

# MUST™

Visibility, Monitoring, and Management

## Infrastructure Visibility, Monitoring, and Management for Windows Server 2016

### Highlights

- Integrates with Windows Admin Center (previously Project 'Honolulu') for a seamless experience from a central console.
- Delivers unique features and functionalities that enhance the Windows Admin Center experience.
- Provides multiple tiers of storage visibility and monitoring.
- Dashboard-level metrics from a single pane of glass.
- System alerts based on Health Service faults.
- Call-home service that automatically emails alerts to key contacts.
- Disk mapping displays the device types and components in each node.
- Historic data reporting provides dashboard of your system

DataON MUST™ (Management Utility Software Tool) provides a high level of infrastructure visibility, monitoring, and management for Windows Server-based hyper-converged systems, networking and storage. Built to support Microsoft's suite of software-defined storage technologies, including Storage Spaces Direct, Storage Replica and Storage Quality-of-Service (QoS), MUST simplifies data center management and helps enterprise customers transition from traditional SANs to a Windows Server-based hyper-converged infrastructure.

MUST can be used through its standalone console or can be used within Windows Admin Center, allowing customers to use both Windows Admin Center and MUST through a single pane of glass.

MUST provides multiple tiers of storage visibility and monitoring:

- **Software-Defined Data Center & Hyper-Converged Infrastructure Tier** – Provides system-level information on performance, capacity, hardware inventory and faults/alerts. The dashboard-level view displays operations, analytics, infrastructure health management, storage systems metrics and event logging insights.
- **Systems and Storage Services Audit Log Tier** – Provides detailed logging-level visibility for events, so you can perform root cause analysis and export source data for analytics.
- **Hyper-Converged Cluster/Node Tier** – Provides pool, volume and device-level performance, health and operational analytics for your HCI cluster. This enables you to proactively perform systems maintenance and better understand requirements for workload migrations.
- **SAN-like Call Home Service Support** – Leverages the Health Services faults in Windows Server 2016 to automatically email alerts to key contacts. You can also leverage third party SNMP monitoring traps to alert you when you need disk or hardware replacements.





*"DataON leverages both the features of Windows Admin Center and the complementary capabilities provided by DataON's MUST interface to light up end-to-end management scenarios on DataON's Windows Server Software-Defined Solutions."*

**Samuel Li**  
Principal Program Manager  
Lead, Windows Server  
Management Experiences  
Microsoft Corporation

## Windows Admin Center

Windows Admin Center is an evolution of Windows Server management tools, replacing many of the existing Microsoft Management Console (MMC) tools and providing an all-new hyper-converged infrastructure management experience. Windows Admin Center gives you full control over all aspects of your server infrastructure from a locally deployed, browser-based management experience.

MUST enhances the Windows Admin Center experience with expanded functionality:

- **Historic Data Reporting** – Provides real-time and monthly dashboards of your system performance data including IOPS, latency, throughput on your cluster, storage pool, volume and nodes.
- **Disk Mapping** – MUST displays the device types and components in each of the nodes, providing a clear disk map of your entire node. It shows the number of disks, disk type, location and slot of each drive, and disk health status.
- **System Alerts** – Leverages Windows Health Service faults to identify hardware failures, configuration issues and resource saturation. It also provides multi-level assessment with specific locations, fault descriptions and recovery actions. You can also leverage third party SNMP monitoring traps to alert you when you need disk or hardware replacements.
- **SAN-like Call Home Service Support** – Prompted by system alerts, administrators can have automated email alerts sent to key contacts.

## Simplified Data Center Management

MUST monitors hardware and software storage infrastructure to identify potential problems. Using an event-driven model for rapid detection with minimal overhead, MUST also provides on-demand access to curated collections of hyper-converged clusters, storage performance, and capacity metrics. The MUST dashboard display is designed to efficiently and dynamically connect the dots to help provide root cause analysis.

