

Improve Your MariaDB Performance by up to 1.29x by Selecting Amazon EC2 M6i Instances Rather than EC2 M5 Instances



MariaDB



Handle up to 1.29x the MariaDB Transactions per Minute with Amazon EC2 M6i Instances
vs. EC2 M5 instances



New EC2 M6i Instances Featuring 3rd Gen Intel® Xeon® Scalable Processors Handled More Transactions per Minute

Online transaction processing (OLTP) workloads are the lifeblood of many businesses. If you choose to run your OLTP applications in the cloud, selecting an instance that delivers strong performance can allow you to get a greater return on your investment. Whether your workloads are small, larger, or somewhere in between, the latest Amazon EC2 M6i instances enabled by 3rd Gen Intel® Xeon® Scalable processors offer stronger performance than instances powered by older processors.

MariaDB is an open-source relational database management system. Testing compared the MariaDB OLTP performance of two series of Amazon EC2 (Elastic Cloud Compute) instances: new M6i series instances featuring 3rd Generation Intel Xeon Scalable processors and older M5 series instances featuring 2nd Generation Intel Xeon Scalable processors. New EC2 M6i instances enabled by 3rd Gen Intel Xeon Scalable processors delivered up to 1.29 times the transactions per minute of the EC2 M5 instances with previous-gen Intel Xeon processors. This difference could allow you to carry out your OLTP workloads using fewer instances, which could translate to savings.

Small Instances Handled More OLTP Transactions

By selecting Amazon EC2 M6i instances with newer processors for your MariaDB workloads, you can get greater performance per instance. Testing using the TPROC-C test from the HammerDB benchmarking suite showed that an eight-vCPU Amazon EC2 M6i instance enabled by 3rd Gen Intel Xeon Scalable processors handled 1.28x as many transactions per minute as an eight-vCPU EC2 M5 instance (see Figure 1).

Relative MariaDB performance with 8-vCPU instances

Transactions per minute | Higher is better

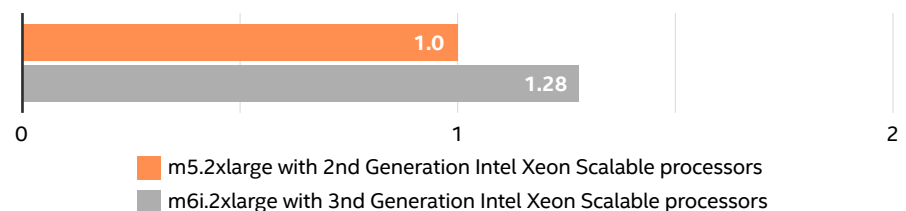
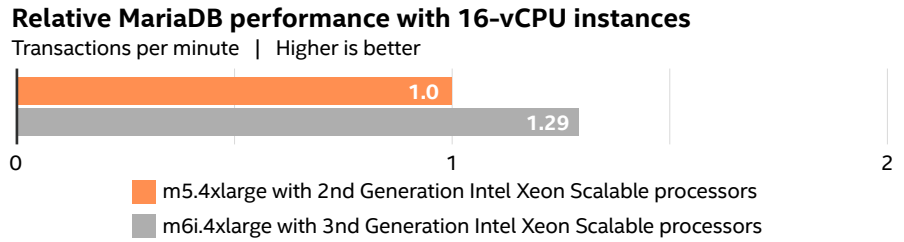


Figure 1. Comparison of MariaDB OLTP performance between m6i.2xlarge and m5.2xlarge instances, normalized to the performance of the m5.2xlarge instance.

Medium Instances Handled More OLTP Transactions

Testing of medium-sized 16-vCPU instances revealed a similar performance advantage for Amazon EC2 M6i instances. As Figure 2 shows Amazon EC2 M6i instances enabled by 3rd Gen Intel® Xeon® Scalable processors handled 1.29x as many transactions per minute as EC2 M5 instances using older processors.

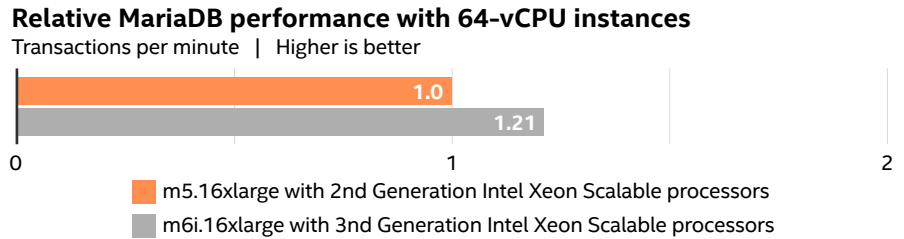
Figure 2. Comparison of MariaDB OLTP performance between m61.4xlarge and m5.4xlarge instances, normalized to the performance of the m5.4xlarge instance.



Large Instances Handled More OLTP Transactions

When testing targeted instances configured with 64 vCPUs, results were similar to those at smaller vCPU counts. Figure 3 shows that Amazon EC2 M6i instances enabled by 3rd Gen Intel Xeon Scalable processors completed 1.21x as many transactions per minute as EC2 M5 instances with older processors.

Figure 3. Comparison of MariaDB OLTP performance between m61.16xlarge and m5.16xlarge instances, normalized to the performance of the m5.16xlarge instance.



These tests show that new Amazon EC2 M6i instances enabled by 3rd Gen Intel Xeon Scalable processors can handle more OLTP transactions per minute at various instance sizes to deliver a better experience for MariaDB database users and reduce the number of cloud instances your organization must support. In addition to savings, the newer instances offer better future proofing, and better prepare you for increases in demand, such as the ones you will likely experience on Cyber Monday.

Better Value

Pricing information on the Amazon EC2 website indicates that new M6i series instances have the same on-demand hourly rate cost as older M5 series instances.¹ That means you could enjoy up to 1.29x the value by selecting instances featuring 3rd Gen Intel Xeon Scalable processors rather than those featuring 2nd Gen Intel Xeon Scalable processors for your MariaDB OLTP work.

Learn More

To begin running your websites on Amazon EC2 M6i instances with 3rd Gen Intel Xeon Scalable processors, visit <https://www.intel.com/content/www/us/en/partner/showcase/aws/overview.html>.

To read more about the test results and configurations, visit <http://facts.pt/TK7B9CA>.

1. "Amazon EC2 On-Demand Pricing," accessed November 3, 2021, <https://aws.amazon.com/ec2/pricing/on-demand/>.



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