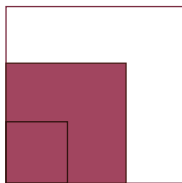
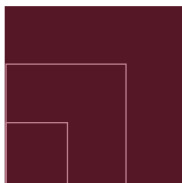


Up to 1.50x
the rate of WordPress
requests per second on
4vCPU VMs*



Up to 1.53x
the rate of WordPress
requests per second on
8vCPU VMs*



Up to 1.49x
the rate of WordPress
requests per second on
16vCPU VMs*

Handle WordPress web traffic with new Ddsv5 series VMs from Microsoft Azure featuring 3rd Generation Intel Xeon Scalable processors

The newer series outperformed previous-generation Ddsv4 series VMs featuring 2nd Generation Intel Xeon Scalable processors

If your business website runs on the cloud, the configurations of your chosen cloud VMs have a powerful effect on the performance your users and customers will see when interacting with your site. While newer hardware can often outperform older technology in a series, knowing the magnitude of the performance difference is important for businesses considering the VMs that will support their sites.

At Principled Technologies, we compared the WordPress request rate performance of two series of VMs from Microsoft Azure: newer Ddsv5 series VMs featuring 3rd Generation Intel Xeon Scalable processors and older Dds v4 series VMs featuring 2nd Generation Intel Xeon Scalable processors. Across three different VM sizes and configurations, the Ddsv5 series VMs processed a higher rate of requests per second than their previous-generation counterparts, suggesting that the new VMs could enable organizations to support a higher volume of website traffic and interactions.

*Ddsv5 series VMs featuring 3rd Gen Intel Xeon Scalable processors vs. Ddsv4 VMs featuring 2nd Gen Intel Xeon Scalable processors

How we tested

Our tests compared the WordPress transaction performance of two series of Microsoft Azure VM:

- **Ddsv5 series VMs** featuring 3rd Generation Intel Xeon Platinum 8370C (Ice Lake) processors
- **Ddsv4 series VMs** featuring 2nd Generation Intel Xeon Platinum 8272CL (Cascade Lake) processors

We tested on three different sizes of VM to demonstrate each series' performance at different levels of available resources—from what a small company may have to resources on the level of a large company. Note that Microsoft Azure defines VM size by vCPU count. We tested VMs with 4, 8, and 16 vCPUs. Figure 1 shows a diagram of this information.

The workload we used

To test the Azure VMs, we used a modified version¹ of the open-source website transaction benchmark suite *oss-performance*,² which enabled the suite to run using PHP as opposed to HHVM. For more information, see [the Science behind this report](#).

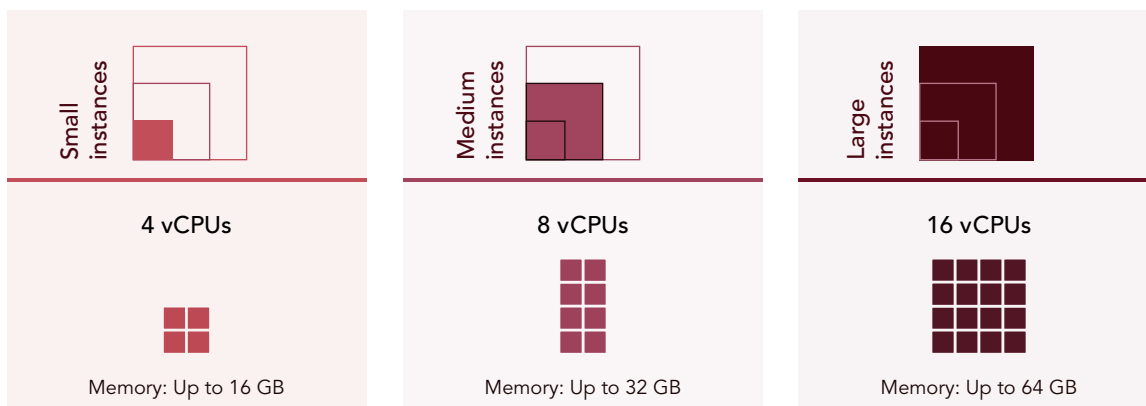


Figure 1: Key specifications of the Microsoft Azure Ddsv5 and Ddsv4 series VMs we tested. Source: Principled Technologies.

Intel Xeon Scalable processors and transport layer security (TLS)

The third generation of Intel Xeon Scalable processors contain improved performance for the most widely used TLS/SSL/HTTPS ciphers.³ We performed five sets of test runs that each used a different TLS cipher. The results in the main body of this report reflect results from the cipher known as ECDHE-RSA-AES128-GCM-SHA256:ECDH:RSA:secp384r1. For more information, see the [Science behind this report](#).

Our test results

Our test results span three sizes of VM that may match the needs of small to large businesses. Across all three VM sizes we tested, the Ddsv5 series VMs that featured 3rd Generation Intel Xeon Scalable processors outperformed the Ddsv4 series VMs that featured 2nd Generation Intel Xeon Scalable processors. As the Science behind this report shows, this was true for all ciphers we tested with.

