




# Manufacturing Company Trades a Sluggish 10GbE iSCSI SAN for a 40GbE Hyper-Converged Windows Server 2016 Solution

TMI Systems consolidates networking and storage into a cost-effective, high-performance Storage Spaces Direct and DataON solution

## Company Overview

TMI, headquartered in Dickinson, North Dakota, is a world-class manufacturer of commercial casework, architectural woodworking and countertops. TMI's commitment to its customers and market-driven focus has enabled it to be successful. TMI believes that in order to stay competitive and cost-efficient, it's important to future-proof your data center infrastructure by making use of the latest technology on the market. Founded in 1969, TMI employs over 250 people with a headquarters and manufacturing facility and two remote offices.

### IT Challenge: Replace an aging server and iSCSI SAN system with the latest data center technology to simplify their data center, handle data growth demands, and support their Veeam-based disaster recovery system

Getting out in front of the technological curve has been one of TMI's key drivers to success. Aware of the prevailing industry winds toward hyper-converged appliances and software-defined storage (SDS), TMI knew just by a simple price-performance analysis that for many small and medium-sized business running similar workloads, SANs would become an expensive and unnecessary thing of the past.

TMI decided to do away with its expensive SAN infrastructure and consolidate the duties into a Windows Server Software-Defined (WSSD) certified hyper-converged cluster solution running Windows Server 2016 Storage Spaces Direct. Looking at their data growth predictions, TMI needed to future-proof its hyper-converged appliance investment with 40GbE networking and support for all-flash storage, while finding the most competitively priced units without sacrificing quality or customer support.

TMI's goals in updating to a more efficient and cost-effective IT infrastructure included:

- Future-proofing its investment with a hyper-converged appliance, featuring 40GbE networking and all-flash storage support
- Finding the most competitively-priced hyper-converged appliance without sacrificing performance
- Purchasing from a vendor that provided 24/7 full-service and robust Microsoft Storage Spaces Direct support

### The Solution: DataON S2D-3216p with Microsoft Window Server 2016 and Storage Spaces Direct

Shane Yoder, Information and Administrative Services Manager, TMI, said, "We wanted a hyper-converged appliance that was leading edge. I didn't want to go back to a traditional storage model for another five years."

Initially, TMI had looked at some of the larger hyper-converged vendors. Their appliances had some great features, but didn't really match TMI's small business needs and were expensive. Yoder learned about the new Windows Server 2016 and its Storage Spaces Direct feature at Microsoft Ignite 2016 and decided it was the right choice for TMI.

TMI then paired Windows Server 2016 with DataON HCCAs. "We found that offerings from industry-leading hyper-converged manufacturers were nearly double the cost of a DataON solution and they didn't even support 40GbE and all-flash NVMe SSD storage," said Yoder.

## The Challenge



TMI's goals in updating their IT infrastructure, included:

- Future-proof its investment with a hyper-converged appliance
- Find a competitively-priced appliance without sacrificing performance
- Purchase from a vendor that truly understands Windows Server 2016 Storage Spaces Direct

## The Solution



- Cost-effective Windows SDS solution that is scalable and flexible
- Windows Server 2016 Storage Spaces Direct
- DataON S2D-3216p hyper-converged cluster appliance with all-flash NVMe drives
- DataON MUST visibility and management tool

## The Result



- Consolidated server and traditional SAN storage into a more efficient and better performing WSSD-certified hyper-converged appliance
- Improved performance by 8x
- Reduced latency to less than 1ms delay during peak traffic

## DataON S2D-3216p



- **High Performance** – All-flash NVMe SSDs achieving over 2.4M IOPS in a 4-node cluster
- **Supports more VMs** – Up to 40+ Hyper-V VMs per node, with up to 16 nodes per cluster
- **Highly Scalable** – Delivers compute, networking and storage resources with near-linear scalability
- **Easy to Deploy** – Simple out-of-the-box setup and installation
- **Easy to Manage** – DataON's exclusive MUST software is pre-installed for infrastructure visibility and management

## Hardware Configuration and Deployment

TMI replaced their three-node Dell SAN storage device for four-node DataON S2D-3216p hyper-converged cluster appliances with 20TB of usable capacity, each featuring one Mellanox 40GbE adapter connected to Mellanox Spectrum based switches. The new DataON solution was Windows Server Software-Defined (WSSD) certified, following Microsoft's best practices for a Windows Server 2016 software-defined infrastructure. The one thing that TMI really appreciated was the scripts that DataON provided for setup, configuration, and migration. Yoder said, "The scripts were invaluable to us. It saved us a lot of time and effort, and gave us confidence that we could do it ourselves."

