Handle up to 2.45x the ASP.NET Work on Microsoft® Azure® Dsv5 Virtual Machines Featuring 3rd Gen Intel® Xeon® Scalable Processors

ASP.NET

Up to 2.45x the Requests/ Second on D2s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D2_v3 VMs

Up to 2.33x the Requests/ Second on D4s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D4_v3 VMs

Up to 1.96x the Requests/ Second on D8s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D8_v3 VMs

With Docker Containers, Dsv5 Virtual Machines Outperformed Dv3 Virtual Machines with Older Processors

Choosing a strong cloud platform to host apps on your ASP.NET development framework can lead to faster response times for end users to deliver a better overall user experience. To show how your choice of cloud virtual machines (VMs) to host these workloads can affect performance, we tested two generations of Azure VMs with ASP.NET Core 6.0 on Docker containers: Standard Dsv5 VMs featuring 3rd Gen Intel Xeon Scalable Processors, and Standard Dv3 VMs featuring older processors. On a variety of scenarios including tests related to Plaintext, Json, Fortunes, and more, the Dsv5 VMs handled significantly more requests per second than their Dv3 counterparts. Testing showed this ASP.NET performance increase continued across multiple VM sizes (2vCPU, 4vCPU, and 8vCPU), which means your organization could deliver a better app experience for end users by selecting Azure Dsv5 VMs.

Performance on 2vCPU Virtual Machines

Figure 1 shows the relative ASP.NET performance of VMs with 2 vCPUs, where the Dsv5 VMs consistently yielded higher performance than Dv3 VMs—achieving up to 2.45x the requests per second.

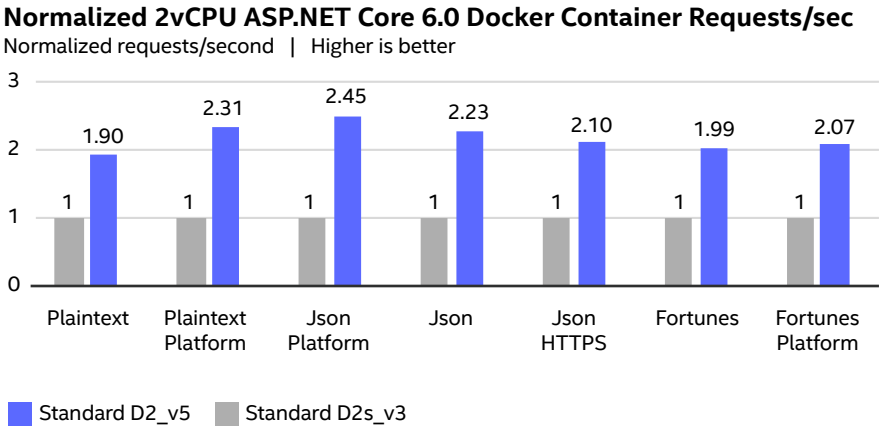
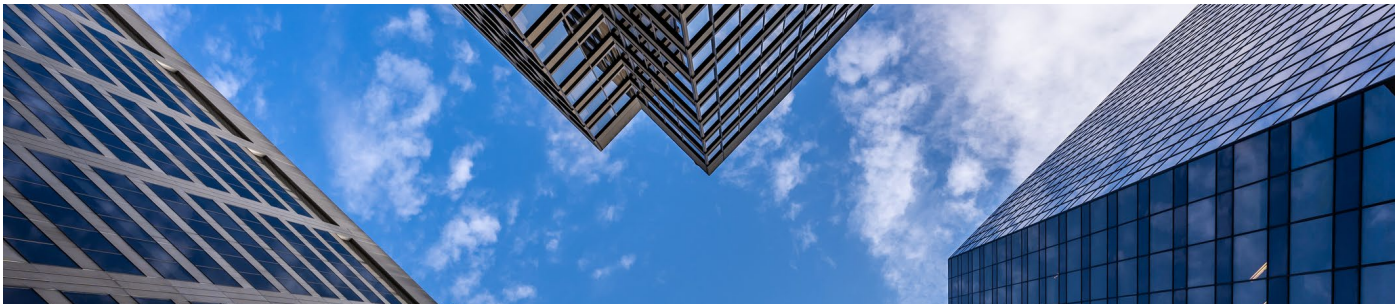


Figure 1. Relative test results comparing the requests-per-second rate of D2s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D2_v3 VMs enabled by 1st Gen Intel Xeon Scalable processors.

Intel Workload Proof Series: ASP.NET on Azure Dsv5 VMs vs. Dv3 VMs

See backup for workloads and configurations. Results may vary.



