# How cheaper, faster storage helps this nonprofit do more for troubled youth

Customer story



*Youth Villages is a US nonprofit that helps more than 22,000 emotionally troubled children and their families live successfully each year. It has always used technology to bring efficiency and data-based rigor to its work and recently replaced an overextended, expensive storage area network with a solution based on Storage Spaces Direct technology in Windows Server 2016. With this solution—which features DataON servers that are compliant with the Windows Server Software-Defined program—Youth Villages slashed its storage costs in half, saving $150,000, and multiplied storage performance by a factor of 30. Youth Villages now has more funds for hiring staff and running programs, and staff members get their work done more efficiently, without frustrating delays.*

| Customer | Youth Villages | Industry | Nonprofit |
|---|---|---|---|
| Partner | DataON | Organization Size | Large (1,000 – 9,999 employees) |
| Products & Services | Storage Spaces Direct Windows Server 2016 Datacenter | Country | United States |

# Help employees help families

Youth Villages is a private nonprofit organization dedicated to helping emotionally and behaviorally troubled children and their families live successfully. Headquartered in Memphis, Tennessee, Youth Villages is currently providing services to 22,000 children and their families from 72 locations in 58 cities across 13 states.

Its programs include intensive in-home services, foster care and adoption, residential and intensive residential treatment, an emergency shelter for homeless and runaway teens, and specialized crisis services. Youth Villages' YVLifeSet program has been proven to be one of the country's most effective ways to help former foster youth find success as independent adults. The nonprofit's unique approach produces lasting success for children, with more than 80 percent still living successfully in their homes and communities two years after completing their programs.

For at least 25 years, Youth Villages has used technology to deliver exceptional, cost-effective care. It was an early adopter of PCs and electronic medical records (EMR) software and has advanced the social services/behavioral care field by using data to track and measure treatment efficacy—in contrast to the field's traditionally anecdotal approach. Its 2,800 staff members enter and track copious amounts of data on children's treatment plans and results, behaviors, and changing family situations in its computer and storage systems. And Youth Villages is required by law to maintain medical records for at least seven years.

Because of its data/evidence-based approach to care, by 2016 the nonprofit had amassed huge amounts of data in its storage area network (SAN) and performance had slowed way down, seriously affecting staff productivity and job satisfaction and—by extension—their service to clients. "We've customized our EMR software to let employees run critical parts of the program while offline," explains Cliff Reyle, Chief Human Resource and Information Officer at Youth Villages. "However, when up to 1,300 field staff reconnected to the server to upload field notes several times a day, the whole system slowed to a crawl—not only for field staff but for office staff using the system."

Youth Villages also reports child data to various government agencies every morning, and these uploads were taking 20 minutes when they should have taken two minutes. This caused employee computers to stop responding or forced employees to deal with the inconvenience of scheduling uploads for the middle of the night.

The price tag for a new SAN—roughly $300,000—was a painful amount for a nonprofit trying to make every donor penny count. "When I see expenditures come through, I think, 'How many talented staff members could we hire for that? What improvements to our residential campuses would that buy?'" Reyle says. "I hoped there was a better way."

# A new approach to storage

Reyle turned to Benjamin Clements, Chief Executive Officer at Strategic Online Systems, Inc. (SOS), which has been the nonprofit's technology consultant and managed service provider for 21 years. Clements was leery of outfitting Youth Villages with another spinning-disk SAN that would progressively slow as it filled, just as the old system had.

Instead, he recommended using software-defined storage based on Storage Spaces Direct technology in the Windows Server 2016 Datacenter operating system. Storage Spaces Direct uses industry-standard servers with local-attached drives to create highly available, highly scalable, software-defined storage at a fraction of the cost of traditional SANs. Its converged or hyperconverged architecture radically simplifies procurement and deployment, while features such as caching, storage tiers, and erasure coding—together with the latest hardware innovations like Remote Direct Memory Access (RDMA) networking and solid-state drives—deliver unrivaled efficiency and performance.

