

Tennessee Town Distributes City Workloads Across New Hybrid Cloud Infrastructure

The City of Sevierville implements Azure Stack HCI, backup and DR infrastructure



The Challenge



- Consolidate standalone server infrastructure and replace with a high availability, cost-efficient solution that can ensure 24/7 uptimes for city, emergency services, and utilities
- Increase overall performance
- Distribute city, emergency services, utilities, backup and DR workloads across multiple clusters at two locations

Organization

Located in the Smokey Mountains of Tennessee, the City of Sevierville is home to approximately 17,000 people. Its small IT team provides support for the city, emergency services and utilities.



The Solution



- Two-node DataON K2N-216 with all-NVMe flash for production workloads
- DCS-5212 with Western Digital HDDs for backup and DR
- Microsoft Azure Stack HCI
- Microsoft Windows Admin Center
- DataON MUST for Windows Admin Center
- NVIDIA Mellanox ConnectX networking
- Veeam Backup and Replication

Challenge

Consisting of single standalone servers with JBODs, the City of Sevierville was looking to replace its aging legacy infrastructure. It had recently purchased a new computer-aided dispatch (CAD) for its emergency services and required a new infrastructure that could provide high availability, performance, and 24/7 uptimes. It also needed to distribute its emergency services, general municipal, utilities, and DR workloads across multiple clusters and multiple sites for better performance and resiliency. Working with a tight budget, the city needed a full-service vendor that could also provide world-class support with quick response times.

Solution

The City of Sevierville had evaluated a wide variety of solutions. It saw hyper-converged infrastructure (HCI) as an ideal way to achieve a highly scalable, highly available, hyper-converged environment in which it could affordably distribute its workloads. As a Microsoft shop, Microsoft Azure Stack HCI appealed to them because they were familiar with the Microsoft ecosystem and it offered a complete hybrid cloud solution, including software-defined-storage, virtualization, software-defined networking (SDN), and integrated Azure Services, if they decided to move to the cloud.

The City of Sevierville had heard about DataON by reputation. During its journey, it had come across many vendors, but DataON was different. Not only did it deliver excellent price-per-performance on its validated Azure Stack HCI solutions, but DataON offered world class service and support with a level of detail and personal attention it had not found in other vendors. This was important to the City of Sevierville because it had not deployed a hyper-converged infrastructure before. It felt comfortable choosing DataON, because its Azure Stack HCI solutions included a three-year warranty, pre-installed scripts, detailed deployment instructions, and the full backing of the DataON sales and support team. The solution also included DataON MUST™, a tool that provides a high level of infrastructure visibility, monitoring, and management for Azure Stack HCI.

The Result

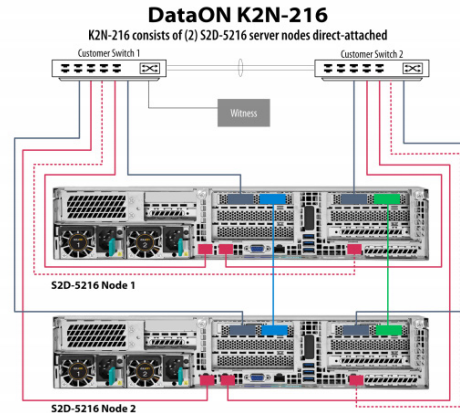


- Maintained 24/7 uptimes during power outages with a highly available hyper-converged infrastructure
- Increased overall city, emergency services, utilities, and backup and DR application performance
- Improved web server responsiveness by 5x and reduced backup times from hours to minutes
- Received world-class customer support with individualized attention

Tips

- Research and test before going into production.
- Make sure your configuration has adequate memory and storage for all workloads
- If you need to utilize an outside consultant, include them in planning discussions from the very beginning to avoid having to make adjustments in production

The City of Sevierville chose a two-node DataON K2N-216 solution with Intel® all-NVMe flash for its new emergency services CAD software. It bought a two-node DataON K2N-216 solution with all-NVMe flash and an attached DataON SD2-5212 hardware RAID with hybrid NVMe flash and HDD storage for all its city applications, including the website.



All solutions were configured with nested two-way mirror-accelerated parity, delivering the highest availability in a two-node solution. As a feature unique to Azure Stack HCI, nested mirror-accelerated parity enables servers to stay online and accessible if two drives fail at the same time, or if a server goes down and a drive fails, unlike classic two-way mirroring resiliency.

Results

DataON's world class support team worked with the City of Sevierville's administrators and helped get the deployment up and running. With all-NVMe flash storage, the City of Sevierville saw a significant bump in performance across all applications. Website visitors experienced a 5x improvement in site responsiveness.

The city was able to recover from a Christmas power outage. DataON MUST, a native third-party extension for Microsoft Windows Admin Center, sent out real-time email alerts to the administrators, enabling the team to respond quickly. Thanks to nested mirror-accelerated parity and the failover cluster feature, the automatic failover cluster was immediate. With a simple reboot, the team was able to get the cluster back up and running with no noticeable disruption of service or data loss. This gave the City of Sevierville's team confidence and peace of mind that the Microsoft and DataON solution could deliver 24/7 uptimes for all its applications, especially emergency services.

By assigning city, emergency services, and utilities and backup and DR workloads to separate clusters, the City of Sevierville achieved better load balancing. Running Veeam Backup and Replication, an industry-leading backup and DR solution that provides faster, simple, more reliable backups and recovery, at the secondary site helped the city attain better resiliency in case the first site went down. It also saw a significant reduction in backup times. Compared to its legacy hardware, backup and restore times went from hours to less than five minutes.

About DataON

DataON is a hybrid cloud computing company focused on delivering Microsoft Azure Stack HCI, on-premises storage systems, intelligent edge appliances, and cloud-based Microsoft Azure Services. Our company is helping enterprises and customers who have made the "Microsoft choice" to modernize their IT with Microsoft applications, virtualizations, and data protection through a complete and turnkey experience. With over 850 HCI clusters and 150PB of storage deployed, DataON enterprise-level solutions are designed to provide the highest level of performance, manageability, and security offered. DataON is a Microsoft Gold Partner, Microsoft Cloud Service Provider (CSP), and an Intel Platinum Partner.



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