Online Retailer Deploys Microsoft Hyper-Converged Infrastructure

Storage Spaces Direct improves data center performance and quality of service

The Challenge

- Find an on-premises solution to replace one of its SANs to power its e-commerce website and host other workloads
- Consolidate and simplify its SAN infrastructure
- Implement a future-proofed solution that can scale for business growth
- Increase IOPS and disk performance for improved overall website QoS

The Solution

- A Microsoft hyper-converged infrastructure that can run virtualized applications on premises and connect to cloud services
- DataON HCI-224 solution for Azure Stack HCI (six nodes) optimized for IOPS and performance, with all-NVMe flash storage
- DataON MUST with Windows Admin Center monitoring and management software tool

Deployment Tips

1. Setting up and deploying Mellanox switching can be tricky. If you have trouble, call DataON. They can help resolve these issues quickly.
2. Bigger is better with storage. That way when you fill all your drive bays you won't have to replace any drives.

Company Overview

An online retailer looked to Microsoft and DataON to improve its e-commerce and transactional customer experience. The company has over a thousand employees at its corporate office and distribution center.

IT Challenge: Improve a quality-of-service (QoS) for its e-commerce website with scalability and all-NVME flash storage in mind by replacing an aging traditional SAN infrastructure with a hyper-converged infrastructure (HCI)

The company debated whether to replace one of its aging SANs used for its e-commerce website with an HCI solution. Reliant on its website for most of its business, sluggish browsing or downtime would have a negative impact on sales. Keeping this in mind, it was no surprise that the company was cautious of new storage options.

The online retailer's goals in updating its infrastructure included:

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The Solution: DataON HCI-224 with Windows Server 2016 Storage Spaces Direct

HCI was an alluring storage option because it was highly scalable, affordable, and could utilize all-NVMe flash SSDs for faster performance. But for the online retailer, they were still unsure of choosing HCI as a production solution. "HCI is still new with many organizations," the online retailer's IT administrator said. "Although we're aware of the performance and cost benefits, we weren't ready to deploy HCI without a proof of concept."

However, the IT administrator was interested in Microsoft HCI for its affordability, usability and scalability. The company's IT team decided to push forward and deploy a Microsoft Storage Spaces Direct cluster as proof of concept. After a successful experiment, he and his team felt the technology was sound and the performance-to-price ratio was far better than a SAN, and began contacting vendors.

The IT administrator recalled DataON from Microsoft Ignite as a Microsoft-exclusive HCI provider. Over the course of several conversations, he gained confidence in DataON's Microsoft expertise and level of service, and decided it was the right solution provider.

Working with DataON, the IT team chose a six-node DataON HCI-224 solution with a total of 144 NVMe drive bays (24 bays per node). The IT admin said, "Our goal was to keep everything we care about on flash." For the drive configuration, the IT team went with eight 4TB all-NVME flash drives per node, leaving plenty of room for expansion.

The Results

Transitioning from a SAN to HCI was simple for the IT team. "The DataON hardware has been great, too," he said. The company was able to consolidate its servers, storage and 16Gb Fibre Channel (FC) SAN infrastructure into a scalable six-node HCI solution that combines compute, networking and storage, simplifying its ecosystem, increasing efficiency, and reducing power consumption.
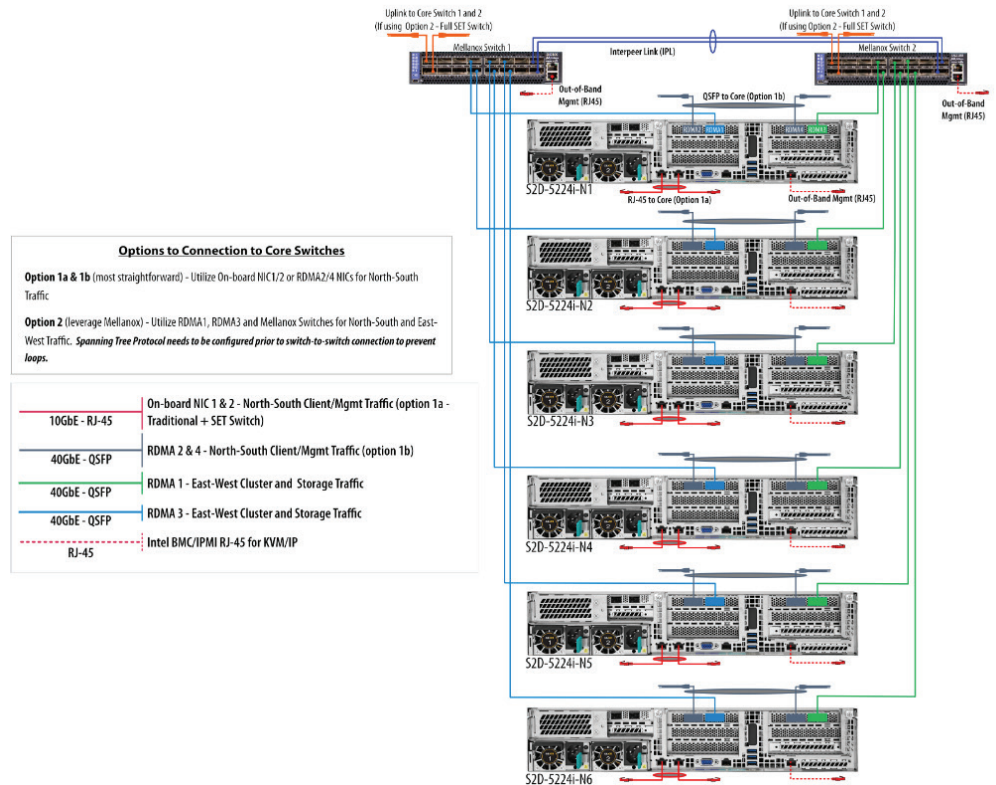
The Result

- Reduced disk latency from microseconds to milliseconds, improving overall customer website QoS

- Migrated hundreds of VMs and continue to add more without increasing latency

- Consolidated infrastructure, reducing complexity and power consumption, and increasing efficiency

- Partnered with a company with Microsoft expertise and outstanding support services

- Implemented a future-proofed solution with additional drive bays that can easily scale additional nodes for business growth

The team planned to migrate its VM environment, with exception to its large SQL databases, and shared website workloads with their existing SAN. Currently, the production clusters are split between the new HCI and pre-existing SAN. It is using the other vSAN cluster as a standby for any possible outage. By transitioning from spinning disks to a DataON all-NVMe flash solution, the company was able to reduce its disk latency from microseconds to milliseconds. the IT administrator said, "We've been using the DataON all-NVMe flash solution wherever it makes sense. With hundreds of VMs across development, staging and production, we keep migrating more VMs to the HCI, because latency is so low."

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IT Administrator, Online Retailer

"Overall, choosing Microsoft and DataON has been a positive in our data center. Working with DataON was awesome," he concluded.

About DataON

DataON is the industry-leading provider of solutions for Microsoft Azure Stack HCI, and hyper-converged infrastructure and storage systems optimized for Microsoft Windows Server environments. It has been named to CIO Review's '20 Most Promising Microsoft Solution Providers 2018.' Our company is focused on customers who have made the "Microsoft choice" to deploy Microsoft applications, virtualization, data protection, and hybrid cloud services. Our enterprise-level solutions, delivered as a complete, turnkey experience, are designed to provide the highest level of performance, manageability, and security offered.