Our results suggest that the newer series of VMs can provide a significant website traffic capacity benefit compared to the older series, potentially helping your organization to avoid the negative effects of an overloaded employee website or customer-facing web services.

4vCPU VM results

Figure 2 shows that the newer D4ds_v5 VM supported up to 1.50 times the rate of WordPress website requests per second (RPS) as the previous generation D4ds_v4 VM.

WordPress performance with 4 vCPUs (requests per second)

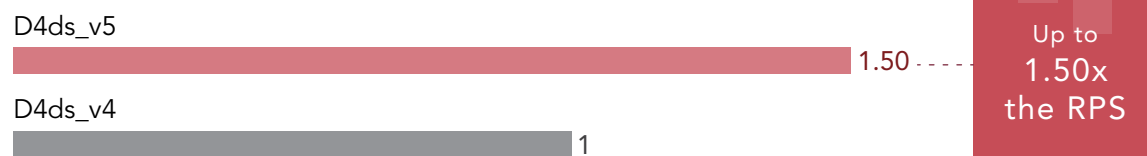


Figure 2: Rate of WordPress requests per second each 4vCPU VM achieved, normalized to the D4ds_v4 VM rate. Source: Principled Technologies.

8vCPU VM results

Figure 3 shows that the newer D8ds_v5 VM supported up to 1.53 times the rate of WordPress website requests per second as the previous generation D8ds_v4 VM.

WordPress performance with 8 vCPUs (requests per second)

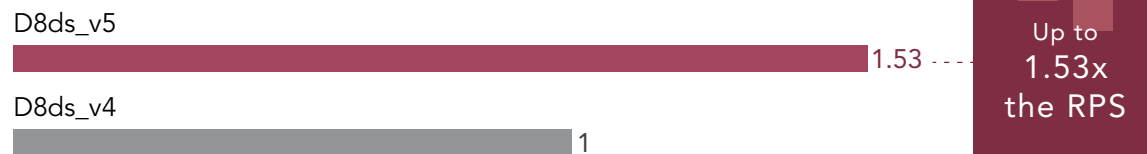


Figure 3: Rate of WordPress requests per second each 8vCPU VM achieved, normalized to the D8ds_v4 VM rate. Source: Principled Technologies.



16vCPU VM results

Figure 4 shows that the newer D16ds_v5 VM supported up to 1.49 times the rate of WordPress website requests per second compared to the previous-generation D16ds_v4 VM.

WordPress performance with 16 vCPUs (requests per second)

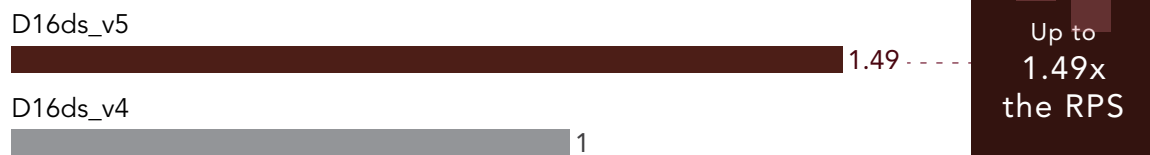


Figure 4: Rate of WordPress requests per second each 16vCPU VM achieved, normalized to the rate of the D16ds_v4 VM. Source: Principled Technologies.

The cost benefits of Ddsv5 VMs

In addition to offering better WordPress performance, the Ddsv5 VMs we tested currently cost half as much as Ddsv4 VMs as of this writing. Microsoft Azure website notes that the prices for v5 VMs may increase in December 2021, but for now, Ddsv5 VMs are a cost-saving solution compared to the Ddsv4 series VMs.⁴



Conclusion

Company websites, whether external or internal-facing, are important assets for any modern business. Organizations whose websites rely on cloud-hosted content management systems such as WordPress must be sure to select VMs that can support the level of web traffic the business expects. In our tests, newer Microsoft Azure Ddsv5 VMs featuring 3rd Generation Intel Xeon Scalable processors supported a higher rate of WordPress requests per second compared to Ddsv4 VMs featuring 2nd Generation Intel Xeon Scalable processors—up to 1.53 times as high. Being able to support a greater volume of web traffic can afford your business more room to grow its user base without succumbing to overload.

- 1 intel / Updates-for-OSS-Performance, accessed October 20, 2021, <https://github.com/intel/Updates-for-OSS-Performance>.
- 2 facebookarchive / oss-performance, accessed October 18, 2021, <https://github.com/facebookarchive/oss-performance>.
- 3 Intel, “Crypto Acceleration: Enabling a Path to the Future of Computing,” accessed October 18, 2021, <https://newsroom.intel.com/articles/crypto-acceleration-enabling-path-future-computing/>.
- 4 “Windows Virtual Machine Pricing,” accessed October 18, 2021, <https://azure.microsoft.com/en-us/pricing/details/virtual-machines/windows/>.

Read the science behind this report at <http://facts.pt/650qQgj> ►



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