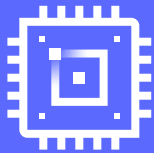


# On MySQL™ Workloads, New Microsoft Azure® Dv4 Virtual Machines with 2<sup>nd</sup> Gen Intel® Xeon® Scalable Processors Outperformed Dv3 VMs by up to 1.53x

## Microsoft Azure Dv4 VMs Feature Intel Cascade Lake Processors



MySQL



Up to 1.53x more MySQL work than Dv3 VMs



Up to 1.30x more MySQL work per dollar than Dv3 VMs



Two new Dv4 VMs do the MySQL work of three Dv3 VMs

### Two New Azure Dv4 VMs, Featuring 2<sup>nd</sup> Gen Intel Xeon Scalable Processors, Can Do the Same Amount of MySQL Work as Three Older Azure Dv3 VMs

Companies increasingly turn to public cloud platforms to run their business-critical database workloads. They face a number of choices: not only which provider to use, but also whether to select powerful 2<sup>nd</sup> Gen Intel Xeon Scalable processors.

In a series of MySQL database tests comparing Azure D-series VMs, new Dv4 VMs enabled by 2<sup>nd</sup> Gen Intel Xeon Scalable processors outperformed older Dv3 VMs on a TPC-C-like workload. Compared to similarly configured older VMs, new Dv4 VMs performed up to 1.53x more OLTP database work. Another way to look at this: two new Azure Dv4 VMs can handle the same number of MySQL transactions as three older Azure Dv3 VMs.

Choose a new Ev4 instance enabled by Intel Xeon Platinum 8259CL processors to see a greater return on your cloud investment.

### Improve performance by up to 1.53x with new Azure Dv4 VMs

As Figure 1 shows, on a HammerDB TPC-C-like test workload, new Azure Dv4 VMs enabled by 2<sup>nd</sup> Gen Intel Xeon Scalable processors delivered more than one and a half times the performance of their Dv3 VMs counterparts. That means that two new Dv4 VMs would be able to do the work of three older Dv3 VMs.

MySQL/HammerDB Relative Gen-on-Gen Performance: Azure D-Series VM

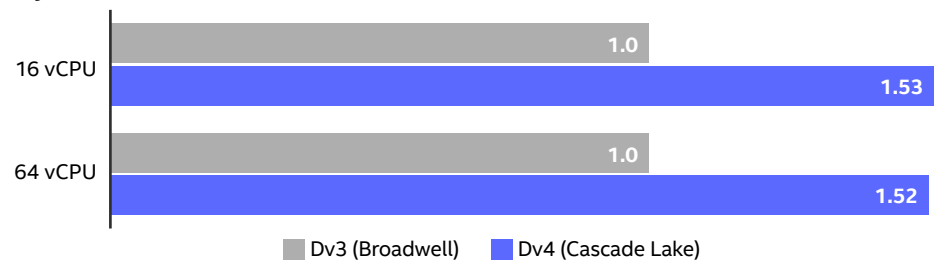


Figure 1. Normalized HammerDB test results comparing performance (in new orders per minute) achieved by the Dv4 VM to Dv3 VM at two vCPU counts. Higher is better.



## A modest price increase + dramatically better performance = up to 1.30x greater performance per dollar with new Azure Dv4 VMs

Based on the hourly pay-as-you-go rate in the US East2 Region as of October 27, 2020, the two new Azure Dv4 virtual machines we tested cost only 18 percent more than their Dv3 counterparts. When you consider the 1.53x performance improvement the new Dv4 VMs enabled by 2nd Gen Intel® Xeon® Scalable processors achieved, this is a small increase.

**MySQL/HammerDB Relative Gen-on-Gen Performance Dollar: Azure D-Series VM**

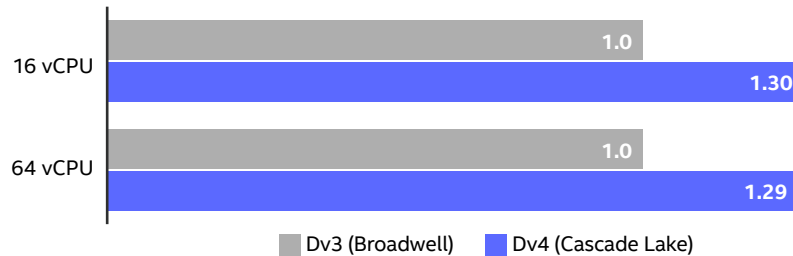


Figure 2. Normalized comparison of the performance per dollar of the Dv4 VM to Dv3 VM, based on HammerDB TPC-C-like test results.

Figure 2 shows the relative performance per dollar the two sets of VMs delivered. Medium-sized Dv4 VMs with 16 vCPUs delivered 1.30x more transactions per dollar than the Dv3 option. Large Dv4 VMs with 16 vCPUs delivered 1.29x more transactions per dollar than the Dv3 option.

Based on these performance and pricing metrics, a company could perform a given amount of MySQL database work with either three older Azure Dv3 virtual machines or two new Azure Dv4 VMs. At a total hourly cost that is 21.5 percent lower, the new Dv4 VMs enabled by 2nd Gen Intel Xeon Scalable processors would be the more cost-effective choice.

### Learn More

To begin your MySQL database deployments on Azure D-series virtual machines, with 2nd Gen Intel Xeon Scalable processors, visit <https://intel.com/microsoftazure>



Performance varies by use, configuration and other factors. Learn more at <https://intel.com/benchmarks>.

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