

Architect Your Hybrid-Cloud Data Center with Azure Stack HCI Solutions from DataON with Western Digital Technology

Western Digital®

Highlights

- Reach PB level storage with room to scale-up and affordably scale-out with additional storage, nodes, and JBODs
- Increase resiliency and storage efficiency with mirroring and mirror accelerated parity
- Improve site tolerance and disaster recovery capabilities with stretched clusters
- Run high-capacity workloads on-premises and in the cloud seamlessly with Azure Stack HCI built-in Azure services

In this new age of digital transformation, organizations generate and consume mammoth amounts of data. They once turned to traditional three-tier SAN solutions, however, when challenged with increased data-intensive workloads, organizations could only 'scale-up.' Once maxed out, they needed to buy another costly SAN.

Now organizations are turning to highly scalable converged software-defined storage with hybrid cloud solutions. With all the available options, choosing the right solution that delivers the high performance, resiliency, and security organizations need can be daunting.

DataON leverages the powerful technology provided by Western Digital to deliver a hybrid cloud solution that works for every workload. DataON offers high-capacity, highly resilient converged software-defined storage solutions that are simple to deploy, easily scalable in both compute and capacity and can effortlessly extend into the cloud.

DataON Delivers a Converged High-Capacity Solution with the Power of Western Digital

Validated for Microsoft Azure Stack HCI, DataON HCI-668 and other similar solutions with Western Digital technology deliver high speed server-side NVMe flash cache performance and JBOD storage density that can handle cold, warm, and even hot storage workloads. Azure Stack HCI converged solutions from DataON include NVMe flash-equipped servers and DataON DNS-4760 JBOD direct-attached storage (DAS) powered by Western Digital Ultrastar Data60 Hybrid Storage.

With 60-bay drive capacity, Western Digital-powered DataON DNS-4760 JBOD storage and high-capacity 18TB Western Digital Ultrastar hard disk drives (HDDs) give organizations enough storage space to scale-up to the petabyte (PB) level before ever needing to scale out. When they do, administrators can simply and affordably scale-out by adding server nodes or JBODs. Any time storage is added, Azure Stack HCI simplifies the process by automatically detecting the new storage and rebalancing it in the storage pool.

The Challenge



- Inflexible three-tier SAN high-capacity solutions lack scalability and are cost-prohibitive
- Narrow fault tolerance configurations hamper resiliency and storage efficiency
- Limited site level fault tolerance and disaster recovery capabilities can result in data loss and reduce uptime
- Hybrid cloud solutions are not seamless and can be difficult to deploy, manage, and monitor



All Western Digital-powered DataON solutions are validated for Azure Stack HCI, ensuring organizations get the best available service and support they need. Including tightly specified hardware and software components and pre-defined settings, Western Digital-powered DataON solutions ensure hassle-free deployment and predictable performance. DataON tunes its solutions for the best performance and provides benchmarks to customers.

ArcticFlow™ Thermal Zone Cooling Technology

By Introducing cool air into the center of the chassis, drives operate at lower and more consistent temperatures than conventional systems. This results in lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.



ArcticFlow

IsoVibe™ Vibration Isolation Technology

Precise cuts in the baseboard provide a suspension for the drives in the chassis, isolating them from transmitted vibration. The result is that consistent performance is maintained, even when all the drivers are working hard.



IsoVibe

Advanced Western Digital Technologies Increase Performance and Reliability

DataON's Western Digital-powered solutions use advanced Western Digital technologies, including IsoVibe™ and ArcticFlow™. IsoVibe reduces performance degradation in traditional platforms due to induced vibration from busy adjacent drives. ArcticFlow overcomes cooling issues in a conventional dense chassis by introducing cool air into the middle of the enclosure. Both these Western Digital technologies contribute to long-term reliability. Each Western Digital-powered solution from DataON is covered by a five-year limited warranty.

Maximize Resiliency and Storage Efficiency with Mirroring and Mirror Accelerated Parity

Azure Stack HCI offers organizations a wide variety of fault tolerance, including two-way and three-way mirroring and mirror accelerated parity. Mirroring works by making two copies of data in two-nodes or three copies in three or more nodes. However, in a two-node solution, it can only handle one hardware problem (drive or server) at a time. Dual parity provides better storage efficiency than mirroring without compromising fault tolerance, but it requires at least four nodes. In instances when organizations stretch their cluster across two sites or require high-capacity converged storage less than a PB, it might not be cost efficient to buy more nodes and JBODs, and therefore, they are limited to two-way mirroring. For many organizations, two-way mirroring doesn't offer adequate resiliency; however, there is a solution.

