



Accomplish up to 50% More ASP.NET Work on Microsoft® Azure® Dsv5 Virtual Machines Enabled by 3rd Gen Intel® Xeon® Scalable Processors

In Tests on Docker Containers, These Virtual Machines (VMs) Performed Better Than Dsv4 VMs with Older Processors

For organizations that host web, mobile, and IoT apps, the ASP.NET framework is a popular development platform option. Once your developers have built and released these apps, response times can play a vital role in user experience. 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 Dsv4 VMs featuring 2nd Gen Intel Xeon Scalable processors. On a variety of scenarios including tests related to Plaintext, Json, Fortunes, and more, the Dsv5 VMs processed more requests per second than their Dsv4 counterparts.

Performance on 4vCPU VMs

Figure 1 shows the relative ASP.NET performance of VMs with 4 vCPUs, where the Dsv5 VMs consistently yielded higher performance than Dsv4 VMs by up to 44%.

Relative ASP.NET Core 6.0 Performance on Docker Containers

Normalized requests/second | Higher is better

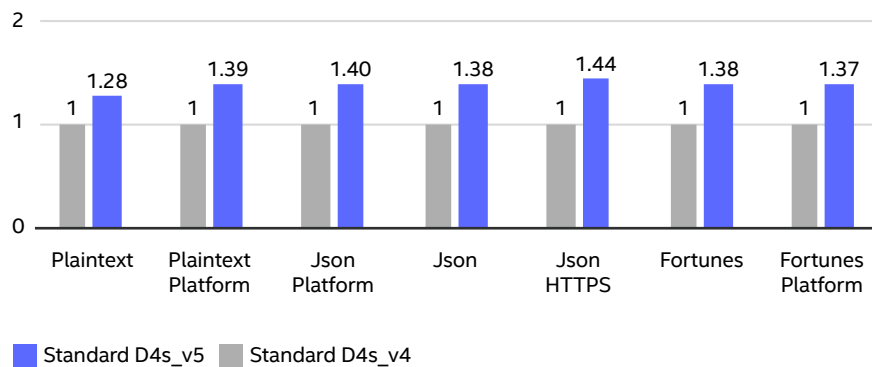


Figure 1. Relative test results comparing the requests-per-second rate of D4s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D4s_v4 VMs enabled by 2nd Gen Intel Xeon Scalable processors.

ASP.NET



Up to 44% Higher Request/Sec on D4s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D4s_v4 VMs



Up to 50% Higher Request/Sec on D8s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D8s_v4 VMs



Up to 45% Higher Request/Sec on D16s_v5 VMs Featuring 3rd Gen Intel Xeon Scalable Processors

vs. D16s_v4 VMs

Performance on 8vCPU VMs

In Figure 2, we show results for tests on VMs with 8 vCPUs. Dsv5 VMs again processed a higher rate of requests across each test, showing up to 50% improvement.

Relative ASP.NET Core 6.0 Performance on Docker Containers

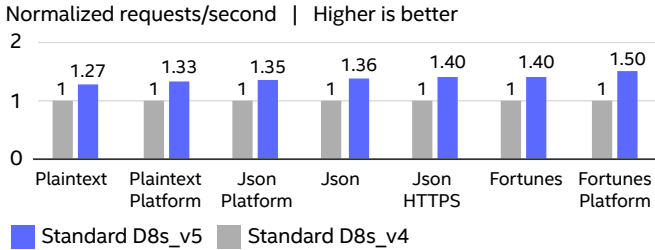


Figure 2. Relative test results comparing the requests-per-second rate of D4s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D4s_v4 VMs enabled by 2nd Gen Intel Xeon Scalable processors.

Performance on 16vCPU VMs

Figure 3 illustrates that 16vCPU Dsv5 VMs offered higher performance than 16vCPU Dsv4 VMs, showing an improvement of up to 45%.

Relative ASP.NET Core 6.0 Performance on Docker Containers

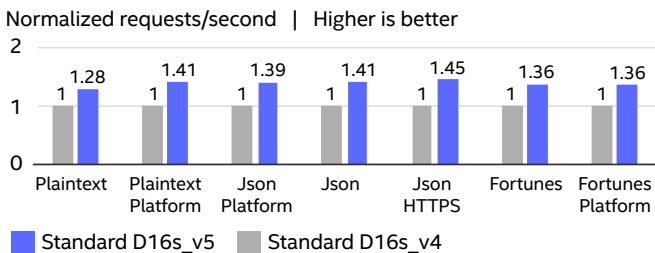


Figure 3. Relative test results comparing the requests-per-second rate of D16s_v5 VMs enabled by 3rd Gen Intel® Xeon® Scalable processors vs. D16s_v4 VMs enabled by 2nd Gen Intel Xeon Scalable processors.

Tests by Intel completed March 2022. All tests on Azure East US Region with Ubuntu 20.04.2 LTS kernel 5.8.0-1036-azure and ASP.Net Core 6.0. Instance details: 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 D16s_v5: Intel Xeon Platinum 8370C CPU @ 2.8GHz, 16 vCPU, 64GB RAM; Standard D32s_v5: Intel Xeon Platinum 8370C CPU @ 2.8GHz, 32 vCPU, 128GB RAM; Standard D4s_v4: Intel Xeon Platinum 8272CL, Intel Xeon Platinum 8370C CPU @ 2.8GHz, 4 vCPU, 16GB RAM; Standard D8s_v4: Intel Xeon Platinum 8272CL, Intel Xeon Platinum 8370C CPU @ 2.8GHz, 8 vCPU, 32GB RAM; Standard D16s_v4: Intel Xeon Platinum 8272CL, Intel Xeon Platinum 8370C CPU @ 2.8GHz, 16 vCPU, 64GB RAM; Standard D32s_v4: Intel Xeon Platinum 8272CL, Intel Xeon Platinum 8370C CPU @ 2.8GHz, 32 vCPU, 128GB RAM



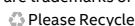
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Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See above for configuration details. No product or component can be absolutely secure. Your costs and results may vary.

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Performance on 32vCPU VMs

At the 32vCPU size, Figure 4 shows that Dsv5 VMs offered better performance on test scenarios, with a rate up to 30% higher than Dsv4 VMs.

Relative ASP.NET Core 6.0 Performance on Docker Containers

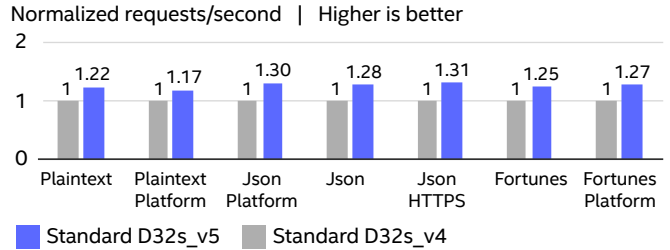


Figure 4. Relative test results comparing the requests-per-second rate of D32s_v5 VMs enabled by 3rd Gen Intel Xeon Scalable processors vs. D32s_v4 VMs enabled by 2nd Gen Intel Xeon Scalable processors.

Choosing 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 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>