Hyperconvergence for Databases

Independent scaling

Always-on storage efficiency

Predictable performance

Application and database availability

Designed for Microsoft SQL databases

Microsoft SQL Server databases form the core of many enterprise applications, from online transaction processing (OLTP), data warehousing, and batch processing to business intelligence, report generation, and online analytical processing (OLAP). As the amount and types of data increase, flexible systems with predictable performance are needed to address database sprawl. By deploying all-flash configurations of Cisco HyperFlex™ systems, you can run your Microsoft SQL Server deployments on an agile platform that delivers insight in less time and at less cost.

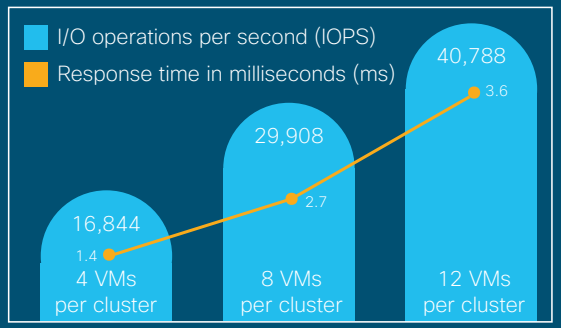
Enterprise application-ready solution

Cisco provides the right platform for your database deployments and the applications that use them. The platform consists of all-flash Cisco HyperFlex systems running Microsoft SQL Server 2016, an integrated network fabric, powerful data optimization, and unified management to bring the full potential of hyperconvergence to a range of enterprise workloads. With a solution that is faster to deploy, simpler to manage, and easier to scale than the current generation of systems, you can power enterprise databases and applications as your business needs dictate.

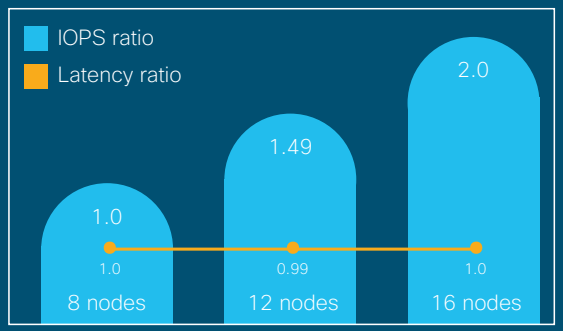
Cisco HyperFlex systems with Microsoft SQL Server

- Closely match the needs of databases and applications.
- Reduce your storage footprint.
- Optimize your storage costs.
- Deliver predictable database performance.
- Keep enterprise applications and databases available.

Performance matters



Cluster performance scales linearly as additional virtual machines are provisioned.



Cluster performance and capacity scale linearly as nodes are added to the cluster.

Learn more at cisco.com/go/hyperflex.

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Easy to deploy

Cisco HyperFlex systems are delivered as a preintegrated cluster that is up and running in an hour or less. Integrated management detects new components, allowing this self-aware and self-integrating system to adapt quickly to changes in hardware configuration. You can move a node from the loading dock and add it to your cluster simply by plugging in network and power cables—no manual node configuration is required.

Scalable

Independent scaling allows you to closely match the resource needs of your Microsoft SQL Server environments. You can start small and scale to support hundreds or thousands of users and petabytes of data. The entire cluster's solid-state disk (SSD) drives are combined into a single distributed, object-based data store. As you add nodes to the cluster to expand capacity, data is automatically rebalanced across shared resources. Using thin provisioning, you can size your data store larger than the cluster and expand the solution as databases grow.

Efficient data storage infrastructure

You can reduce your data footprint and optimize storage infrastructure costs. Inline, always-on deduplication and compression are built in to make efficient use of storage capacity. And unlike with solutions from other vendors, you don't have to disable these features to deliver the high performance that databases and enterprise applications demand.

Proven and predictable performance

All-flash configurations and high throughput at the networking layer deliver fast access to large databases and consistent performance. The distributed architecture of Cisco HyperFlex systems allows every virtual machine (VM) to use the storage I/O operations per second (IOPS) and use the capacity of the entire cluster, regardless of the physical location of the virtual machine. This capability is important for Microsoft SQL Server virtual machines because they frequently need higher performance to handle bursts of application or user activity.

Another operational benefit is simplified day-to-day operations. When the cluster is expanded, additional storage capacity and performance are available to existing virtual machines. You don't have to monitor the capacity and storage performance for each virtual machine and match virtual machines to cluster nodes.

High data availability

Your enterprise applications and databases need to run all the time. The innovative configuration of Cisco HyperFlex systems supports database mirroring and is resilient to failure. For example, systems configured with five nodes or more can keep running even if all drives fail on two nodes. In addition, built-in snapshots are available and are integrated with backup solutions such as Veeam to support disaster-recovery operations.

Next steps

Read the Cisco® Validated Design Cisco HyperFlex All-Flash Systems for Deploying Microsoft SQL Server Database.