AXELLIO

Ohio Medical Center Upgrades Aging Healthcare VMware Infrastructure with the Blazing Fast Axellio FabricXpress and Microsoft WSSD

Southeastern Med

Customer:
Southeastern Ohio
Regional Medical Center

Website:
http://www.seormc.org/

Industry:
Healthcare

Location:
US

Challenge:
Aging equipment that
needs intensive care.

Solution:
Axellio FabricXpress WSSD

"WHEN I PULL UP THE PERFORMANCE SCREEN WITH 88 HYPER-THREADED CPUs STARING AT ME, I THINK THIS IS INSANE AND WONDERFUL. NOW WHEN WE MIGRATE SERVERS TO A DIFFERENT HOST, **WHAT USED TO TAKE 10 MINUTES NOW TAKES 10 SECONDS.** THE SPEED AND THE USAGE OF THE SYSTEM ARE JUST ASTRONOMICAL."

Dustin Hayes – SEORMC Network Administrator

SUMMARY

Southeastern Ohio Regional Medical Center (SORMC) serves more than 4,000 patients and nearly 100,000 outpatients every year through its acute health care center in Cambridge, Ohio. In the last 50 years, it has undergone dozens of renovations to its facilities, equipment and IT, including its VMware-based virtual computing infrastructure.

After years of constant updates and storage limitations, SORMC replaced its VMware environment with a Microsoft Hyper-V solution on a new Axellio FabricXpress Windows Server Software-Defined (FX-WSSD) hyper-converged infrastructure (HCI) appliance.

Since upgrading to Axellio FabricXpress and Microsoft WSSD, the medical center is spending less time managing the server infrastructure and saving money by eliminating VMware licensing costs. Plus they are experiencing fast application performance and responsiveness like never before. Their 3TB file server backups have gone from four hours to just 12 minutes. FX-WSSD is also a powerful new HCI 2.0 platform to run all workloads on a single HCI cluster unlike previous generation HCI solutions.

CHALLENGE

Aging equipment that needs intensive care

Southeastern Ohio Regional Medical Center was operating with more than 2TBs of data on its databases on an aging VMware infrastructure with traditional SAN storage devices. As the medical center continued to grow, so did its need for a modern, faster, easier-to-manage, and more reliable IT infrastructure.

According to Dustin Hayes, one of two network administrators at the medical center, the older VMware environment with its existing server and SAN units was showing its age by frequently running out of capacity and requiring several memory upgrades. It was also taking up too much server-room space and power. The 10 VMware hosts and SAN environment was taking up two racks or 84 rack units of space. Their new FX-WSSD HCI solution takes up six rack units of space, which includes the switches.

"The main issue we faced was actually running out of storage space on our current system, so we had a choice of either looking for new storage for our current system or trying something different," Hayes said. "We ultimately decided we needed a solution that provided more compute power without continuous CPU upgrades, offered plenty of storage and was easy-to-use. And since we were considering a completely different approach, we also wanted to explore an outside alternative to VMware and its costly licensing fees."

SOLUTION

Axellio FabricXpress WSSD

Based on his department's experience with X-IO's traditional Intelligent Storage Element (ISE), Hayes selected the Axellio FabricXpress Windows Server Software-Defined (FX-WSSD), a HCI appliance based on Microsoft Windows Server 2016 and 2019.

Axellio's FabricXpress converges storage and server compute capabilities using an NVMe/PCIe fabric for performance, bandwidth, density, and cost that enables the next generation of capabilities for video streaming, machine learning, artificial intelligence, cybersecurity, financial market data, defense and intelligence, and the Internet of Things (IoT).

Hayes worked with Axellio engineers to replace the medical center's 10 host VMware environment with an Axellio FX-WSSD solution, which includes a 4U 4-node cluster with 176 CPU cores, 1TB of RAM and 38TB of storage.

"When we began looking at the specs for the Axellio FabricXpress HCI platform, we saw that they just blew away our existing platform," he said. "We thought it was a no-brainer for us to upgrade to this platform because we were tired of constantly adding RAM to our host units in the VMware environment. Now that we're using the FabricXpress platform, I don't think we'll ever have to add more RAM."

Hayes said the FX-WSSD HCI platform now hosts all virtual workloads as well as any future server-related functions.

RESULTS

As part of the Axellio FX-WSSD solution, the medical center has access to Microsoft's hyper-converged software stack that incorporates the Hyper-V hypervisor instead of VMware and its additional licensing fees.

"Microsoft has a much better solution in Hyper-V than VMware's vSphere, and we get to leverage our Microsoft Datacenter licensing as part of the FX-WSSD product," Hayes said. "So why pay extra for VMware licensing when we already own Microsoft's Windows Datacenter edition. This will really help us reduce costs across the board."

Hayes also said the Hyper-V hypervisor is easier to use and more intuitive than VMware for creating and managing servers. Microsoft's Windows Admin Center also makes it easier to manage his virtual server environment by putting the tools he frequently uses in one place.

Axellio FabricXpress is the first server designed from the ground up for HCI. FabricXpress uses a breakthrough intelligent PCIe fabric that allows for more dedicated PCIe lanes to the NVMe SSDs. The ability for each server to access up to 72 NVMe flash drives provides density and performance that HCI solutions have never been able to attain until now. Hayes says the medical center replaced its 82U traditional virtualized environment with a 6U, 4 node Axellio solution, giving his team far less hardware to manage now and in the future.

Even in a smaller package, the Axellio FabricXpress HCI platform provides far more power than Hayes and his team were accustomed to using, and the 10gb RDMA networking allows for fast data transfers.

"We're finding Axellio FabricXpress to be incredibly fast," he said. "When I pull up the performance screen with 88 hyper-threaded CPUs staring at me, I think this is insane and wonderful. Now when we migrate servers to a different host, what used to take 10 minutes now takes 10 seconds. The speed and the usage of the system are just astronomical."

The medical center has also seen significant gains in backup speeds after moving its 3TB file server from VMware to the Axellio FX-WSSD environment.

"Our file server backups used to take three to four hours. But, with Axellio FabricXpress WSSD, this now only takes 12 minutes," said Clark Carpenter, director of IS Infrastructure at Southeastern Ohio Regional Medical Center. "That is huge when you are trying to cram backups in 24 hours. We will now look at multiple backups per day for critical systems."

ABOUT AXELLIO INC.

Axellio Inc. is a leading innovator in all NVMe Flash Hyper-Converged Infrastructure (HCI) and Edge Computing systems uniquely designed to run tier 1 storage-intensive workloads. As a spin-off of X-IO Technologies, Axellio carries with it a legacy of twenty years of innovation in enterprise IT infrastructure systems and solutions providing the highest reliability, quality, service standards, and system performance enterprise infrastructure.

Axellio delivers computing platforms built with its advanced FabricExpress (FX) architecture to deliver superior performance, economics, capacity, scalability, space and power utilization, and flexibility.   Axellio's FX design enables organizations to shift data intensive tier 1, performance critical applications and workloads that previously required large infrastructures deployed in big, expensive data centers to modern, efficient, simple to manage and scale in a HCI solution with seamless cloud integration, Edge MicroCloud, or Edge MicroDataCenter solution design – for faster response times and greater operational efficiency. Take Axellio to remote small distributed edge locations, take your simplicity on-premises to a whole new level, or greatly reduce your space and power in a co-lo. No matter your organizational goal – if storage density, performance and flexibility help to drive that goal – Axellio has a platform to help you exceed expectations.

CONTACT US

Phone: 719.388.5500
Email: contactus@axellio.com
Website: www.axellio.com

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