Exclusive to Microsoft, nested mirror accelerated parity (MAP) provides local resiliency for most data using single bitwise parity arithmetic within each server and JBOD, except recent writes which are mirrored on the first pair and then mirrored on the second, essentially creating a four-way mirror. MAP achieves higher capacity efficiency to withstand multiple hardware failures at the same time without loss of storage availability, providing organizations similar fault tolerance and storage efficiency obtained only in a four-node, four JBOD configuration.

Microsoft Azure Stack HCI Stretched Clusters Improve Resiliency and Disaster Recovery

DataON solutions for Azure Stack HCI increase resiliency with stretched clusters, enabling organizations to stretch a cluster across two sites, achieving load balancing and improving disaster recovery. Because Storage Replica, a feature within Azure Stack HCI, replicates volumes across the sites, all DataON servers and Western Digital-powered JBODs are in sync. If a site goes down, the automatic failover feature repurposes replicated drives as data drives for Windows Server and VMs at the other site, and automatically starts them, keeping production up and running.

Setting up a stretched cluster is easy. With Microsoft Windows Admin Center, an administrator can quickly create a stretched cluster across two sites, build and configure volumes and resiliency, and choose direction and replication mode—all within minutes. The wizard even automatically sets up Storage Replica.

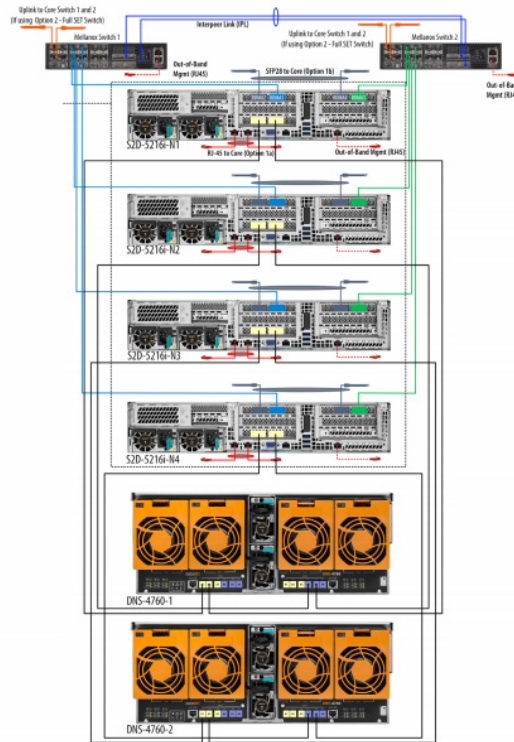
Simplify Hybrid Cloud Deployment, Management, and Monitoring with Built-in Microsoft Azure Services

With Azure Stack HCI, organizations can seamlessly extend their high-capacity on-premises workloads into the cloud. With built-in Microsoft Azure services and simplified management in one central location, administrators can use Windows Admin Center and effortlessly integrate on-premises workloads with services such as Azure Site Recovery, Azure Monitor, Azure Update Management, Azure Backup, Azure File Sync, and more. Azure Stack HCI also simplifies managing subscription fees and services, giving organizations the ability to efficiently monitor and budget costs.

The Solution



- DataON HCI-668 converged storage solution for Azure Stack HCI, including NVMe flash-equipped servers and DataON DNS-4760 JBODs powered by Western Digital Ultrastar Data60 Hybrid Storage
- Western Digital Ultrastar 18TB HDDs
- Microsoft Azure Stack HCI built-in Stretched Cluster
- Microsoft Windows Admin Center and DataON MUST



Conclusion

DataON's close partnership with Microsoft and Western Digital is a key strength in delivering superior converged hybrid storage solutions for Azure Stack HCI. DataON also offers integrated systems for Azure Stack HCI, giving organizations pre-installed Microsoft Azure Stack HCI solutions on server nodes powered by Intel® and Western Digital technologies. With DataON and Microsoft deployment & support services included, organizations can quickly deploy their infrastructure without hassle and simplify operation and maintenance. DataON also reduces administrative burdens with DataON MUST Pro, a tool that allows administrators to seamlessly update hardware using the latest validated OS version, drivers, firmware, BIOS, and BMC across a cluster in just a few clicks, and with minimal disruptions.

Whether it be public, private or hybrid cloud, DataON solutions for Azure Stack HCI with Western Digital technologies and Azure services deliver the compute, power and high-capacity storage on and off-premises to meet increasing workloads, while providing the resiliency organizations need.

For more information on DataON solutions for Azure Stack HCI, visit www.dataonstorage.com. For more information on Western Digital storage technologies, visit www.westerndigital.com.



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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.