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Boost MariaDB Performance by up to 1.40x with Microsoft® Azure® Edsv5 Virtual Machines vs. Edsv4 VMs

Handle More Transactions per Minute with New Edsv5 VMs Featuring 3rd Gen Intel® Xeon® Scalable Processors

When shopping for a cloud solution for your online transaction processing (OLTP) workloads, it's important to choose one that delivers the performance you need. Regardless of the size of your workloads, choosing the latest memory-optimized Microsoft Azure Edsv5 VMs enabled by 3rd Gen Intel® Xeon® Scalable processors can help ensure top performance. For applications that benefit from high vCPU counts and large amounts of memory, Microsoft Azure Edsv5 VMs are a great choice. They also feature larger local SSD storage.

MariaDB is an open-source relational database management system. In MariaDB tests comparing three sizes of Microsoft Azure VMs, new Edsv5 VMs enabled by 3rd Gen Intel Xeon Scalable processors delivered up to 1.40 times the transactions per minute of the Edsv4 VMs with previous-gen Intel Xeon processors. This improvement can reduce the number of VMs you need to handle your workloads, which can mean significant savings.

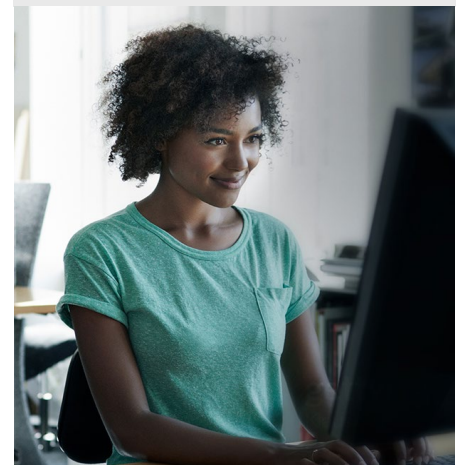## Handle More OLTP Work with Small VM Instances

By selecting memory-optimized Microsoft Azure Edsv5 VMs with newer processors for your MariaDB workloads, you can improve performance per VM. In testing using the TPROC-C test from the HammerDB benchmarking suite, an eight-vCPU Azure Edsv5 VM enabled by 3rd Gen Intel Xeon Scalable processors handled 1.40x the transactions per minute an eight-vCPU Edsv4 VM handled (see Figure 1).

1.40x more transactions per minute with small VMs
OLTP workload on MariaDB | Higher is better | Normalized results

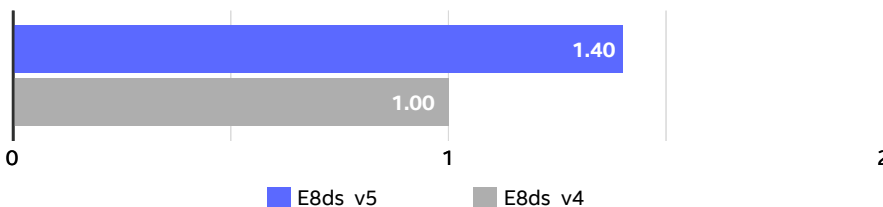|	
E8ds_v5	1.40
E8ds_v4	1.00

0   1   2

■ E8ds_v5   ■ E8ds_v4

Figure 1. Comparison of OLTP performance between E8ds_v5 and E8ds_v4 VMs, normalized to the performance of the E8ds_v4 VM.

MariaDB

Handle up to 1.40x the MariaDB transactions per minute with Azure Edsv5 VMs
vs. Edsv4 VMs

Handle More OLTP Work with Medium VM Instances

With 16 vCPUs per VM, testing showed a similar performance improvement for memory-optimized Azure Edsv5 VMs. As Figure 2 shows, with 16 vCPUs per VM, Microsoft Azure Edsv5 VMs enabled by 3rd Gen Intel® Xeon® Scalable processors handled 1.31x as many transactions per minute as Edsv4 VMs using older processors.

Figure 2. Comparison of OLTP performance between E16ds_v5 and E16ds_v4 VMs, normalized to the performance of the E16ds_v4 VM.

1.31x more transactions per minute with medium VMs
OLTP workload on MariaDB | Higher is better | Normalized results
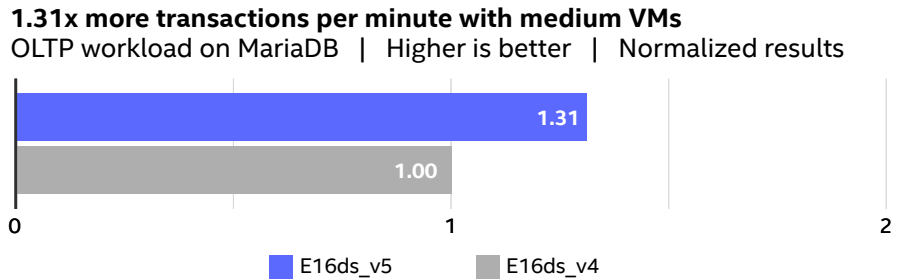
Handle More OLTP Work with Larger VM Instances

Configuring each VM with 64 vCPUs yielded similar results to the smaller vCPU counts. Figure 3 shows that Microsoft Azure Edsv5 VMs enabled by 3rd Gen Intel Xeon Scalable processors completed 1.27x as many transactions per minute as Edsv4 VMs using older processors.

Figure 3. Comparison of OLTP performance between E64ds_v5 and E64ds_v4 VMs, normalized to the performance of the E64ds_v4 VM.

1.27x more transactions per minute with large VMs
OLTP workload on MariaDB | Higher is better | Normalized results
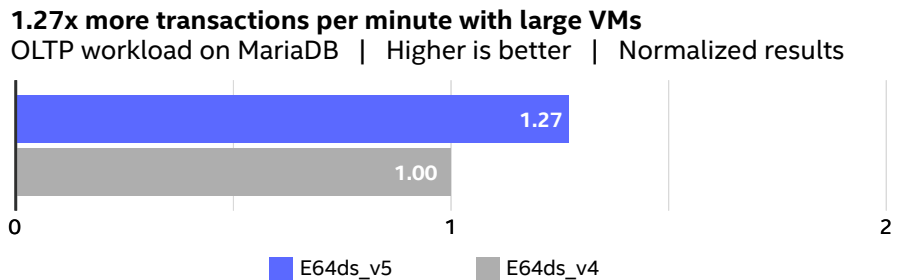
These tests show that new Microsoft Azure Edsv5 VMs enabled by 3rd Gen Intel Xeon Scalable processors can handle more OLTP transactions per minute at various VM sizes to deliver a better experience for MariaDB database users and reduce the number of cloud VMs your organization must support.

Learn More

To begin running your websites on Microsoft Azure Edsv5 virtual machines with 3rd Gen Intel Xeon Scalable processors, visit https://intel.com/microsoftazure.