Handle up to 35% More MySQL New Orders per Minute on Microsoft® Azure® VMs Featuring 3rd Gen Intel® Xeon® Scalable Processors

MySQL

Support up to 35% more MySQL new orders per minute with 8-vCPU Ddsv5 VMs

vs. Ddsv4 VMs

Support up to 34% more MySQL new orders per minute with 8-vCPU Edsv5 VMs

vs. Edsv4 VMs

Improve Database Performance over Ddsv4 and Edsv4 VMs with Previous-Generation Processors

Whether your organization seeks general-purpose or memory-optimized cloud VMs to support your smaller, critical OLTP databases, the latest Microsoft Azure Ddsv5 and Edsv5 series VMs enabled by 3rd Gen Intel® Xeon® Scalable processors can boost performance over VMs with older processors.

We used a TPROC-C workload from the HammerDB 4.2 benchmark to compare MySQL™ database performance on multiple types of Microsoft Azure VMs with 8vCPUs. New general-purpose Ddsv5 VMs delivered up to 35% more new orders per minute (NOPM) than Ddsv4 VMs. Similarly, memory-optimized Edsv5 VMs showed performance increases compared to older Edsv4 VMs, outperforming them by as much as 34%.

Because Microsoft Azure VMs with 3rd Gen Intel Xeon Scalable processors can do more database work than VMs with older processors, selecting latest-gen VMs can help you stretch your budget by reducing the number of VMs you need to accommodate your database traffic.

Boost Database Performance on General-Purpose VMs

Organizations with small database needs for general-purpose workloads can handle more MySQL database transactions per minute per VM by selecting Microsoft Azure Ddsv5 VMs with the latest processors. In tests, Azure Ddsv5 VMs enabled by 3rd Gen Intel Xeon Scalable processors with 8 vCPUs handled up to 35% more NOPM than a Ddsv4 VM did (see Figure 1).

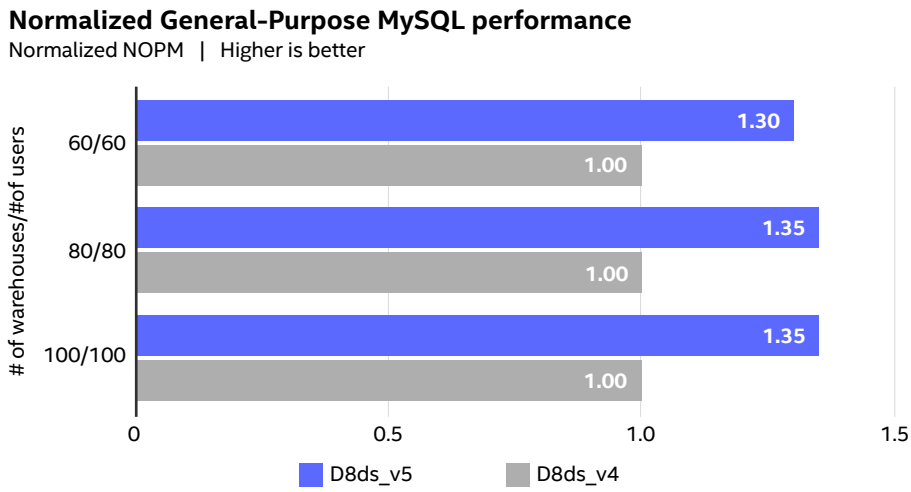

Figure 1. Relative MySQL database performance of the 8-vCPU Azure Ddsv5 VM and 8-vCPU Azure Ddsv4 VM types. Higher numbers are better.

Boost Database Performance on Memory-Optimized VMs

On memory-optimized VM types, Azure Edsv5 VMs offered similar MySQL database performance improvement over VMs with previous-generation processors. As Figure 2 shows, with 8 vCPUs, Microsoft Azure Edsv5 VMs featuring 3rd Gen Intel® Xeon® Scalable processors handled up to 34% more OLTP database NOPM than older Edsv4 VMs.

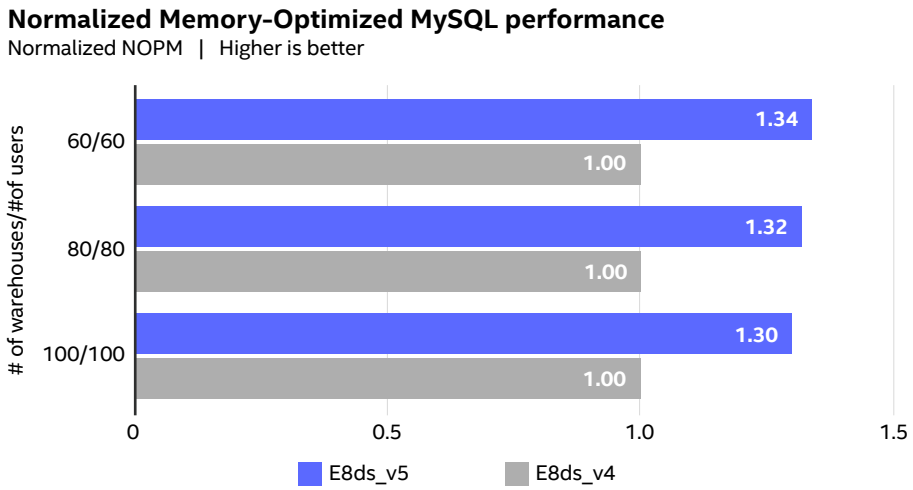

Figure 2. Relative MySQL database performance of the 8-vCPU Azure Edsv5 VM and 8-vCPU Azure Edsv4 VM types. Higher numbers are better.

Conclusion

These tests show that for both general-purpose and memory-optimized small-sized Microsoft Azure cloud instances, selecting the VM types enabled by the latest 3rd Gen Intel Xeon Scalable processors can provide better database performance to deliver a better experience for users accessing databases. By handling more database orders per VM, organizations can also minimize the number of VMs they must pay for and support.

Learn More

To begin running your websites on general-purpose Microsoft Azure Ddsv5 VMs or memory-optimized Edsv5 VMs with 3rd Gen Intel Xeon Scalable processors, visit https://azure.microsoft.com/en-us/pricing/details/virtual-machines/series/.

Single VM tests on Azure West US region by Intel on 12/06/2021. All configurations included CentOS 8.1 kernel 4.18.0-147.8.1.el8_1.x86_64, MySQL 8.0.22, HammerDB 4.2, V2 VM generation, Direct Att max 7500 IOPS, 250 Mbps, 1x P40 disk, 1000000 transactions per user, 5 min. ramp up, 10 min. runtime, Use All Warehouses disabled. D8ds_v4: Intel® Xeon® Platinum 8272CL, 32GB RAM, 4000 Mbps Network BW; D8ds_v5: Intel® Xeon® Platinum 8370C, 32GB RAM, 12500Mbps Network BW; E8ds_v4: Intel® Xeon® Platinum 8272CL, 64GB RAM, 4000 Mbps Network BW; E8ds_v5: Intel® Xeon® Platinum 8370C, 64 GB RAM, 12500 Mbps Network BW

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