Prominent Logistics Organization Increases Storage Backup and Recovery Speeds After Transitioning to Windows Storage Spaces

American Logistics Company replaces traditional SAN storage for DataON Cluster-in-a-Box (CiB) running Windows Server 2012 R2 and Windows Storage Spaces

The Challenge

ALC wanted to improve backup and recovery performance, reduce storage hardware costs and keep up to date with cutting edge industry technology.

The Solution

- Microsoft Windows Server 2012 R2 with Windows Storage Spaces using DPM and configured with mirror spaces

- DataON Storage CiB-9473 with HGST Enterprise Solid State Drives (SSD)

The Result

- 40x better backup storage and recovery performance clocking in at 100,000 IOPS

- Reduced CAPEX and OPEX

- Easy deployment and management

- POC testing paved way for new DataON Storage and Windows Storage Spaces deployments for business and mission critical applications

Customer Background

American Logistics Company (ALC) is a national passenger transportation management company serving transit agencies, school districts and the healthcare industry. ALC leverages proprietary transportation management and route optimization technology to manage vehicles across the United States, providing high quality, innovative transportation services that raise the bar for efficiency, cost-effectiveness, driver safety and accountability. Partnered with Lyft, ALC employs one hundred fifty people and contracts thousands of independent drivers.

Over the last few years, ALC's customer base and the amount of drivers have grown, putting greater demand on its datacenter virtualization and backup and recovery needs. Dedicated to improving Quality of Service (QoS) and Service Level Agreements (SLAs) for its staff, drivers, and ultimately their customers, ALC realized that quickly, it had outgrown its datacenter.

IT Challenge – Increase Backup and Recovery Performance for Business and Mission Critical Applications, Reduce CAPEX and OPEX and Stay Current with the Latest Technology

Faced with sluggish backup and restore times, large increases of data and high CAPEX for purchasing additional standalone HPE and EMC storage, ALC had to make as decision to whether stick with a traditional storage area network (SAN) model or move to a software defined storage (SDS) CiB solution using Windows 2012 R2 and Windows Storage Spaces.

ALC's goals were to:

- ✓ Increase backup and recovery performance for large amounts of data

- ✓ Avoid hefty additional HPE and EMC SAN storage hardware costs

- ✓ Stay on par with current trends in the industry and future-proof its investment

- ✓ Simplify management with SDS

DataON CiB-9473

Benefits:

High Availability – CiB-9473 built with dual compute nodes for HA resiliency, it provides high available services with fail-over and fail-back capability.

High Density – CiB-9473 offers seventy 3.5" hot-swappable drives with two clustered server nodes in an ultra-dense 4U chassis, and built to provide low dollar-per-TB costs, space –savings and capacity demand for today's enterprise and hyper scale data center.

High Capacity – CiB-9473 offers 700TB of raw capacity with 70 of 3.5" 10TB 12G SAS enterprise level storage disks in a single 4U enclosure.

Powerful Portfolio – CiB-9473 covers your storage needs from hybrid (tiered storage with SSD and HDD) to all flash to back/archive storage. Delivers performance, capacity and scalability.

The Solution: DataON CiB-9473 with Microsoft Windows Server 2012 R2 and Windows Storage Spaces

ALC's IT team did its homework before finally settling on a DataON and Windows Storage Spaces solution. ALC tested HP iSCSI (1Gb), EMC Fibre Channel (FC) SAN storage and DataON CiB-9473 with Windows Storage Spaces (set in mirror spaces mode) and Data Protection Manager (DPM).

The more cost-friendly HP iSCSI - equipped with traditional 7200RPM drives and 1GbE - delivered poor backup and recovery speeds only measuring in at 2,500 IOPS, while the EMC FC solution faired better at 10,000 IOPS. After comparing price per performance, however, neither solution was viable.

PERFORMANCE IN IOPS

	IOPS
HP iSCSI 1GbE	2500
EMC 8GbE SAN	10000
DataON CiB-9473	100000

40x Better Performance
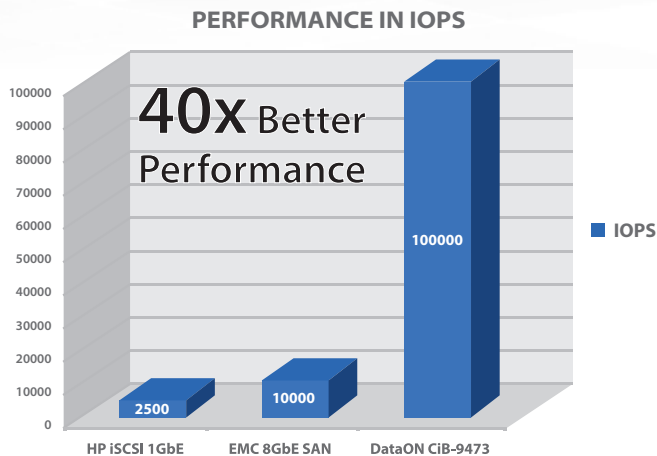
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The real clear winner was DataON and Windows Storage Spaces. Using HGST SSDs, we saw a 40x performance increase with speeds up to 100,000 IOPS for a fraction of what it would have cost to buy additional HPE or EMC storage. We especially liked how much Windows Storage Spaces simplified deployment and backup and recovery management—and it was completely independent of the SAN. Not to mention, Storage Spaces offers 100TB availability, which SAN storage just can't do.
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– Nate Bibb, ALC Systems Admin

The Results

After a successful DataON Windows 2012 R2 deployment, ALC plans to upgrade to 10Gb Ethernet (10GbE) and offload some of the storage workloads to Microsoft Azure. ALC is slated soon to open up another data center and is currently testing business and mission critical silver and gold tier production loads on two more DataON CiBs running Storage Spaces in a Windows Server 2016 ReFS environment.

Windows Server 2016 Certified

Windows Server 2012 R2 Certified

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About DataON™

DataON™ is the industry leading provider of hyper-converged cluster appliances (HCCA) and storage systems optimized for Microsoft® Windows Server environments. Our solutions are built with the single purpose of rapidly and seamlessly deploying Microsoft applications, virtualization, data protection, and hybrid cloud services. Our company is focused on customers who have made the "Microsoft choice" and we provide the ultimate platform for the Microsoft software-defined data center (SDDC). DataON is a division of Area Electronics Systems, Inc.

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