THE WILLIAM W. BACKUS HOSPITAL
IT transformation advances strategic clinical technology initiatives with EMC unified storage and data protection solutions

OVERVIEW
The William W. Backus Hospital is a 213-bed, not-for-profit, acute care community hospital and health network serving nearly 250,000 people in eastern Connecticut.

BUSINESS CHALLENGES
Recognized with a "Most Wired Hospitals" award by the American Hospital Association two years in a row, Backus is dedicated to advancing numerous strategic technology initiatives that maximize quality of patient care and efficiency. However, growing technical limitations of Backus Hospital’s former information infrastructure were beginning to stall the completion of these projects.

Pam Muccilli, Backus’ vice president and CIO, reflects, "We needed to transform our technology infrastructure so we could better support the hospital’s strategic direction and more closely align our services to the needs of clinical and business staff."

Andy Trogden, Backus’ director of technology and CTO, adds, "We were in limbo because we had hit a performance wall with consolidating and virtualizing our environment. Our data backup windows also were growing and it was very difficult and time consuming to restore from tape."

COMPREHENSIVE INFORMATION INFRASTRUCTURE SUPPORTING MORE THAN 150 APPLICATIONS
After evaluating several vendors, Backus Hospital standardized on EMC® VNX® unified storage configured with a FLASH 1st strategy that leverages the EMC FAST™ Suite, which consists of FAST Cache and FAST VP (Fully Automated Storage Tiering for Virtual Pools) along with a mix of Flash and high-capacity disk drives. FLASH 1st allows customers to achieve optimal levels of performance while reducing capital and operational expenditures, along with data center footprint requirements. With FLASH 1st, customers also never have to compromise performance for cost.

Deployed in multiple data centers, VNX supports all of the hospital’s applications, including MEDITECH electronic medical record (EMR) and hospital information system (HIS), Microsoft Exchange, Microsoft SQL Server, and nearly 150 other specialized medical and laboratory applications.

“Because our HIS and EMR are so essential for running the hospital, we needed the assurance of a very stable platform,” notes Muccilli. “We were much more comfortable with EMC’s MEDITECH experience than other vendors we evaluated.”

To protect its vital clinical and business data, Backus relies on EMC Data Domain® deduplication storage systems, EMC Data Domain Boost, and EMC NetWorker® for integrated backup and recovery, the MEDITECH module for NetWorker, as well as EMC RecoverPoint™ for disaster recovery.
Results

• Increased performance to advance virtualization projects
• Reduced backup times from 24 to nine hours
• Achieved tape reduction savings of $50,000 to $60,000 annually
• Simplified administration, freeing staff to focus on strategic hospital initiatives

Using VMware® vSphere™, Backus has virtualized approximately 80 percent of its environment, including 100 percent of MEDITECH.

PERFORMANCE ENABLES INCREASED VIRTUALIZATION

Since deploying VNX with FLASH 1st, Backus is intensifying its virtualization efforts and advancing numerous strategic initiatives—including hosting of EMR services to physician practices, expanding oncology and cardiovascular services, and enhancing computerized provider order entry (CPOE) systems.

The FLASH 1st strategy provides Backus with the most effective price per gigabyte for performance and the best overall ROI. The FAST Suite dynamically and automatically moves the more active data to high performance Flash drives and the less used data to higher capacity, lower cost hard drives. Backus depends on FAST VP to automatically tier data within storage pools according to user-defined policies.

"With the increased performance and stability enabled by VNX and FLASH 1st, we feel very comfortable virtualizing additional servers," says Trogden. "In fact, we're consolidating faster than we thought was possible."

Availability has also improved. While the hospital’s previous storage infrastructure suffered periods of downtime of up to eight hours, VNX has been running smoothly 24/7.

Muccilli comments, "The reliability of VNX and its integration with VMware enable us to be very forward-thinking with our strategic initiatives. It's assuring the hospital’s senior leadership that IT has the right technology and services in place to transform our infrastructure and maximize the quality and efficiency of patient care."

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SHRINKING BACKUP WINDOWS FROM 24 TO 9 HOURS

With Data Domain and NetWorker, Backus is moving toward a tapeless backup environment. Along with a compression ratio of 89.5 percent, Data Domain systems with Data Domain Boost for NetWorker have enabled the hospital to shrink its backup times from 24 hours to under nine hours. By distributing parts of the deduplication process to the NetWorker server, Data Domain Boost provides faster, more efficient backup. In addition, the easy-to-use interfaces and improved backup reliability of NetWorker have helped reduce backup administration time from four hours to just 20 minutes daily.

"The ability to quickly restore data is a major aspect of ensuring patient safety and care,” remarks Trogden. “With Data Domain, we can restore data in a matter of minutes, minimizing any impact on care providers."

Muccilli also points out the advantages of Data Domain for handling Medicare recovery audit contractor (RAC) requests.
“A Medicare auditor often asks to review all our patient billing records going back as far as two years,” she explains. “Before, we had to request tapes from our external storage facility, and the whole process could take up to two weeks. Now, we can get the records from Data Domain within an hour.”

In addition, Data Domain has eliminated the security risks and corruption issues inherent to tape while saving Backus money, notes Trogden. “Between the physical tapes and the cost of offsite storage, we’re saving $50,000 to $60,000 annually.”

**REDUCING MEDITECH RECOVERY FROM DAYS TO MINUTES**

RecoverPoint has also improved Backus’ ability to recover data after an outage or disaster. With its prior disaster recovery solution, data snapshots were captured in eight-hour increments, causing server utilization spikes and time-out errors. With RecoverPoint, replication is continuous and performance degradation has been eliminated. Moreover, recovery can be rolled back to virtually any point in time.

“Once we had to recover our MEDITECH environment during a data migration,” recalls Trogden. “If we had to recover from tape, it would have taken days, but RecoverPoint presented the data to MEDITECH within an hour. The seamless integration across RecoverPoint, Data Domain, and VNX gives us a lot of confidence that the data is well protected.”

**SIMPLIFIED ADMINISTRATION FREES TIME FOR STRATEGIC HOSPITAL INITIATIVES**

Overall IT administration at Backus has been simplified significantly thanks to tight integration between VNX and VMware. “Being able to track utilization of the VNX and vSphere environments through a common set of tools makes it much easier to troubleshoot MEDITECH,” notes Trogden. “And whenever we’ve needed additional support, the turnaround time from EMC was fantastic.”

He continues, “The excellent EMC support and quality of EMC technology enable us to assure the hospital of very high availability while freeing our staff to focus more on our strategic, transformational initiatives.”