

# Process up to 35% More MySQL New Orders per Minute on Microsoft® Azure® VMs Featuring 3<sup>rd</sup> Gen Intel® Xeon® Scalable Processors with 16 vCPUs



MySQL



Support up to 35% more MySQL new orders per minute with 16-vCPU Ddsv5 VMs

vs. Ddsv4 VMs



Support up to 35% more MySQL new orders per minute with 16-vCPU Edsv5 VMs

vs. Edsv4 VMs

## Boost Database Performance Compared to Medium-Sized VMs with Previous-Generation Processors

Whether your organization seeks general-purpose or memory-optimized medium-sized cloud VMs to support OLTP databases, the latest Microsoft Azure Ddsv5 and Edsv5 series VMs with 16 vCPUs featuring 3<sup>rd</sup> Gen Intel® Xeon® Scalable processors can handle more transactions than VMs running on older processors.

Using a TPROC-C workload from the HammerDB 4.2 benchmark to compare MySQL™ database performance on multiple types of Microsoft Azure VMs with 16 vCPUs, new general-purpose Ddsv5 VMs delivered up to 35% more new orders per minute (NOPM) than Ddsv4 VMs with older processors. Memory-optimized VMs had similar performance gains gen-over-gen, with new Edsv5 VMs outperforming older Edsv4 VMs by up to 35%.

By doing more database work per VM, Microsoft Azure VMs with 3<sup>rd</sup> Gen Intel Xeon Scalable processors can help you get more value for your money by reducing the number of VMs you have to support to handle the number of users accessing your MySQL databases.

## Do More Database Work on General-Purpose VMs

If your organization has medium-sized database needs for general-purpose workloads, selecting Microsoft Azure Ddsv5 VMs with the latest processors can help you handle more database orders. In tests, an Azure Ddsv5 VM enabled by 3<sup>rd</sup> Gen Intel Xeon Scalable processors with 16 vCPUs handled up to 35% more NOPM than a Ddsv4 VM did (see Figure 1).

### Normalized General-Purpose MySQL performance

Normalized NOPM | Higher is better

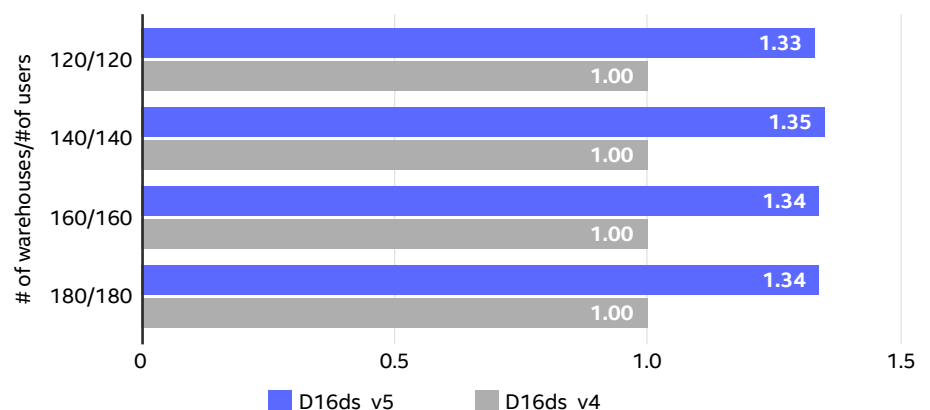


Figure 1. Relative MySQL database performance of the 16-vCPU Azure Ddsv5 VM and 16-vCPU Azure Ddsv4 VM types. Higher numbers are better.

## Do More Database Work on Memory-Optimized VMs

On memory-optimized VM types, Azure Edsv5 VMs again improved MySQL database performance over VMs with previous-generation processors. As Figure 2 shows, with 16 vCPUs, Microsoft Azure Edsv5 VMs featuring 3<sup>rd</sup> Gen Intel® Xeon® Scalable processors handled up to 35% more OLTP database NOPM than older Edsv4 VMs.

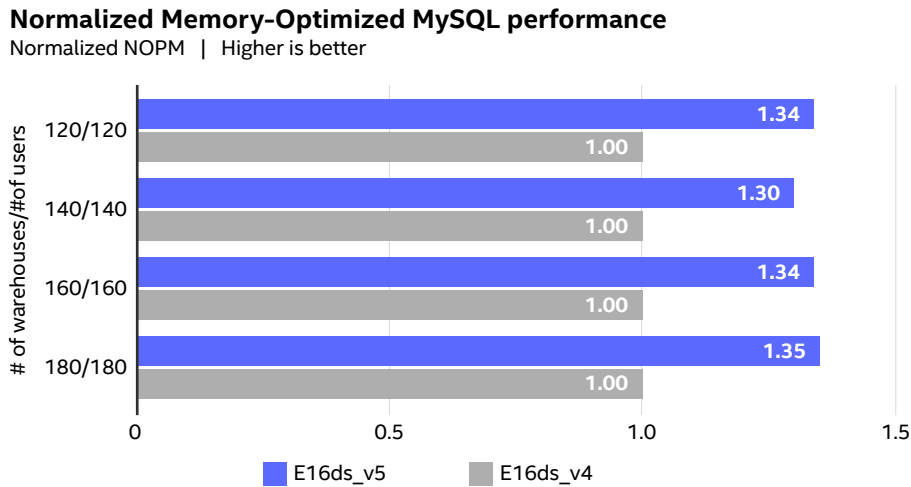


Figure 2. Relative MySQL database performance of the 16-vCPU Azure Edsv5 VM and 16-vCPU Azure Edsv4 VM types. Higher numbers are better.

## Conclusion

For both general-purpose and memory-optimized medium Microsoft Azure VMs, selecting those enabled by the latest 3<sup>rd</sup> Gen Intel Xeon Scalable processors can provide better MySQL database performance and deliver a better experience for users accessing databases. Doing more work on fewer VMs also has implications for your business's bottom line, as this practice reduces cloud operating expenses.

## Learn More

To begin running your websites on general-purpose Microsoft Azure Ddsv5 VMs or memory-optimized Edsv5 VMs with 3<sup>rd</sup> 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. D16ds\_v4: Intel® Xeon® Platinum 8272CL, 64GB RAM, 8000 Mbps Network BW; D16ds\_v5: Intel® Xeon® Platinum 8370C, 64GB RAM, 12500Mbps Network BW; E16ds\_v4: Intel® Xeon® Platinum 8272CL, 128GB RAM, 8000 Mbps Network BW; E16ds\_v5: Intel® Xeon® Platinum 8370C, 128 GB RAM, 12500 Mbps Network BW.

