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64-vCPU AWS EC2 M5 Instances Achieved up to 1.67 Times the Work of AWS EC2 M6g Instances

Various Workloads

1.67x the ASP.NET development work with m5.16xlarge instances with 2nd Gen Intel Xeon Scalable processors

vs. m6g.16xlarge instances with Graviton2

1.65x the MySQL database work with m5.16xlarge instances with 2nd Gen Intel Xeon Scalable processors

vs. m6g.16xlarge instances with Graviton2

1.2x the Java Web Services work with m5.16xlarge instances with 2nd Gen Intel Xeon Scalable processors

vs. m6g.16xlarge instances with Graviton2

Reap Greater Performance by Selecting M5 Instances Featuring 2nd Gen Intel Xeon Scalable Processors

When you decide to run your workloads on AWS, you have many different instances from which to choose. Even once you determine the correct size for your workload, you have a choice of processors. By choosing AWS M5 instances enabled by 2nd Gen Intel Xeon Scalable processors rather than M6g instances powered by Amazon Graviton2 processors, you could enjoy better performance and also gain the benefits that come with sticking with a familiar processor architecture.

In testing across three different workloads—ASP.NET, MySQL, and Java web services--we two types of extra-large 64-vCPU AWS instances: M5 instances enabled by 2nd Gen Intel Xeon Scalable processors and M6g instances powered by Amazon Graviton2 processors. The M5 instances delivered up to 1.67 the performance of the M6g instances, which could translate to needing fewer instances to do a given amount of work.

If you have workloads that you currently run on VMs powered by 2nd Gen Intel Xeon Scalable processors, selecting AWS M5 instances could not only give you superior performance than M6g instances, and can reduce the number of instances required.

Better ASP.NET Development Performance

For your developers building apps and websites using the ASP.NET framework, you want to provide a platform that is speedy and efficient. As Figure 1 shows, in ASP.NET tests comparing two 64-vCPU AWS instances, M5 instances enabled by 2nd Gen Intel Xeon Scalable processors supported 1.67x the performance of M6g instances with Graviton2 processors. To support your developers and reduce the number of instances you require, choose an AWS M5 instance enabled by 2nd Gen Intel Xeon Scalable processors.

ASP.NET Development Performance
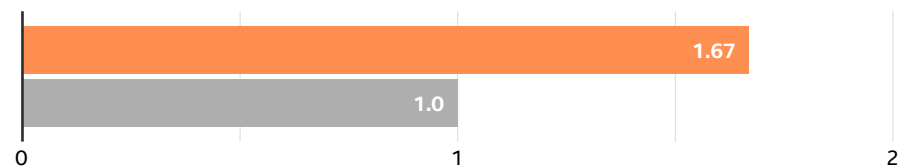64-vCPU instances | Higher is Better

Figure 1. Relative test results comparing the ASP.NET development performance of the extra-large (64-vCPU) M5 instance type to the extra-large M6g instance type.

Better MySQL Database Performance

Whether you use your MySQL database for e-commerce, data warehousing, or other applications, getting the best possible performance from your AWS instances is always a priority. As Figure 2 shows, in MySQL tests comparing two 64-vCPU AWS instances, M5 instances enabled by 2nd Gen Intel Xeon Scalable processors achieved 1.65x the performance of M6g instances with Graviton2 processors. By choosing AWS M5 instances enabled by 2nd Gen Intel Xeon Scalable processors, you could meet

MySQL Performance
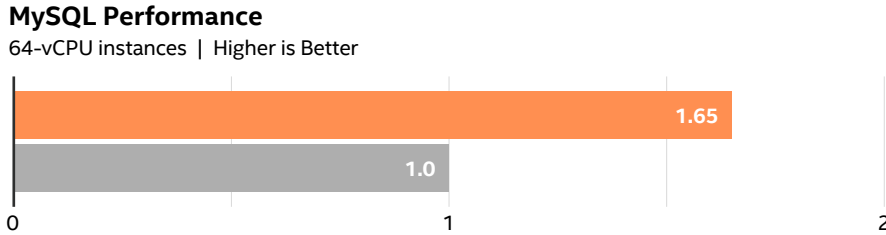
64-vCPU instances | Higher is Better

Figure 2. Relative test results comparing the MySQL database performance of the extra-large (64-vCPU) M5 instance type to the extra-large M6g instance type.

your database needs with fewer instances.

Better Java Web Services Performance

If your company runs Java web services workloads on AWS, you want to be sure to select the right instance type for the job. In our testing with an Industry-standard Java server benchmark, we found that an extra-large AWS 64-vCPU M5 VM instance enabled by Intel Xeon Scalable processors achieved 1.2x the Java work as M6g instances based on Amazon Graviton2 processors (see Figure 3).

Java Benchmark Performance

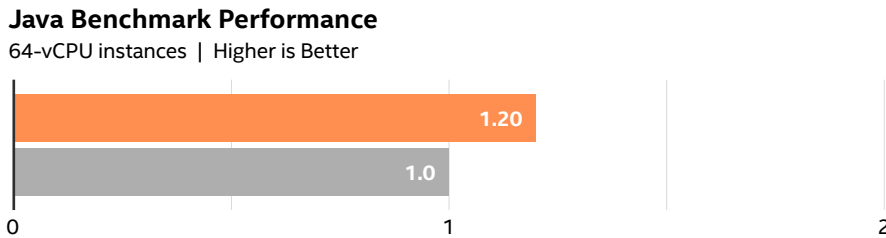64-vCPU instances | Higher is Better

Figure 3. Relative test results comparing the Java web services performance of the extra-large (64-vCPU) M5 instance type to the extra-large M6g instance type.

Learn More

To begin running your workloads on AWS M5 with 2nd Gen Intel Xeon Scalable processors, visit http://intel.com/aws.
For more test details, visit http://intel.com/aws.

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