Google Cloud N2 VMs with 3rd Gen Intel® Xeon® Scalable Processors Achieved up to 16% More Java Performance than T2D VMs with AMD EPYC processors

Get a Greater Return on Your Google Cloud Investment by Selecting N2 Virtual Machines (VMs) Enabled by 3rd Gen Intel Xeon Scalable Processors

Companies running their Java workloads on Google Cloud, or thinking about doing so, want to determine which VMs will give them the strongest performance. Our testing found that Google Cloud N2 Standard VMs featuring 3rd Gen Intel® Xeon® Scalable processors will deliver greater performance than T2D VMs with 3rd Gen AMD EPYC processors.

SPECjbb® 2015 is an industry-standard Java server benchmark that models an international supermarket company. Many customers use this tool to get a sense of the Java application performance they can expect from different cloud VMs.

We conducted SPECjbb 2015 testing to compare the performance of N2 VMs enabled by 3rd Generation Intel Xeon Scalable processors and T2D VMs with AMD EPYC 7B13 processors. Depending on their size, the N2 VMs achieved critical-jOPS performance up to 16% greater than the T2D VMs.

To get more from your cloud investment, choose N2 virtual machines featuring 3rd Generation Intel Xeon Scalable processors.

Looking at SPECjbb Critical-jOPS

One of the metrics that SPECjbb 2015 generates is critical-jOPS, which reflects throughput under response time. As Figure 1 shows, a 64vCPU N2 virtual machine enabled by the 3rd Gen Intel Xeon Scalable processor achieved 13 percent more critical-jOPS than a 60vCPU T2D VM did.

Normalized N2 (with 64 vCPUs) vs. T2D (with 60 vCPUs) Critical-jOPS Performance
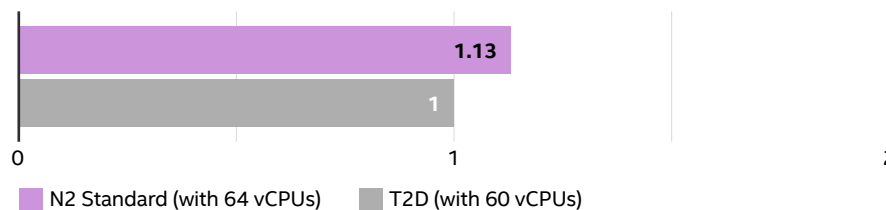
Normalized Critical-jOPS | Higher is better

Figure 1. Relative SPECjbb 2015 Max-jOPS results for 64 vCPU Google Cloud N2 VMs and 60 vCPU T2D VMs.

Java Server

Achieve 13% More SPECjbb® 2015 Critical-jOPS Performance with 64vCPU N2 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. 60vCPU T2D VMs with AMD EPYC Processors

Achieve 16% More SPECjbb® 2015 Critical-jOPS Performance with 8vCPU N2 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

*vs. 8vCPU T2D VMs with AMD EPYC Processors*

Achieve 8% More SPECjbb® 2015 Critical-jOPS Performance with 4vCPU N2 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. 4vCPU T2D VMs with AMD EPYC Processors

Intel Workload Proof Series: Java Server on Google Cloud N2 VMs vs. T2D VMs

See backup for workloads and configurations. Results may vary.

Normalized N2 vs. T2D Critical-jOPS Performance with 8 vCPUs

Normalized Critical-jOPS | Higher is better

Figure 2. Relative SPECjbb 2015 Max-jOPS results for 8vCPU Google Cloud N2 VMs and 8vCPU T2D VMs.
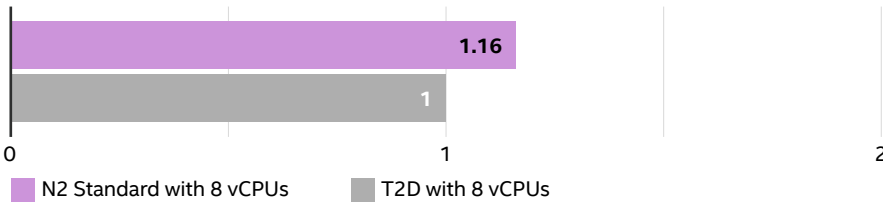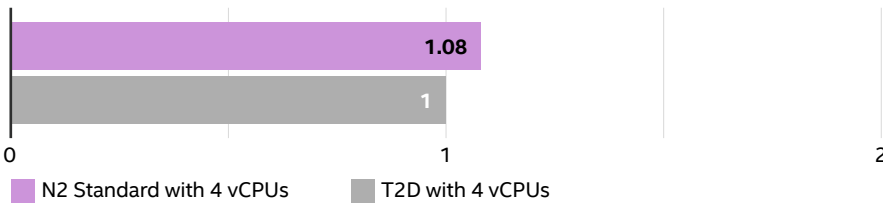
As Figure 2 shows, 8vCPU N2 virtual machines enabled by 3rd Gen Intel® Xeon® Scalable processors achieved 16 percent more critical-jOPS than the 8vCPU T2D virtual machines.

Normalized N2 vs. T2D Critical-jOPS Performance with 4 vCPUs

Normalized Critical-jOPS | Higher is better

Figure 3. Relative SPECjbb 2015 Max-jOPS results for 4vCPU Google Cloud N2 VMs and 4vCPU T2D VMs.

As Figure 3 shows, 4vCPU N2 virtual machines enabled by 3rd Gen Intel Xeon Scalable processors achieved 8 percent more critical-jOPS than the 4vCPU T2D virtual machines.

To reap better performance on the Java applications you're running on Google Cloud, select N2 virtual machines enabled by 3rd Gen Intel Xeon Scalable processors.

Learn More

To begin running your websites on Google Cloud N2 virtual machines with 3rd Gen Intel Xeon Scalable processors, visit https://cloud.google.com/compute/docs/general-purpose-machines.

intel.