"I sold a Storage Spaces solution to another customer and saw its ability to mimic a SAN at a much lower cost," Clements says. "With Storage Spaces Direct, Microsoft defines storage in a vendor-agnostic way, which drives costs down and reduces reliance on any vendor's hardware."
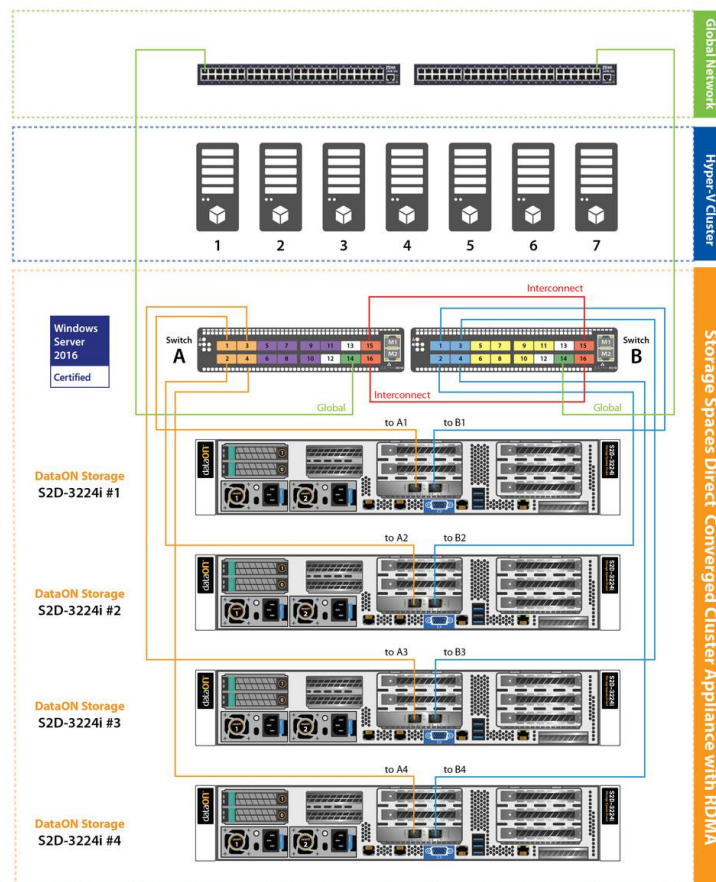
But which hardware? Clements is a bit fanatical when it comes to finding the perfect solution for his customers. He knew that he wanted a system that was compliant with the Windows Server Software-Defined (WSSD) program , established by Microsoft to ensure that storage hardware takes full advantage of Storage Spaces Direct and is endorsed by Microsoft.

So, he interrogated his usual storage vendors about their Storage Spaces Direct offerings, watched Microsoft technical videos, and did plenty of research. "The same name kept coming up: DataON," Clements says. "Bigger vendors had pieces of their solutions that were WSSD-compliant, but DataON had entire solutions that were compliant."

DataON is a leading provider of hyper-converged cluster appliances and storage systems optimized for Windows Server environments. "We were one of the first vendors to pass the WSSD certification, and our Storage Spaces Direct solution is an end-to-end Intel-based solution—CPU, solid state drives, and chassis—which we feel is the very best technology," says Howard Lo, Vice President of Sales and Marketing at DataON. "Our solution uses the best qualified components, is fully backed by Microsoft, and comes with a single point of support—us."

For Youth Villages, SOS deployed a Storage Spaces Direct converged infrastructure consisting of four DataON S2D-3224i Hybrid All Flash Servers configured as a Storage Spaces Direct cluster. The usable capacity is 44 TB today, growing to more than 100 TB in three years.

The solution also employs RDMA, a direct memory access from the memory of one computer into that of another without involving either one's operating system and permitting high throughput, low-latency networking.

# Cut storage costs in half, speed performance by factor of 30

The bottom line: with this solution, Youth Villages has slashed storage costs and turbocharged storage performance. "With our new Storage Spaces Direct solution, we have reduced storage costs by half, saving $150,000," Reyle says. "We are fortunate in having generous donors, and we want to spend their money wisely. Making smart technology decisions lets us spend more in areas that directly impact our children, families, and young people, such as hiring more staff and improving residential campuses."

Then there's the performance boost, a double win. "By eliminating spinning disks and going with a Storage Spaces Direct solution, we've improved storage performance by a factor of 30," says Jill Terry, Managing Director of Information Technology at Youth Villages. "Everything runs faster."

Those server sync-ups that used to bring the SAN to its knees? Today, they happen quickly and smoothly, with nary a slowdown. "Our new storage solution has greatly improved productivity and

alleviated employee frustration," Reyle says. "Many of our workers are younger, and they benchmark their work technology against their consumer devices and experiences—smartphones and shopping websites. They don't understand what it takes to deliver experiences like that. But with advanced technology like Storage Spaces Direct baked into the operating system, we can more easily and affordably deliver consumer-like experiences that help our employees focus on what they do best: helping troubled youth."

Explore and learn more about Windows Server 2016 Storage Spaces Direct.

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