




Electric Co-op Unplugs their SAN for a Microsoft Hyper-Converged Infrastructure

Tipmont looks to the future with a Storage Spaces Direct solution

The Challenge



- Retiring its aging iSCSI SAN and replacing it with a hyper-converged infrastructure
- Finding the right hyper-converged infrastructure that could provide the features, performance, and flexibility for their needs
- Finding a more cost-effective storage than their current SAN and VMware solution
- Finding a solution that could support new technologies such as NVMe

The Solution



- Windows Server 2016 Storage Spaces Direct for software-defined storage at a fraction of the cost of traditional SAN or NAS arrays
- DataON S2D hyper-converged infrastructure, optimized for performance & cost, with hybrid storage
- Two identical S2D HCI sites with production ready spare nodes running balanced workloads for best performance and resiliency
- DataON MUST visibility and management tool simplifies data center management for Windows Server environments

Company Overview

Founded in 1939, Tipmont is a non-profit electric co-op dedicated to safely providing its customers with reliable and affordable electricity. In addition to simply providing distributed electric services, Tipmont offers choices in energy services, deploying the first community solar array in the state of Indiana.

Tipmont employs over seventy people in two locations and provides electric services to over twenty thousand customers.



IT Challenge: Find a new storage solution to replace the aging iSCSI SAN in its data centers

Planning to refresh an eight-year-old iSCSI storage area network (SAN), Tipmont was looking for a new storage solution that could provide high performance and flexibility.

Tipmont's IT staff was thinking to try a hyper-converged infrastructure (HCI). The IT staff created a decision matrix for the next 3-5 years to help them decide between disaggregate storage and HCI.

Tipmont's goals in updating its IT infrastructure included:

- Retiring its aging iSCSI SAN and replacing it with a hyper-converged infrastructure
- Finding the right hyper-converged infrastructure that could provide the features, performance, and flexibility for their needs
- Finding a more cost-effective storage than their current SAN and VMware solution
- Finding a solution that could support new technologies such as NVMe

The Solution: DataON S2D series hyper-converged infrastructure with Windows Server 2016 Storage Spaces Direct

Tipmont's decision matrix confirmed what the team was already thinking: HCI would be the better choice for Tipmont. However, there were several HCI vendors to choose from.

The IT staff had heard about Storage Spaces Direct from the local technology group that they participate in. They started looking into potential vendors and found there were few vendors that offered Storage Spaces Direct. They came across DataON and called them to learn more.

At that point, the IT staff had not yet decided on a Microsoft solution. They compared Microsoft against other HCI vendors and found that Storage Spaces Direct was a more cost-effective solution. Tipmont already had some Windows Server 2016 Datacenter licenses, so it could leverage them and avoid paying expensive licensing fees that other vendors charge. In addition, they felt that Storage Spaces Direct could support new technologies such as NVMe, while not feeling confident about other vendors abilities to support.

It soon became clear that a Microsoft solution was the best choice for its capabilities, performance, and flexibility. "We felt that Storage Spaces Direct was cutting edge technology that would really benefit our environment. We couldn't wait to try it."

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The Result



- Deployed Storage Spaces Direct hyper-converged infrastructure with SAN-like capability and resiliency, but without the cost
- Increased performance, including instantaneous reboot times, more VMs, and lower latency
- Saved money by eliminating pre-existing VMware licensing fees

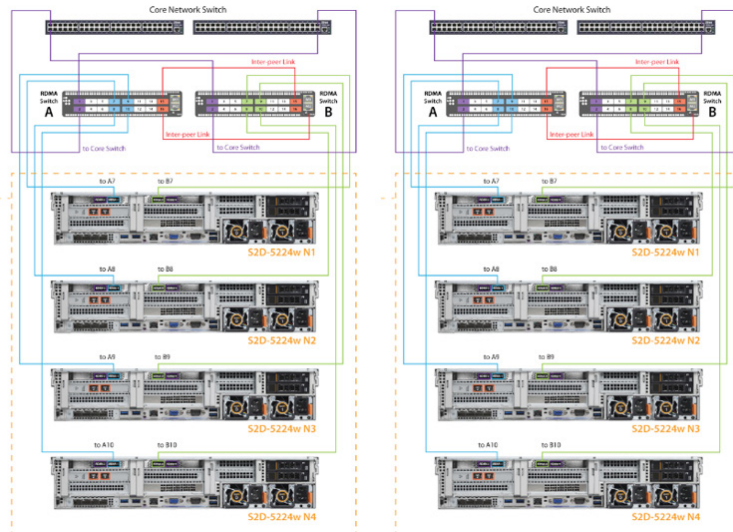
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"It's really starting to look like a good decision for us. The performance and scalability are everything we expected them to be and our RPO is significantly lower as a result of the project."

Tipmont got quotes from DataON and other vendors. In evaluating the prospective vendors, they found that DataON was more knowledgeable about Storage Spaces Direct than other vendors. "It was pretty clear that DataON was willing to go above and beyond to support us. It really gave us confidence in our choice to go with a Microsoft and DataON solution."

Tipmont purchased a DataON S2D-5212i hyper-converged infrastructure for each of its two data centers. The nodes were configured with mixed storage, consisting of NVMe and SATA solid state drives (SSDs) and hard disk drives (HDDs), with 40GbE RDMA networking.



Dual active Storage Spaces Direct HCI across two data centers

The Results

DataON provided Tipmont with customized scripts to simplify and accelerate the deployment process. "DataON gave us a lot of information, and the scripts were very helpful."

Tipmont was very meticulous and thorough in its testing and performance tuning before performing the migration and going into full production. They are also using PowerShell and DataON MUST visibility and management tool to check system and replication health, and performance metrics.

Tipmont is very happy with the performance they are seeing. "It's great. Performance is so much better, it's like night and day. It's pretty awesome, even for hybrid SSDs."

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