Do up to 1.7x More ASP.NET Work on 2nd Gen Intel® Xeon® Scalable Processor-Based Instances vs. ARM Processor-Based Instances

ASP.NET

Complete 1.70x more ASP.NET work on 48 vCPU instances with 2nd Gen Intel Xeon Scalable processors

vs. ARM processor-based instances

Complete 1.67x more ASP.NET work on 64 vCPU instances with 2nd Gen Intel Xeon Scalable processors

vs. ARM processor-based instances

Improve ASP.NET Performance with Instances Featuring 2nd Gen Intel Xeon Scalable Processors

Millions of websites and other web applications were built using ASP.NET framework, and the quicker these developers can wrap their work and get their projects into production the better. Companies looking to host web development applications in the cloud find that the general-purpose instance types enabled by 2nd Gen Intel® Xeon® Scalable processors can handle your web app development needs.

In ASP.NET tests comparing six sizes of AWS instances, 2nd Gen Intel Xeon Scalable processor-based instances supported up to 1.70x more performance than instances with ARM processor-based processors. To support more web application development work per cloud instance, choose a newer instance enabled by 2nd Gen Intel Xeon Scalable processors.

Measuring ASP.NET performance

ASP.NET testing used scenarios from the TechEmpower Web Framework Benchmarks, including tests related to Plaintext, JSON, Fortunes, HTTPS, Platform Plaintext, Platform JSON, Platform Fortunes. The reported results take the geomean RPS across ASP.NET KPIs to show expected ASP.Net performance capabilities.

Table 1 outlines the twelve instance types that underwent ASP.NET benchmarking tests. Ranging from 4 vCPUs to 64 vCPUs to show performance for a number of instance sizes, both M5 and M6g instances had the same specifications at each size.

CPU and Memory for each VM size for both ARM- and Intel processor-based instances	
vCPU	**Memory GB**
4	16
8	32
16	64
32	128
48	192
64	256

Table 1. Tested instances' vCPU and memory configurations.

Get Better Performance Across Instance Sizes

Figure 1 shows the relative ASP.NET performance of 2nd Gen Intel Xeon Scalable processor-based instances compared to ARM processor-based instances. Across the board, the instances enabled by 2nd Gen Intel® Xeon® Scalable processors outperformed the ARM processor-based instances, achieving as much as 1.7x better performance on ASP.NET benchmarking tests. Performance gains were especially impressive on larger instance sizes with 48 and 64 vCPUs.

These results show that regardless of the instance size, organizations performing ASP.NET work in the cloud can do more development work—or complete work faster—by selecting general-purpose instances enabled by 2nd Gen Intel Xeon Scalable processors over instances with ARM processor-based processors.

Realize Additional Benefits with Instances Enabled by 2nd Gen Intel Xeon Scalable Processors

Stronger performance isn't the only reason to choose instances featuring 2nd Gen Intel Xeon Scalable processors. No matter if you're moving workloads to the cloud or starting fresh, you've likely run databases and development platforms on Intel Xeon architecture in the past.

By continuing to leverage Intel Xeon processor architecture instead of choosing ARM processor-based processors, your organization could save effort and funds because you're able to rely on a set of baseline settings and best practices already in place. If you choose new processor architectures, admins may have to spend extra effort re-optimizing, testing, and validating your workload as well as ensuring they meet any SLA requirements.

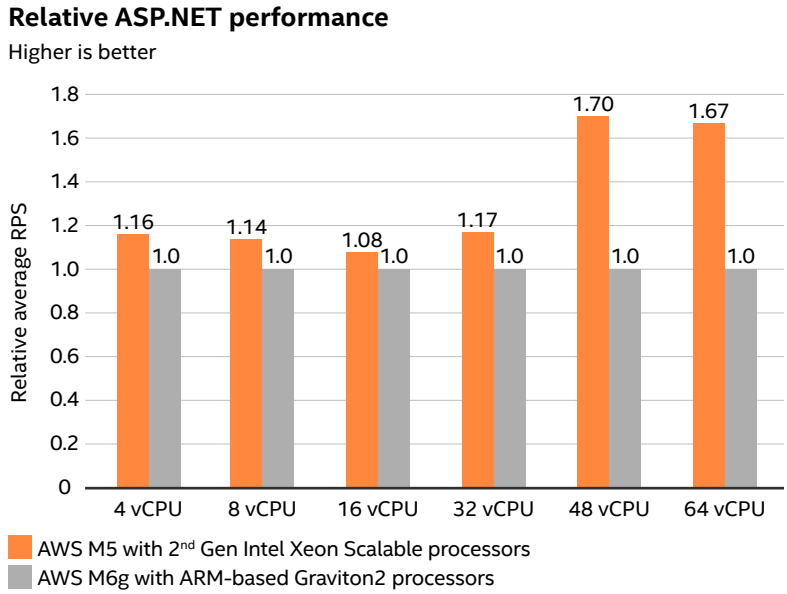

Figure 1. Relative test results comparing the average ASP.NET KPIs performance of Intel Xeon processor-based instances vs. ARM processor-based instances at various sizes.

Learn More

To begin running your ASP.NET workloads on instances with 2nd Gen Intel Xeon Scalable processors, visit http://intel.com/aws.

Tests performed by Intel in December 2020 on AWS in region us-east-2. Tested three iterations and selected average for result. Software used was Ubuntu 20.04 LTS with kernel 5.4.0, .NET Core SDK 5.0.101 for workload, and TFB ASP.NET KPIs for other software. All configurations used SSD storage and 600 MBps storage BW; other configuration details to follow. m5.16xlarge: 64 vCPUs, 256GB memory, 20 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.16xlarge: 64 vCPUs, 256GB memory, 25 Gbps network BW, Neoverse-N1 CPU. m5.12xlarge: 48 vCPUs, 192GB memory, 10 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.12xlarge: 48 vCPUs, 192GB memory, 20 Gbps network BW, Neoverse-N1 CPU. m5.8xlarge: 32 vCPUs, 128GB memory, 10 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.8xlarge: 32 vCPUs, 128GB memory, 12 Gbps network BW, Neoverse-N1 CPU. m5.4xlarge: 16 vCPUs, 64GB memory, 10 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.4xlarge: 16 vCPUs, 64GB memory, 10 Gbps network BW, Neoverse-N1 CPU. m5.2xlarge: 8 vCPUs, 32GB memory, 10 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.2xlarge: 8 vCPUs, 32GB memory, 10 Gbps network BW, Neoverse-N1 CPU. m5.xlarge: 4 vCPUs, 16GB memory, 10 Gbps network BW, Intel 8259CL or 8175M CPU. m6g.xlarge: 4 vCPUs, 16GB memory, SSD storage, 10 Gbps network BW, Neoverse-N1 CPU.

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