Western Digital.

SOLUTION BRIEF

Boost SQL Server® Performance with NVMe-oF™ Shared Storage

Highlights

- Gives your business a boost by dramatically accelerating SQL Server application performance
- Extends the high performance of NVMe™ flash to shared storage for clustered SQL Server databases
- Provides up to 368TB[1] capacity in a 2U unit that allows up to six hosts to attach without a switch
- Enables server and storage consolidation, reducing capital and licensing costs

Challenges

- Increasing application demands are pushing SQL Server environments past the performance capabilities of HDD or SSD storage capabilities
- Increasing SQL Server transaction wait times which frustrate end users and decrease productivity
- Skyrocketing OPEX costs related to powering, cooling and managing multiple silos of data storage

Solution

Western Digital's OpenFlex™ Data24 NVMe-oF™ Storage Platform will make your business thrive by accelerating transactions, simplifying workflows and reducing costs. OpenFlex Data24 simplifies the storage and management of business critical SQL Server databases with an all-flash scale-out solution that can meet the TCO requirements of even the strictest environments.

Accelerate Business Operations

Your business depends on Microsoft SQL Server databases for data warehousing, analytics and online transaction (OLTP) workloads to feed these efforts. It's essential that you deliver consistently high levels of performance and availability. But that can be difficult without the right storage infrastructure. Traditional disk-based storage simply can't meet the increasing performance needs of SQL Server, especially since these environments, workloads and datasets always seem to be increasing in size and importance year after year.

Western Digital's OpenFlex Data24 NVMe-oF Storage Platform enables SQL Server environments to thrive by extending the high performance of NVMe flash to shared storage. Instead of placing storage in a single SAN with limited connectivity and high network latency, storage is shared by servers connected to each other and the rest of the network with ultra-high-speed Ethernet. OpenFlex Data24 accelerates your MS SQL Server Machine Learning (ML) and Artificial Intelligence (AI) projects to help ensure your revenue and productivity don't suffer.

Dramatically Improve Database Response Times

Flash technology has revolutionized the performance of storage systems and NVMe-oF technology extends flash storage to its full potential. The OpenFlex Data24 NVMe-oF Storage Platform provides the flexibility to meet varying requirements depending on data workload and performance requirements and is built to deliver screaming performance in software-defined storage environments. With low latency and consistently high bandwidth, data is accelerated to the speed of flash and is shareable with up to six hosts without a switch.

The extremely low latency delivered by OpenFlex Data24 can reduce SQL Server database transaction wait times by up to 50% over traditional storage arrays and are optimized to deliver optimal performance and capacity. SQL Server infrastructures built on OpenFlex Data24 benefit from accelerated performance, improved responsiveness and increased agility of your business.

OpenFlex Data24 NVMe-oF Storage Platform

Increase Performance AND Lower Costs

The OpenFlex Data24 is designed to provide customers with the performance needed to accelerate their business workloads by dramatically speeding up I/O operations. Faster I/O allows each server to handle more transactions resulting in the CPU spending less time waiting for data. The increased performance provided by all-flash NVMe storage enables higher workload volumes while using fewer CPU resources—resulting in a reduction of the number of servers needed in your data center. Server resource consolidation means cutting capital and operational costs with fewer servers to power, cool, license and maintain.

Ultrastar® DC SN840 NVMe SSDs

At the core of the OpenFlex Data24 NVMe-oF Storage Platform are Western Digital Ultrastar DC SN840 NVMe SSDs. The Ultrastar DC SN840 is a performance NVMe SSD targeting cloud compute and enterprise workloads that require low latency to data and high availability of data. The DC SN840 is Western Digital's 3rd generation of performance NVMe SSD for data center and extends Western Digital's leadership in dual-port architecture by vertically integrating proven flash controllers. Utilizing 96-layer 3D TLC NAND, it is available in capacities from 1.6TB to 15.36TB in a standard, front-loading 2.5" U.2 form factor.

Ultrastar DC SN840 NVMe SSD

Conclusion

Leveraging the shared performance of the OpenFlex Data24 NVMe-oF Storage Platform can drive better business outcomes by reducing cost, increasing efficiency and streamlining your SQL Server data center. NVMe-oF technology can deliver microsecond data access latency, lower memory utilization and increase CPU and server utilization. These not only maximize efficiency for IT, but for your business as well, by improving end-user experiences, increasing productivity and reducing storage costs in business intelligence and analytics workloads.

For more information on how the OpenFlex Data24 NVMe-oF Storage Platform can turbo-charge Microsoft SQL Server environments and improve business operations, visit westerndigital.com/platforms

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[1] One GB is equal to one billion bytes and one TB equals 1,000GB (one trillion bytes). Actual user capacity may be less due to operating environment.