

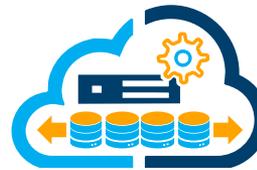


# Improve Microsoft SQL<sup>®</sup> Server Query Service Times by as much as 1.54x with New Azure<sup>®</sup> Ev4-series VMs

Azure Eds\_v4-series VMs, feature Intel<sup>®</sup> Xeon<sup>®</sup> Platinum 8272CL processors.



Complete SQL analytics queries up to 1.54x faster



Scale up queries and data without drastically increasing query times



Consistently better performance across instance sizes

## Consistently Faster Time to Insights

The Azure Eds\_v4-series VMs, offering vCPUs powered by 2<sup>nd</sup> Gen Intel<sup>®</sup> Xeon<sup>®</sup> Scalable 8272CL processor vCPUs, consistently delivered great performance and scaling with only an average cost increase of 17%.

**Strongest Performance:** Azure E16ds\_v4 VMs, multi-streamed query workloads by as much as 1.54x faster than Azure E16sv3 series VMs.

**Entry Level Benefits:** Azure E4ds\_v4 VMs, multi-streamed query workloads by as much as 1.39x faster than Azure E4s\_v3 virtual machines.

**Larger Scale, Consistent Performance:** Azure E64ds\_v4 virtual machines, multi-streamed query workloads by as much as 1.53x faster than Azure E64s\_v3 virtual machines.

## Improve your Microsoft SQL Server query times with Microsoft Azure Eds\_v4 Virtual Machines

Choosing the right Azure instance for your data warehouse databases is important to ensure you can meet those needs. Every business has differing database, workload size, and performance needs. When moving database analytics work to the cloud, it's important to consider the type of processor that will be driving your workloads.

In tests comparing two series of Microsoft Azure SQL Server virtual machines (VMs), the newer Eds\_v4 instances, powered by Intel Xeon Platinum 8272CL processors, were faster at processing data warehouse query streams compared to Es\_v3 instances powered by Intel Xeon processors E5-2673 v4. These results were consistent across small, medium, and large VMs with scaling query demands and database sizing.

To demonstrate the performance of the new Eds\_v4 series, we compared the same instance size in the Es\_v3 series at different workload and performance levels. As with most other cloud services, Microsoft Azure defines an instance's size by its vCPU count. We chose to test a 4-vCPU pair, a 16-vCPU pair and a 64-vCPU pair.

Microsoft Azure scales an instance's memory to better fit its compute power. In the same vein, we also chose to scale the drive performance and database size to represent a likely workload scenario for each compute level. To ensure the CPU was under more workload pressure than the storage drives, we sized each database to fit within the RAM allocated in each instance.