*"The scripts [that DataON provided] were invaluable to us. It saved us a lot of time and effort, and gave us confidence that we could do it ourselves."*  
Shane Yoder, Information & Administrative Services Manager, TMI

## Results

After migration and deployment, TMI saw a visible increase in performance. Employees no longer experienced the bottlenecks synonymous with the previous SAN. Now, whether it is 10,000 IOPS or 60,000-80,000 IOPS at peak usage, TMI sees a consistent latency of less than 1ms. "It was like night and day," Yoder said. "We no longer faced the sluggish response times with our database applications, and backups were really fast."

*"I was very happy with the support and very quick responses we received from the DataON team to keep deployment moving. They've proven that they really understand Storage Spaces Direct and when I need to replace additional systems, DataON is who I'm going to call."*  
Shane Yoder, Information & Administrative Services Manager, TMI

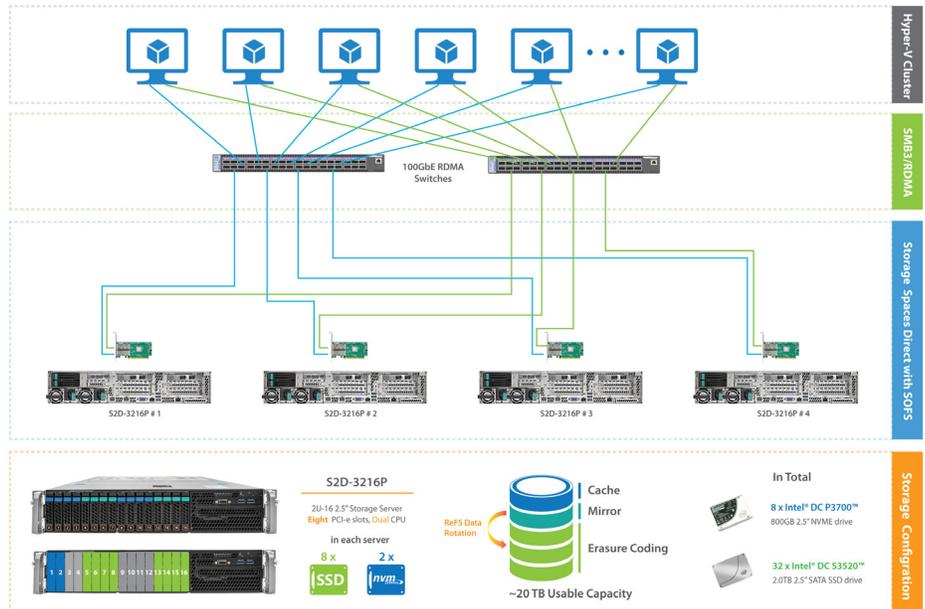


"We felt really comfortable with DataON. Other vendors offer a Storage Spaces Direct solution but they don't really understand Storage Spaces Direct because they're not committed to that model. No one understood Storage Spaces Direct better than DataON and they were the best fit for what we needed."

Shane Yoder  
Information and  
Administrative Services Manager  
TMI

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Windows Server 2016 Storage Spaces Direct



[www.dataonstorage.com](http://www.dataonstorage.com)

[dataon\\_sales@dataonstorage.com](mailto:dataon_sales@dataonstorage.com)

1.714.441.8820

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## About DataON

DataON is the industry-leading provider of hyper-converged cluster appliances (HCCA) and storage systems optimized for Microsoft Windows Server environments. Our solutions are built with the single purpose of rapidly and seamlessly deploying Microsoft applications, virtualization, data protection, and hybrid cloud services. Our company is exclusively focused on customers who have made the "Microsoft choice" and we provide the ultimate platform for the Microsoft software-defined data center (SDDC). DataON is a division of Area Electronics Systems, Inc.