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Improve WordPress Performance by Selecting Google Cloud N2 Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors with Crypto New Instructions
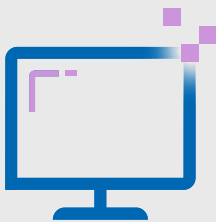
WordPress

Achieve up to 41% More WordPress Performance by Choosing

N2 Instances Featuring 3rd Gen Intel Xeon Scalable Processors and Utilizing Crypto NI

vs. N2 Instances with Previous-Gen Processors

Achieve up to 16% More WordPress Performance by Utilizing Crypto NI on N2 Instances Featuring 3rd Gen Intel Xeon Scalable Processors

vs. the Same Instances without Crypto NI

These Instances Handled More WordPress Transactions per Minute Than Instances without Crypto NI-Enabled Software and Those with Previous-Gen Intel Xeon Scalable Processors

Many companies use WordPress to create and manage both static and dynamic content for the web. If you are looking for a cloud solution to host your WordPress websites, it's smart to consider performance. The last thing you want is an instance that can't handle the amount of traffic your sites receive.

Testers measured the WordPress performance capabilities of a variety of Google Cloud N2 instances, including older N2 instances with 2nd Gen Intel Xeon Scalable processors and newer N2 instances with 3rd Gen Intel Xeon Scalable processors. The latest Intel processors include built-in crypto accelerators called Crypto New Instructions (Crypto NI). To measure the performance impact of Crypto NI, testers added the Intel-built Async Mode for NGINX to the WordPress solution and tested both with and without utilizing it.

Compared to older N2 instances, the new N2 instances featuring 3rd Gen Intel Xeon Scalable processors utilizing Crypto NI delivered WordPress performance advantages of up to 41 percent. In tests on the newer N2 instances, utilizing Crypto NI improved WordPress performance by up to 16 percent compared to the same instances without Crypto NI.

New N2 Instances Featuring 3rd Gen Intel Xeon Scalable Processors and Utilizing Crypto NI Greatly Outperformed Older N2 Instances

Figure 1 compares the WordPress performance for seven sizes of Google Cloud N2 instances. Half of these were new instances featuring 3rd Gen Intel Xeon Scalable processors utilizing Crypto NI, while the rest were older N2 instances enabled by previous-generation Intel Xeon Scalable processors. The new instances utilizing Crypto NI achieved more transactions per second at every size, with performance improvements ranging from 33 percent to 41 percent.
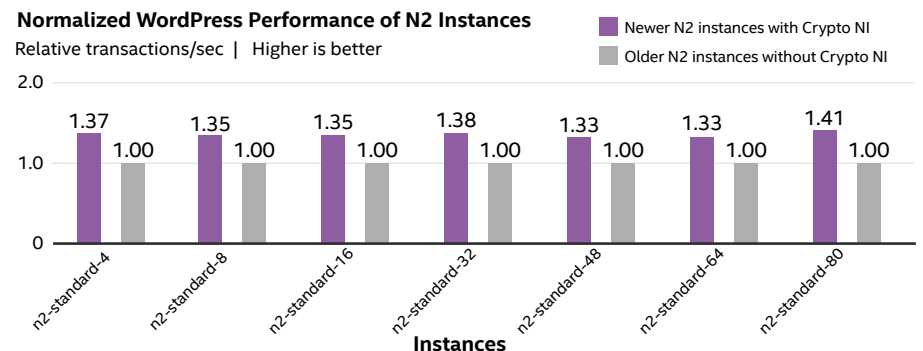
Normalized WordPress Performance of N2 Instances

Relative transactions/sec | Higher is better

- Newer N2 instances with Crypto NI
- Older N2 instances without Crypto NI

Instance	Newer N2 with Crypto NI	Older N2 without Crypto NI
n2-standard-4	1.37	1.00
n2-standard-8	1.35	1.00
n2-standard-16	1.35	1.00
n2-standard-32	1.38	1.00
n2-standard-48	1.33	1.00
n2-standard-64	1.33	1.00
n2-standard-80	1.41	1.00

Instances

Figure 1. Relative WordPress performance of seven sizes of N2 instances. Higher numbers are better.

Intel Workload Proof Series: WordPress on Google Cloud N2 Generation Comparison

Utilizing Crypto NI Boosts WordPress Performance of New N2 Instances with 3rd Gen Intel® Xeon® Scalable Processors

Are you sold on the idea of using new N2 instances with 3rd Gen Intel Xeon Scalable processors for your WordPress workloads, but uncertain of the value of utilizing Crypto NI? Figure 2 shows that by opting out of Crypto NI, you'd be leaving performance on the table. In our testing, utilizing Crypto NI by using the Intel-created Async Mode on NGINX allowed the instance to achieve more transactions per second at every size, with improvements ranging from 10 percent to 16 percent.

Normalized WordPress Performance of N2 Instances Enabled by 3rd Gen Intel Xeon Scalable Processors

Relative transactions/sec | Higher is better

■ N2 instances with Crypto NI
■ N2 instances without Crypto NI
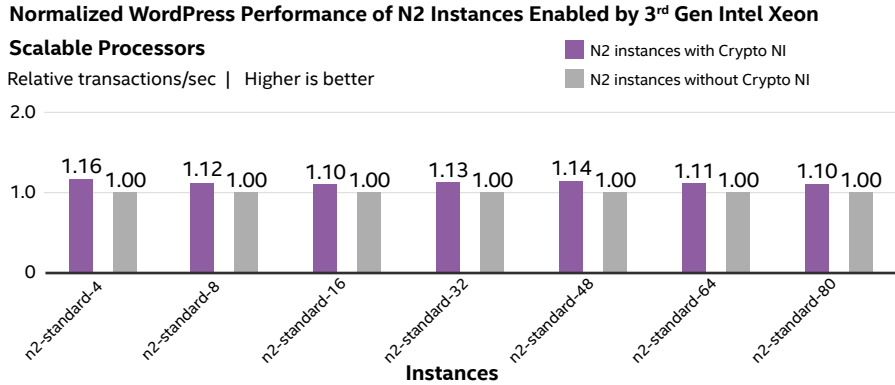
Figure 2. Relative WordPress performance of seven sizes of N2 instances. Higher numbers are better.

Conclusion

Selecting an instance that handles more transactions per second has the potential to help your organization in multiple ways. Not only can you provide a better experience for your users, but you can meet your requirements with fewer instances, which could translate to cost savings.

Learn More

To get started running your CPU-intensive workloads on Google Cloud N2 instances enabled by 3rd Gen Intel Xeon Scalable processors, visit https://cloud.google.com/compute/docs/general-purpose-machines#n2_machines.

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