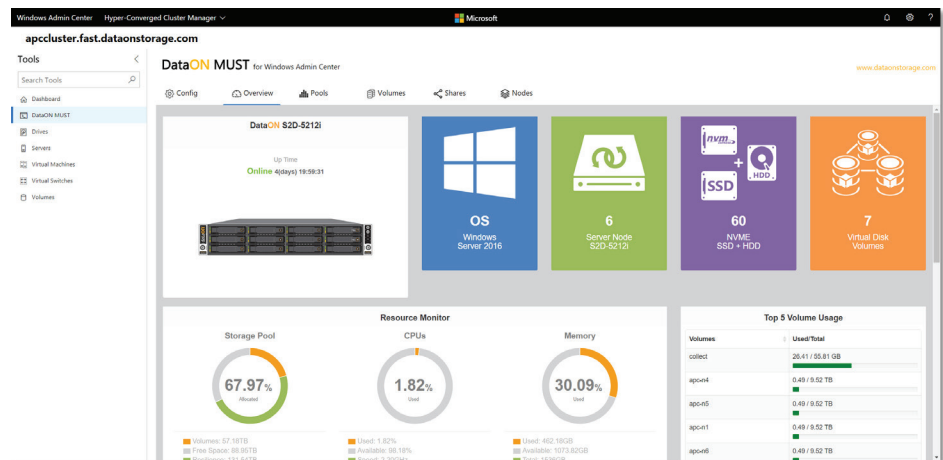
### Dashboard View

**Overview** – Displays the type of OS, number of server nodes, type of devices and number of virtual disks. Also displays the storage pool CPU and memory utilization, and volume capacity. Provides system performance data such as IOPS, latency and throughput.

**Alerts** – Displays three types of alerts: critical, warning, and information. Based on your settings, you will receive information on your enclosure, capacity, cluster, storage QoS, and virtual disks.

*"The overall integration setup is pretty straightforward. It's nice having the MUST extension right in Windows Admin Center."*

**Shane Yoder**  
Information and Administrative  
Services Manger  
TMI Systems Corporation



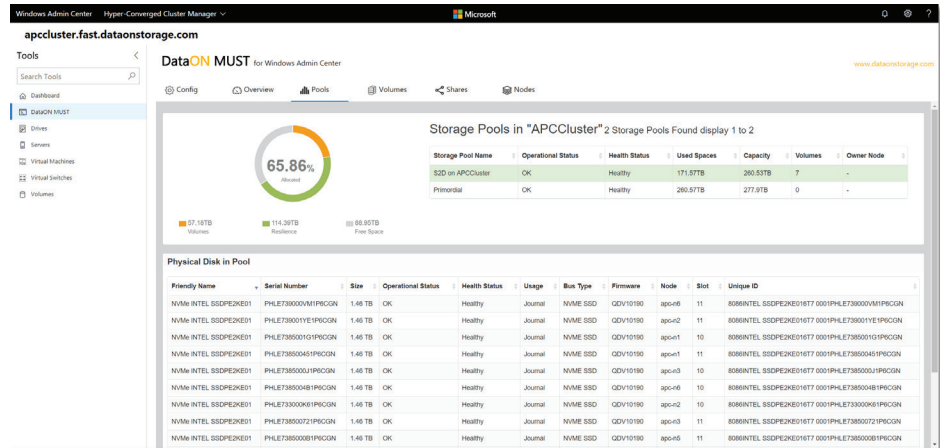


*"MUST has been very valuable and was a big selling point. The inclusion of MUST with their S2D appliances is what completes the solution with Storage Spaces Direct as a viable SAN replacement."*

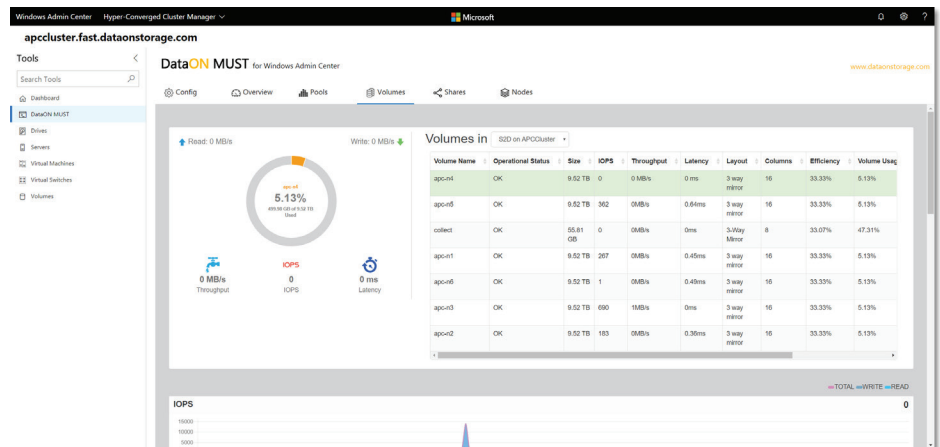
Benjamin Clements  
President  
Strategic Online Systems, Inc.

