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 Storage Manager
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INDUSTRY Healthcare

SOLUTIONS [Virtualization](#), [Replication](#), [Enterprise Platform](#), [Modular Platform](#)
Hardware — Hitachi Universal Storage Platform® V, Hitachi Adaptable Modular Storage 2500, Hitachi NAS Platform 3080, powered by BlueArc
Software — Hitachi Dynamic Provisioning, Hitachi Dynamic Link Manager, Hitachi Tiered Storage Manager and Hitachi Compatible PAV for IBM® z/OS®
Services — Project planning, project management, implementation and software training services provided by Hitachi TrueNorth Channel Partner InLine Corporation

Huntsville Hospital Remedies Acute Data Growth Pains with High Performance Hitachi Storage and Virtualization

With extreme data growth escalating year after year, Huntsville Hospital was determined to implement high performance, low maintenance storage virtualization across three data centers. After considering a dozen vendor solutions, the regional hospital chose Hitachi Universal Storage Platform® V to facilitate fast, simple and reliable tiered storage, with the Hitachi NAS Platform for centralizing file shares.

From noble beginnings in 1895 to today standing as the ninth largest not-for-profit hospital in the nation and the second largest hospital in the state, Huntsville Hospital is all about serving the community. Located in northern Alabama, Huntsville is consistently recognized for its healthcare excellence and strives to be one of the best hospitals in America. Huntsville Hospital is fully accredited, thoroughly modern and rapidly expanding.

Morphing from Massive Data Growth to Healthy Consolidation

As with any contemporary organization, the demands for data storage capacity, performance and availability are rampant. At Huntsville Hospital, the need is stat: immediate and urgent. Electronic medical

records (EMR), digital imaging systems and data retention requirements are among the reasons that Huntsville has clocked nearly 800 percent data storage growth in recent years, bulging from 16 Fibre Channel ports to over 500. Supporting the hospital's staff of over 5,600 and hundreds of remote offices, the IT department manages three data centers crammed with aging equipment and rising maintenance costs.

Huntsville Hospital has relied primarily on EMC Symmetrix and Clariion storage, along with an IBM Storage System DS4800 and DS4300 running across a Cisco switching platform, to support the gamut of applications, databases, imaging and EMR systems. Running Microsoft Windows, Linux and VMware ESX Server, the IT team is also supporting over 500 production servers and 7,700 virtual desktops.

To promote greater efficiencies, the IT group retired older storage systems and their pricey maintenance contracts, and virtualized over 200 of its 580 IBM servers using VMware, with plans to virtualize most remaining physical servers. Next, the hospital wanted to move completely off Novell servers and consolidate and better provision both mainframe and open system storage. "We were looking to upgrade our existing 2GB devices and ports to 4GB+ connectivity, and wanted a lot more room to grow and better versatility in a new storage system. The gear we've had in place is limited in its technology and capacity," says William Bishop, storage manager for Huntsville Hospital.

The hospital requested quotes from vendors and considered more than a dozen vendor solutions. While the norm across the IT industry seems to be three or four years, the hospital has a standard protocol that analyzes all equipment in seven-year increments. "Some vendors were unable to provide the extended quote, but Hitachi Data Systems did it with no qualms. The Hitachi Universal Storage Platform V offered us a highly available, high performance solution to support the outrageous growth we anticipate to continue. The funny thing is, we had a ten-year-old Hitachi system running in our environment so we already had proof of the company's reliability and staying power," says Bishop.



"We are forecasting about 46TB of new growth per year. It's good to know that we have a simplified storage environment that's scalable and resilient to take the hospital where we need to go."

*William Bishop
Storage Manager
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Resuscitating the Storage Environment with Hitachi Virtualization

Huntsville Hospital implemented tiered storage virtualization across its data centers to facilitate a high speed, uncomplicated and easy-to-manage storage environment. The Universal Storage Platform V serves as tier 1 storage for the hospital's critically important data, as well as the heartbeat of the storage environment. With performance at more than four million I/Os per second and scalability up to 247PB under management, the Universal Storage Platform V aggregates internal and external storage into one pool, and helps control the hospital's ravenous appetite for data. With built-in universal replication and the use of Hitachi Tiered Storage Manager, the Universal Storage Platform V easily orchestrates the performance and availability needs of applications to better meet business requirements. Movement of data volumes is nondisruptive and completely transparent.

"On the Hitachi platform, we virtualize everything from terabyte Oracle databases to smaller systems that display heart monitor data. The ease of management alone is reason to celebrate — the previous storage was so tedious with lots of steps. The Universal Storage Platform V is very straightforward, very simple and very, very fast. We provision new storage in 20 minutes or less, adding the host and everything. That's compared to the nearly two hours it took on the previous platform," says Bishop.

Virtualized behind the Universal Storage Platform V are both the EMC Symmetrix and the IBM mainframe. "Since virtualizing through the Universal Storage Platform V, we went from 54 disks down to seven disks, and doubled the performance, thanks to the 4GB lines and swifter back end," he continues.

Centralizing Files Shares with Hitachi NAS Platform

Pointing to the Universal Storage Platform V is a Hitachi NAS Platform 3080, powered by BlueArc. The Hitachi NAS Platform is a powerful instrument for managing native file tiering, file sharing and file server consolidation. With dual failover nodes and next generation multiprotocol file services, the Hitachi NAS Platform delivers greater efficiencies and simplicity.

The hospital did not previously have network attached storage and is enjoying the Hitachi NAS Platform capabilities. In the process of transitioning 8,000 user accounts off the 15 Novell servers, Huntsville IT is moving some data in the long run to NAS. "The Hitachi NAS Platform allows us to centralize file shares and create virtual enterprise servers. It's pretty simple to assign space and rights for up to 32 virtual file servers. We've done six so far," Bishop says.

Simpler Storage Offers Painless Prognosis for Data Growth

Soon to be deployed behind the Universal Storage Platform V are two Hitachi Adaptable Modular Storage 2500 systems as tiers 2 and 3 to handle the large volume of radiology and cardiology systems. The Adaptable Modular Storage 2500 is a highly reliable, flexible and scalable storage system

ideal for tiered environments bombarded with myriad demands. With five nines of availability, automated load balancing across dual controllers and the ability to intermix SAS and SATA drives, Hitachi modular storage gives Huntsville Hospital yet another way to gain cost-effective performance.

In 2012, Huntsville Hospital will bring a fourth data center into the fold, with a focus on replicating critical systems to a second Universal Storage Platform V to be located there. "We are forecasting about 46TB of new growth per year. It's good to know that we have a simplified storage environment that's scalable and resilient to take the hospital where we need to go," Bishop concludes.

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