Building Products Manufacturer Doubles Down on Microsoft with a Storage Spaces Direct Hyper-Converged Solution

A company replaces its production storage with a turnkey Storage Spaces Direct and DataON solution

The Challenge

- Replace standalone Hyper-V servers with a highly available, scalable and redundant hyper-converged infrastructure solution for its production workloads
- Direct IT investments towards a new infrastructure that can support the latest technologies
- Find a solution that fit its tight budget
- Improve performance
- Spread workloads across one centralized cluster, instead of multiple stand-alone servers

The Solution

- Windows Server 2016 Storage Spaces Direct
- DataON 4-node S2D-5224i hyper-converged infrastructure
- All-flash NVMe cache and SATA solid state drives (SSDs) for maximum performance and storage
- DataON MUST visibility and management tool

The Result

- Replaced standalone Hyper-V servers with DataON and Storage Spaces Direct hyper-converged infrastructure with high availability and resiliency
- Found solution to match budget
- Increased performance by sixty percent
- Spread workloads across one centralized cluster
- Improved server management and monitoring with MUST and Windows Admin Center

IT Challenge: Replace the company's existing stand-alone servers running Windows Server 2012 R2 with a turnkey Windows Server 2016 Storage Spaces Direct hyper-converged solution

The company needed a new data center for its corporate headquarters. It originally had considered updating their existing servers but decided against it, choosing not to invest in aging technologies.

The systems administrator said, "We looked at a couple of hyper-converged infrastructure solutions for our production workloads. For some, we didn't like the pricing, the way it was configured or the failover cluster design. Our first choice, however, was Microsoft. We already had been using Storage Spaces for several years and it was fantastic. The more and more we looked into Storage Spaces Direct, we decided it was the right choice for our organization."

"Once we chose Microsoft, we started looking for the right vendor to partner with. It was important for us to find a experienced vendor that was a Windows Server expert."

The company's goals in updating its IT infrastructure included:

- Replacing standalone Hyper-V servers with a highly available, scalable and redundant hyper-converged infrastructure solution for its production workloads
- Shopping for a solution that fit its tight budget
- Replace aging infrastructure with a new infrastructure that can support the latest technologies.
- Improving performance
- Spreading workloads across one centralized cluster, instead of multiple stand-alone servers

The Solution: DataON S2D-5224i and Windows Server 2016 Storage Spaces Direct

"We previously bought a CIB-9224 from DataON and were impressed with the hardware and their commitment to Storage Spaces and Microsoft," said the systems administrator. The company could have saved thousands of dollars buying parts and assembling the servers itself, but they chose DataON for their Storage Spaces Direct expertise.

"Our first choice, however, was Microsoft. We already had been using Storage Spaces for several years and it was fantastic. The more and more we looked into Storage Spaces Direct, we decided it was the right choice for our organization."

"During our install and deployment, DataON worked with us patiently. Their technical support team actually went through the deployment guide, troubleshooting line-by-line with us. We don't know of any other vendor who would have spent that kind of time with us."

Hardware Configuration

The company purchased four S2D-5224i nodes with all-flash NVMe cache and SATA solid state drives (SSDs) for maximum performance, with two Mellanox Spectrum 40GbE RDMA switches.

The architecture was straight forward. Each S2D-5224i node was connected via redundant Mellanox switches and uplinked to redundant customer-provided inbound/outbound 40GbE switches. Each native S2D-5224i 1Gb RJ-45 port connected to a 1Gb switch for remote desktop management [See Figure 1].

DataON S2D-5224I

- **High performance —** Performance-tuned with NVMe and SATA SSD, and 40GbE SMB3 RDMA fabric
- **Simple to deploy —** Deploys easy with simple out-of-the-box installation
- **Certified by Microsoft —** Validated as a Windows Server Software-Defined (WSSD) solution
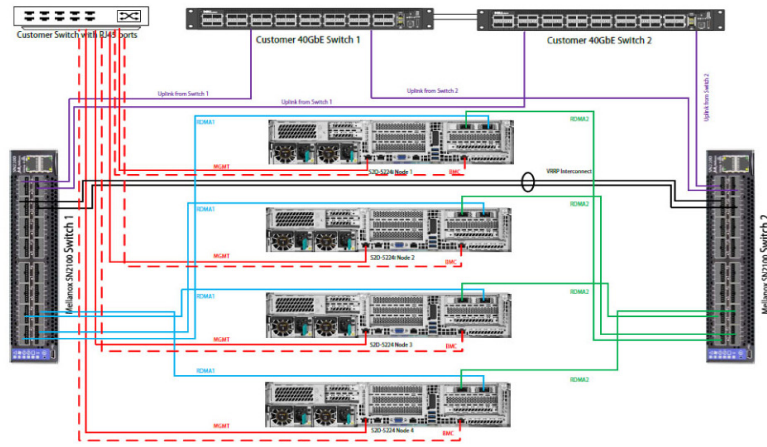- **Supports more VMs —** Supports 40+ Hyper-V VMs per node, with up to 16 nodes per cluster

Figure 1: System Architecture

The Results

"We've already deployed nineteen VMs. But thanks to the high-availability and resiliency of Storage Spaces Direct, we're planning to migrate mission-critical software and localize Microsoft Exchange on the same cluster."

"We've seen a substantial increase in read/write performance. Sixty percent on average. Our employees can tell the difference, and they prefer to use applications from that cluster. Storage Spaces Direct also gave us the redundancy, storage utilization and simplicity we were lacking in our initial ecosystem."

"[DataON's] technical support team actually went through the deployment line-by-line with us. We don't know of any other vendor who would have spent that kind of time with us. They're dedicated."

"Although we prefer to use PowerShell commands, we have tried the new Windows Admin Center (WAC) with DataON's MUST software. The tools have been a big plus. We can now easily view and manage DataON hardware, Hyper-V and Storage Spaces Direct in one place. We see them as great tools moving forward."

"Storage Spaces Direct is great. We would recommend DataON and Storage Spaces Direct to anyone."

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About DataON

DataON™ is the leader in Microsoft® Windows Server software-defined solutions. 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 are designed to provide the highest level of performance, manageability, and security offered, delivered as a complete, turnkey experience. DataON is a division of Area Electronics Systems, Inc.

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