## Cluster View

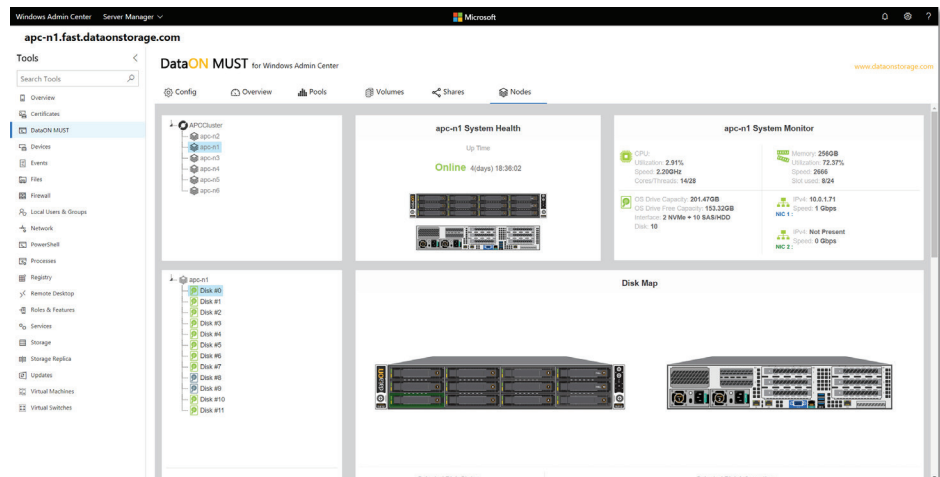
**Pools** – Summarizes the drive media within each storage pool, including usable volume, resilience, and capacity. It also displays an inventory of your SSDs and hard drives.



**Volumes** – Displays every volume in your cluster, showing the storage space utilization, IOPS, throughput, read/write percentage, and average I/O.



**Nodes** – Displays the device types and components in each of the nodes, including CPU, memory and capacity utilization. Most importantly it provides a clear disk map of your entire node. This is a unique feature of MUST that shows the number of disks, disk type, location and slot of each drive, and disk health status.





"I would recommend DataON S2D servers just to be able to get MUST to monitor your Storage Spaces Direct servers. The monitoring alone is worth a try."

Jan-Tore Pedersen  
Senior DevOps Manager  
Infront

## Settings

Setup MUST for your active directory, domain, SMTP server, and even leverage the SNMP feature for third party access.

You can automatically notify systems administrators of hardware failure, configuration issues, or resource saturation through MUST's SAN-like call home service.

The screenshot displays the MUST configuration web interface. The top navigation bar includes the 'dataON' and 'MUST' logos, a user profile for 'custadmin@dataonstorage.com', and a 'Logout' link. The main content area is organized into several sections:

- Service Status:** Shows 'Running' with a green indicator.
- Service Manager:** Contains buttons for 'Start Service', 'Stop Service', and 'Restart Service'.
- Service Interval:** Set to '10 mins'.
- Domain Setup:** Fields for Domain, Domain User, Password, and Node Name.
- Email Setup:** Fields for SMTP Server, SMTP Port, Email, Password, and Email Subject for Test Mail.
- SNMP Trap:** Fields for SNMP Trap Server, SNMP Community, and SNMP Trap Protocol.
- Call Home Service:** Fields for DataON MUST Service Email, Company Name, Contact Phone, and Contact Mail.
- Software License for Server Nodes:** A table listing licenses for nodes 'sp0-n1' through 'sp0-n6', all with 'Valid' status.
- Domain Web Admin/User Group Config:** Fields for Admin Group and User Group.
- Configuration Import/Export:** Options to 'Choose a File to Import' and 'Click Export to Backup the Configuration File'.

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## About DataON

DataON is the industry-leading provider of hyper-converged infrastructure and storage systems optimized for Microsoft Windows Server environments, with over 600 enterprise deployments and over 120PB of Storage Spaces Direct deployments. Our solutions are built to rapidly and seamlessly deploying Microsoft applications, virtualization, data protection, and hybrid cloud services. 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.