Performance on 4vCPU Virtual Machines

Figure 2 presents results for tests on VMs with 4 vCPUs. Again, Dsv5 VMs with 3rd Gen Intel® Xeon® Scalable processors handled more requests per second than the Dv3 VMs with older processors, outperforming the legacy VMs by as much as 2.33x the requests per second.

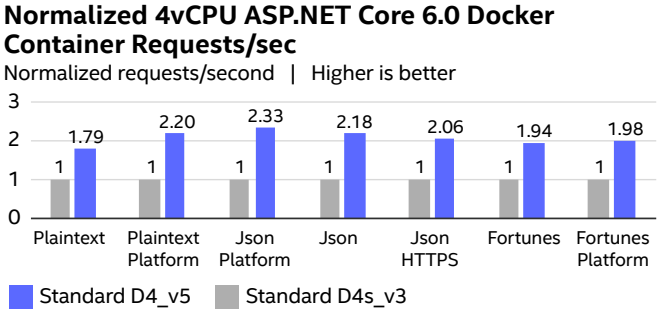


Figure 2. Relative test results comparing the requests-per-second rate of D4s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D4_v3 VMs enabled by 1st Gen Intel Xeon Scalable processors.

Performance on 8vCPU Virtual Machines

ASP.NET performance gains continued to be strong for the new Dsv5 VMs with 8 vCPUs. As Figure 3 shows, the newer 8vCPU Dsv5 VMs with 3rd Gen Intel Xeon Scalable processors handled up to 1.96x the requests per second on a ASP.NET workload as the 8vCPU Dv3 VMs did.

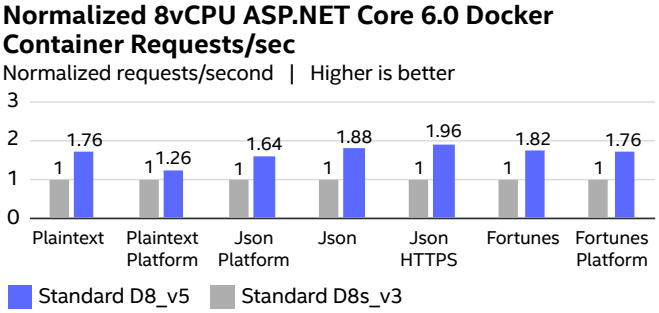


Figure 3. Relative test results comparing the requests-per-second rate of D8s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D8_v3 VMs enabled by 1st Gen Intel Xeon Scalable processors.

These results show that at various VM sizes, selecting Azure Standard Dsv5 VMs with 3rd Gen Intel Xeon Scalable processors to power your ASP.NET Core 6.0 apps could enable you to deliver a faster, smoother application experience to your end users.

Learn More

To begin running your workloads on Azure Dsv5 VMs with 3rd Gen Intel Xeon Scalable processors, visit https://docs.microsoft.com/en-us/azure/virtual-machines/dv5-dsv5-series

Tests by Intel completed March 2022. All tests on Azure WestUS 2 Region with Ubuntu 20.04.2 LTS kernel 5.8.0-1036-azure and ASP.Net Core 6.0. Instance details: Standard D2s_v5: Intel Xeon Platinum 8370C CPU @ 2.8GHz, 2 vCPU, 8GB RAM; Standard D4s_v5: Intel Xeon Platinum 8370C CPU @ 2.8GHz, 4 vCPU, 16GB RAM; Standard D8s_v5: Intel Xeon Platinum 8370C CPU @ 2.8GHz, 8 vCPU, 32GB RAM; Standard D2_v3: Intel Xeon Platinum 8370C CPU @ 2.80GHz, Intel Xeon Platinum 8272CL (Cascade Lake), Intel Xeon 8171M 2.1GHz (Skylake), Intel Xeon E5-2673 v4 2.3 GHz (Broadwell), Intel Xeon E5-2673 v3 2.4 GHz (Haswell), 2 vCPU, 8GB RAM; Standard D4_v3: Intel Xeon Platinum 8370C CPU @ 2.80GHz, Intel Xeon Platinum 8272CL (Cascade Lake), Intel Xeon 8171M 2.1GHz (Skylake), Intel Xeon E5-2673 v4 2.3 GHz (Broadwell), Intel Xeon E5-2673 v3 2.4 GHz (Haswell), 4 vCPU, 16GB RAM; Standard D8_v3: Intel Xeon Platinum 8370C CPU @ 2.80GHz, Intel Xeon Platinum 8272CL (Cascade Lake), Intel Xeon 8171M 2.1GHz (Skylake), Intel Xeon E5-2673 v4 2.3 GHz (Broadwell), Intel Xeon E5-2673 v3 2.4 GHz (Haswell), 8 vCPU, 32GB RAM

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