




National Museum Increases Performance and Storage Capacity for their Digital Video Security System

The US Holocaust Memorial Museum replaces a specialized IP SAN with a DataON Cluster-in-a-Box Solution with Windows Server 2012 R2 Storage Spaces

Company Overview

The US Holocaust Memorial Museum (USHMM) in Washington, DC serves as a living memorial to the Holocaust with the goal of inspiring people to confront hatred and genocide, and promote human dignity. Since its opening in 1993, the Museum has welcomed more than 40 million visitors, including 99 heads of state and more than ten million school-aged children.

IT Challenge: Replace the Museum's end-of-life security video storage system

The Museum was seeking a new storage solution to house their digitized security video. They utilized six virtualized network video recorders, with each recorder processing multiple video feeds. Video files were kept for one month, before being purged and written over. With dozens of video files being written and rewritten daily, a large strain was placed on the Museum's storage array and its drives. The Museum began to experience drive failures, averaging two failed drives a month. These consistent drive failures led to more and more time spent with RAID rebuilds.

The Museum's storage array was a specialized IP SAN from Intransa. After five years of service with daily writes and rewrites, the Intransa SAN and its drives were reaching their end of life. Also, Intransa went out of business, leaving the Museum with no vendor support.

With a failing storage infrastructure and lack of vendor support, the Museum began to research new storage options. The Museum's goals for an updated IT infrastructure included:

- High density and small footprint
- 10Gb iSCSI connections
- Clustered architecture and redundant controllers for improved data availability
- Software RAID
- Ability to support multiple drive types (HDDs, SSDs, etc.)

The Museum initially evaluated a Dell SAN to replace their storage array. While Dell's SAN met many of the Museum's needs, hardware issues began to sour the Museum's evaluation. A technician for the Museum attempted to test a drive failure and replacement, and the new drive failed to work with the Dell SAN, despite being the same model. It was determined that the Dell SAN required Dell part numbered drives with proprietary firmware. Additionally, the Dell drives were three times more expensive than their identical commodity drives.

The Solution: DataON and Microsoft Windows Server 2012 R2 Storage Spaces

After a disappointing evaluation of the Dell SAN, the Museum's IT team took a new approach. Still wanting SAN-like functionality in their storage deployment but without the price premium, the Museum looked into software-defined storage options and found Microsoft's Windows Server 2012 R2 platform. They were impressed with its Storage Spaces functionality, which allowed users to pool disk space in virtualized storage pools, allowing resources to be allocated efficiently.

Now convinced that the Museum would be best suited making a "Microsoft choice", they still required a technology partner to provide an integrated solution.

The Challenge



The US Holocaust Memorial Museum needed to replace their end-of-life IP SAN for their digital video security system. They wanted a storage solution with:

- High density and small footprint
- 10Gb iSCSI connections
- Clustered architecture and redundant controllers
- Support for software RAID
- Support for HDDs and SDDs
- Compatibility with VMware-based servers

The Solution



- Windows Server 2012 R2 Storage Spaces
- DataON CiB-9224 Cluster-in-a-Box Storage Appliance
- DataON CiB-9470 Cluster-in-a-Box Storage Appliance

The Result



- 4x Increase in storage capacity
- Reduced data center footprint from 21U to 4U
- Reduced costs from maintaining an IP SAN system



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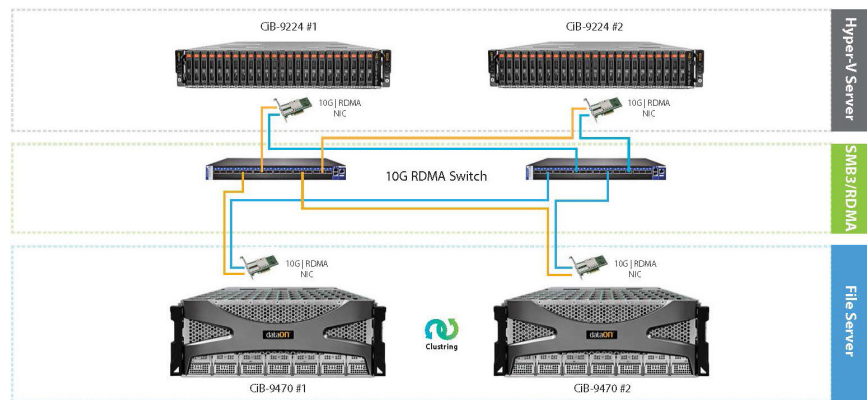
Eric Rooker
IT Manager
US Holocaust Memorial Museum

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Deployment

DataON provided their hyper-converged Cluster-in-a-Box CiB-9224 and CiB-9470 solutions to the Museum. The CiBs are all-in-one appliances that deliver integrated server, storage and networking services in a highly efficient and energy-saving condensed footprint. They help to solve issues such as space constraints, hardware sprawl, and power challenges by providing shared storage from a single appliance. They thrive in tiered SSD and HDD storage deployments with cluster-aware file systems.

In addition to deploying Windows Server 2012 R2 Storage Spaces, the Museum wanted to continue using their VMware-based servers for their network video recorder (NVR) system. With Storage Spaces, it was possible to utilize the pooled storage and virtual disks with non-Microsoft hypervisors. This allowed the Museum to connect their NVRs to the tiered Storage Spaces and SoFS clusters via 10Gb iSCSI, minimizing disruptions to their NVR system.



Results

With the deployment of the DataON CiB-9224 and CiB-9470 with Microsoft Server 2012 R2 Storage Spaces, the Museum has been able to sunset their Intransa SAN. This freed the Museum’s IT staff time from maintenance tasks, drive replacements and RAID rebuilds. They also were able to reduce their data center footprint from 21U with their old SAN to 4U with the DataON solution.

The Museum has benefited from improved performance and a 4x increase in available storage capacity. They plan on expanding their storage in the future with additional CiB deployments.

About HGST

HGST is a wholly owned and independently operated subsidiary of Western Digital Corporation, marketing and selling its leading storage portfolio around the world. HGST strategically invests in high-growth and emerging technology segments, with expanding research and innovative product development.

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 exclusively 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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