM Instances

The following OLTP results are from testing conducted by third-party Principled Technologies using the TPROC-C workload from the HammerDB benchmark suite. As Figure 1 shows, small Google Cloud Platform N2 standard VM instances (8 vCPU and 32 GB of memory) with 3rd Gen Intel Xeon Scalable processors offered 1.22x the MariaDB transactions per minute of the same instances with previous-generation processors.

Relative MariaDB database performance with small VM instances (8 vCPUs)
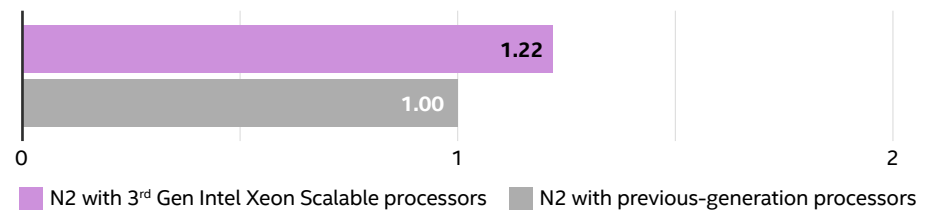
Transactions per minute | Higher is better

1.22	
1.00	

0   1   2

■ N2 with 3rd Gen Intel Xeon Scalable processors   ■ N2 with previous-generation processors

Figure 1. Comparison of MariaDB OLTP performance between small (8 vCPU) Google Cloud Platform N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors and N2 instances with previous-gen processors, normalized to the performance of the previous-gen VM.

Boost OLTP Performance for Medium-Size VM Instances

For medium-sized instances with 16 vCPU and 32 GB of memory, Google Cloud Platform N2 standard instances with 3rd Gen Intel® Xeon® Scalable processors outperformed the previous-gen instances by 1.22 times the transactions per minute on MariaDB (see Figure 2).

Large VM Instances Saw an Even Bigger Performance Advantage

Relative MariaDB database performance with medium VM instances (16 vCPUs)

Transactions per minute | Higher is better

■ N2 with 3rd Gen Intel Xeon Scalable processors   ■ N2 with previous-generation processors
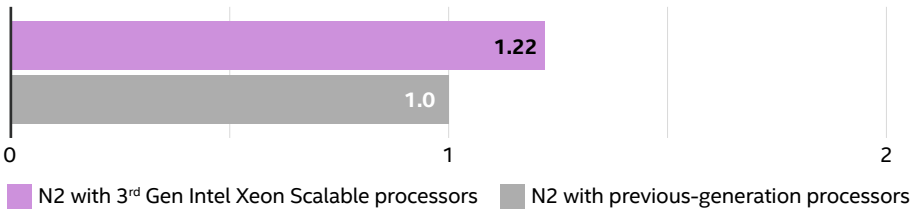
Figure 2. Comparison of MariaDB OLTP performance between medium (16 vCPU) Google Cloud Platform N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors and N2 instances with previous-gen processors, normalized to the performance of the previous-gen VM.

The significant performance increase continued with large instance sizes, showing an even larger performance advantage in MariaDB transactions per minute. With 64 vCPU and 256 GB of memory, Google Cloud Platform N2 standard VM instances offered 1.25x the MariaDB performance of the same VM instances with 2nd Gen Intel Xeon Scalable processors (see Figure 3).

Relative MariaDB database performance with large VM instances (64 vCPUs)

Transactions per minute | Higher is better

■ N2 with 3rd Gen Intel Xeon Scalable processors   ■ N2 with previous-generation processors
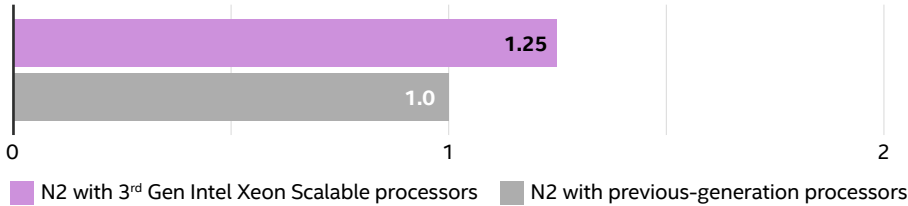
Figure 3. Comparison of MariaDB OLTP performance between large (64 vCPU) Google Cloud Platform N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors and N2 instances with previous-gen processors, normalized to the performance of the previous-gen VM.

Conclusion

Whether you're selecting cloud VM instances for the first time or looking to get more performance from your current MariaDB workloads, upgrading to Google Cloud Platform N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors can help you do more OLTP database work per instance. By stretching performance further, you can ensure you meet peak demand while planning for the continued growth of your database needs.

Learn More

To begin running your MariaDB workloads on Google Cloud Platform N2 standard VM instances with 3rd Gen Intel Xeon Scalable processors, visit https://cloud.google.com/compute/docs/general-purpose-machines#n2_machines.

For complete test details and results, read the report at https://facts.pt/RqXmDxs.