



'FANTASTIC' OUTCOME

Educational Trust realises the benefits of IT consolidation with Dell EMC Microsoft Storage Spaces Direct Ready Nodes.



Wardle Trust | Education | United Kingdom

Business needs

The Wardle Trust needed a cost-effective solution to refresh its legacy server and SAN environment.

Solutions at a glance

- Dell EMC Microsoft Storage Spaces Direct Ready Nodes with:
 - Microsoft® Storage Spaces Direct software
 - Dell EMC PowerEdge™ servers with Intel® Xeon® Scalable processors
- Dell EMC SupportAssist for proactive predictive and automated support
- Dell EMC ProSupport for Software for Storage Spaces Direct Ready Nodes

Business results

- Realised substantial energy and cost savings
- Improved the performance of backend IT services
- Enhanced IT resiliency and data protection

A virtual machine backup that took 25 minutes now takes less than

5 minutes



Instead of paying for 16 Windows Server 2016 Datacenter licences, the Trust now needs just

6 licences



An educational mission

The Wardle Trust is a multi-academy trust in northwest England that consists of one secondary and three primary schools. The Trust, based in Greater Manchester, was founded on the belief that an outstanding education grows from a combination of the best teaching and the best resources, joined with the freedom and autonomy of each academy's leadership team to make its own strategic decisions.

As part of its mission, the Wardle Trust provides a wide range of IT resources and services to its member academies and the non-school organisations it serves. These IT offerings include laptop, desktop and tablet computers, along with telephones, Closed Circuit TV (CCTV) systems, electric doors and cloud services. Collectively the IT team at the Wardle Trust supports around 6,500 end users, split across six sites.

"We've got quite a lot of people to look after," says Zak Fleming, the IT manager for Wardle Trust. "Every classroom has technology in it, including a large interactive LCD screen with a computer to power it. That's the bare minimum that you'll get in a classroom. We complement that with various technologies, depending on the subject being taught and the age range of the students."

Moving to Storage Spaces Direct

From an IT standpoint, the schools serviced by the Wardle Trust are joined together by a centralised server room with a few racks of IT gear. Until recently, this IT environment was based on eight virtualised Dell EMC servers connected to a Dell EqualLogic SAN.

When it came time to refresh this legacy environment, the IT team at Wardle Trust went looking for a cost-effective data centre solution that would require fewer physical devices and that could grow easily over time. With the help of a Dell EMC partner in the UK, Nvtron IT Infrastructure Services, Zak and his team reviewed various options and then selected Dell EMC Microsoft Storage Spaces Direct Ready Nodes.

"I can't find a downside to the system. I really don't know how we could improve it. It's been fantastic."

Zak Fleming
IT Manager, Wardle Trust

Microsoft Storage Spaces Direct, known informally as S2D, uses industry-standard servers with local-attached drives to create highly available, highly scalable software-defined storage (SDS) at a fraction of the cost of traditional SAN or NAS arrays. Its converged or hyper-converged architecture simplifies procurement and deployment, while features such as caching, storage tiers and erasure coding, together with hardware innovations such as RDMA networking and NVMe drives, deliver unrivalled efficiency and performance.

Dell EMC Microsoft Storage Spaces Direct Ready Nodes simplify and accelerate the deployment of S2D. The Ready Nodes are optimally configured with the required amount of CPU, memory, network, I/O controllers and storage. The Ready Nodes approach gives IT leaders the confidence and convenience that comes with preconfigured, tested and certified configurations designed for Storage Spaces Direct and backed by world-class support. Dell EMC serves as the single point of contact for the entire Ready Solution.

Realising the benefits

With its move to Storage Spaces Direct Ready Nodes, Wardle Trust realised a wide range of business and IT benefits. These benefits span IT consolidation, energy savings, software-licence savings, performance improvements and enhanced data protection.

IT consolidation

Zak and his team were able to consolidate the eight servers in the legacy environment into just three Ready Nodes, while eliminating the need for a standalone storage array. With fewer servers, they reduced the number of server hardware components, such as uninterruptible power supplies, as well as the time required to maintain physical servers.

Energy savings

IT consolidation and the efficiency of the Dell EMC PowerEdge servers led to savings on the electricity used to power servers and cool the server room, according to Zak. Those gains, in turn, helped Wardle Trust reduce the environmental impact from IT operations.

Software-licence savings

Wardle Trust currently uses Windows Server 2016 Datacenter under a volume licensing agreement with Microsoft, with the software licensed on a per-processor basis. With the move to Storage Spaces Direct, the Trust reduced the number of software licences needed from 16 licences for eight dual-processor servers down to six licences for three dual-processor servers.

Performance improvements

With the move to Storage Spaces Direct Ready Nodes, Wardle Trust not only increased storage capacity but also increased storage performance.

“It’s actually amazingly fast,” Zak says. “For example: the backups for the system. After we installed the system, I started a backup run and went for coffee. When I came back and saw that the backup had stopped, I thought there was a problem with the software. And then I realised the backup had gone that quickly. I was actually amazed at how quick it is.”

Zak notes that he can now back up one of his virtual machines in less than 5 minutes, compared to 25 minutes on the legacy SAN system. “That’s with no upgrade to the network infrastructure,” he says. “It’s the same network infrastructure with the same 10-gigabit connections.”

Enhanced data protection

With its upgraded IT environment, Wardle Trust was able to increase the redundancy of its systems. Each of the three Ready Nodes now has a direct copy of the organisation’s data. This redundancy allows IT services to keep running even if two nodes go down.

“Traditionally, we had one SAN and five servers connected to it,” Zak says. “With that one SAN, we had one point of failure. If you want to increase redundancy, you have to buy a whole new SAN, which is a lot of money, especially if you’re in education.”

A ‘fantastic’ outcome

Ultimately, the IT refresh project came in under budget and proceeded to deliver substantial operational cost savings in comparison to the costs of operating the legacy environment, according to Zak.

“With this installation, we’ve got more than we had before for less cost, and that’s just unheard of in technology,” he says. “Usually, if you need more features and you need more resiliency, you put more money into the system. But with this installation, you put less money into it and you get more out of it. It just seems to go against the trend of life really. You pay less, and get more. It’s something completely different in that respect, which is brilliant for us.”

When he reflects over the gains Wardle Trust is realising from the use of Storage Spaces Direct Ready Nodes, Zak sees only upsides.

“I’m being completely honest – I’m not just saying this – I can’t find a downside to the system,” he says. “I really don’t know how we could improve it. It’s been fantastic.”



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