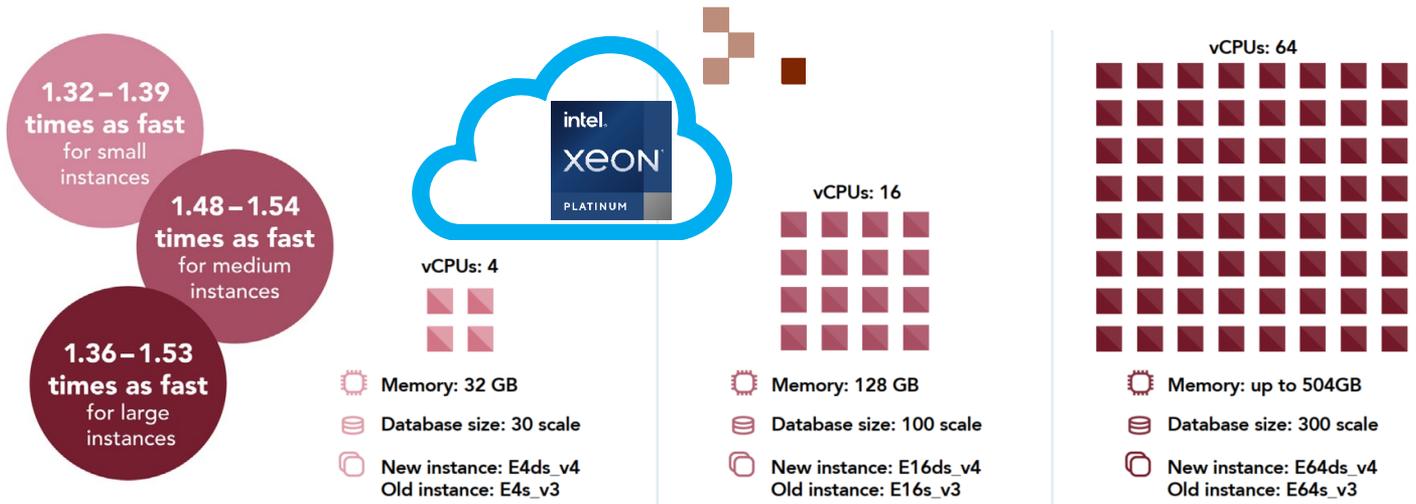
By choosing these new Eds\_v4 instances, your organization could more quickly complete work that can lead to key decisions that can improve your business and help it grow. And, because the new Azure Eds\_v4 instances save big on time, it means choosing them for your SQL Server can help ensure your dollar goes further.

## Consistent Strong Analytical Query Performance gains

Microsoft SQL analytic workloads running with the newest Azure Edsv4 series VMs, powered by the 2<sup>nd</sup> Gen Intel® Xeon® Scalable processor, consistently completed their multi-streamed query workloads by as much as 1.54x faster than older Azure v3 series VMs.

## Complete SQL Server Analytics faster

To show how the Intel Xeon Platinum 8272CL processor-based VMs scale in performance, various Eds\_v4 instances were measured on the time it took to complete a range of simultaneous SQL analytical query “streams”. These streams represent different business organizations/users querying their Microsoft SQL database simultaneously for analytical insights.



**Figure 1. Performance result highlights and specifications for the Microsoft Azure SQL Server with Azure Eds\_v4-series VMs used for testing.**

At every data point, the new Eds\_v4 SQL Server instances powered by Intel Xeon Platinum 8272CL processors were faster than the older Es\_v3 instances powered by Intel Xeon E5-2673 v4 processors. For each VM size, the number of concurrent data streams were increased, up to four, the relative performance advantage remained similar and in many cases improved.

This means that regardless of your VM sizing needs or the number of concurrent streams you need to support, you can complete your database analytics work faster on the new instances than on the older instances. In other words, you can get consistently better performance with the new Eds\_v4 series, even as your workload scales to larger VM instances.

## Time to insight performance that more than justifies the cost

The performance findings suggest the Eds\_v4 instances can complete data warehouse workloads anywhere from 1.32 to 1.54 times as fast as the Es\_v3 virtual machines. Yet, at the time of this writing, all sizes and specifications of the Eds\_v4 VMs, powered by 2<sup>nd</sup> gen Intel Xeon Platinum 8272CL processors, cost just 1.17 times more, than the Es\_v3 virtual machines. By investing in Eds\_v4 instances as opposed to Es\_v3 instances, you could be getting better performance for your money.

## Learn More, Process the Facts, Move Faster

Full 3rd party test report, visit <http://facts.pt/jkpqek2>

Specific 3rd party test results and configurations, visit <http://facts.pt/ccqc4xe>

Begin your SQL deployments on Azure Ev4-series with 2<sup>nd</sup> Gen Intel Xeon Platinum 8272CL processors, visit:

<https://azure.microsoft.com/is-is/pricing/details/virtual-machines/sql-server-enterprise/>



Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.

Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit [www.intel.com/benchmarks](http://www.intel.com/benchmarks).

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure. Your costs and results may vary.

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