SARA BUSH LINCOLN HEALTH SYSTEM

EMC backup and recovery increases protection of critical electronic medical records while improving efficiency

The Sara Bush Lincoln Health System (SBLHS) encompasses a 128-bed regional hospital, 13 remote clinics, and extensive home health services. Based in Mattoon, Ill., SBLHS is among the three percent of all healthcare providers nationwide that have reached Stage 6 of the Healthcare Information and Management Systems Society (HIMSS) Analytics seven-stage model.

SBLHS previously used IBM Tivoli Storage Manager (TSM) to backup its MEDITECH electronic medical record (EMR) system and other key applications to tape. As the volume of these big data assets grew, the backup windows became excessively long, and transporting tapes offsite imposed a lot of time, cost, and risk.

Michael DeLuca, Vice President of Information Systems, explains, “Although we’re serving primarily rural communities, we’re very advanced in our adoption of healthcare IT as a way to help deliver the highest quality patient care. So it’s critical that our clinicians have access to online data 24x7 so they can efficiently make the right decisions.”

Brian Murphy, SBLHS’s Director of Technology, states, “As our EMR grew to 30 million files and tape backups started taking 14 hours, and restores were becoming more cumbersome, we realized our prior Tivoli system was not giving us the protection we needed.”

ACCESS TO MEDITECH-APPROVED INTEGRATED SERVERLESS BACKUP

SBLHS replaced its TSM backup system with an EMC NetWorker® unified backup and recovery solution and EMC NetWorker Module for MEDITECH, as well as an EMC Data Domain® deduplication storage system with Data Domain Boost software. Backups are replicated backups to a second Data Domain in a remote data center, replacing the offsite tape storage.

In addition, SBLHS uses the VMware® vStorage APIs for Data Protection (VADP) to back up its virtual environment, which is virtualized with VMware vSphere™, and represents 30 percent of the overall environment. All data is backed up from EMC unified storage.

“NetWorker and the NetWorker Module for MEDITECH is one of a handful of solutions approved by MEDITECH as an Integrated Serverless Backup (ISB), which was critical for us,” Murphy says. “Our prior Tivoli system was not.”

“As a long-time EMC storage customer, we’ve always been impressed with the expertise of the EMC technical folks,” he adds. “We also like that EMC had extensive experience migrating from Tivoli to EMC backup environments.”

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ESSENTIALS

Challenges
- MEDITECH EMR ballooned to 30 million files
- Tape backups taking longer; more costly to manage

Solution:
- Next-generation Backup and Recovery Infrastructure
  - EMC NetWorker
  - EMC NetWorker Module for MEDITECH
  - EMC Data Domain deduplication storage system
  - EMC Data Domain Boost software
  - VMware Advanced Data Protection

Key benefits
- Achieved daily deduplication of 99 percent with an overall 20:1 deduplication ratio
- Shrunk backup window of electronic medical records from 14 to 2 hours
- Reduced recovery time objective from 30 to 2 hours
- Decreased backup footprint in data center by 94 percent

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CUSTOMER PROFILE

EMC.
**DEDUPLICATION SAVES TIME, SPACE, AND MONEY**

With Data Domain systems and DD Boost software, SBLHS is achieving 99 percent daily deduplication, enabling a 23.7 times reduction in disk space consumption. In addition, with Data Domain system resource utilization running at just 5 percent during MEDITECH backups, there is plenty of headroom to support future growth.

Tom Grissom, SBLHS’s Infrastructure Support Specialist, says, “On average, we’re getting a 20:1 compression ratio with Data Domain, which dedupes about 100 terabytes of backed up data down to less than five. This has also allowed us to reduce our footprint in the data center to 1/16th of what it was. Along with that comes all the savings in power and cooling, which has reduced our annual operating expenses significantly.”

“Since we rely heavily on our EMR systems in the delivery of care, protecting that information is vital to our physicians and patients. This investment in NetWorker and Data Domain has greatly improved the security and reliability of that data.”

**BRIAN MURPHY, DIRECTOR OF TECHNOLOGY**

Murphy adds, “The integration between NetWorker and Data Domain Boost also helps ease network load between our data centers. By offloading the deduplication function to our backup servers and reducing the amount of data being replicated every night from three terabytes to just 26 gigabytes, we’re able to use our existing network and avoid additional network expenses.”

**FASTER BACKUPS SECURELY PROTECT CLINICAL DATA**

With less data to backup and the advanced features of EMC NetWorker, NetWorker Module for MEDITECH, Data Domain systems, and DD Boost, SBLHS has reduced the backup window from 14 hours to just two hours or less, including replication offsite.

“The integration between NetWorker and Data Domain allows us to schedule clone jobs after the backup is finished and get nearly immediate offsite copies,” Grissom says. “No longer do we need to package up tapes and drive them over in a van.”

“Since we rely heavily on our EMR systems in the delivery of care, protecting that information is vital to our physicians and patients,” Murphy notes. “This investment in NetWorker and Data Domain has greatly improved the security and reliability of that data.”

With VMware VADP and NetWorker, SBLHS has also reduced the backup window for its virtual servers and data from three hours to just one.

“NetWorker made it easy for us to incorporate our virtualized applications into the overall backup and recovery program,” says Murphy. “This is particularly important as we evolve our cloud strategy.”

**RAPID RECOVERY SUPPORTS PATIENT CARE**

Equally important is the ability to recover data. With NetWorker and Data Domain, the recovery point objective (RPO) for MEDITECH has been reduced from three days to one, and the recovery time objective (RTO) from 30 hours to just two.

“By eliminating tape with NetWorker and Data Domain, we’ve improved recovery time by 94 percent,” notes Murphy. “That’s critical when lives are on the line.”

**COMMON INTERFACE SIMPLIFIES ADMINISTRATION**

An added benefit of EMC’s integrated approach to backup and recovery is the ease of administration.
Grissom explains, “In my experience, NetWorker has been a lot simpler to use for administration than TSM. It all boils down to having a single pane of glass. Because NetWorker integrates so well with Data Domain and VMware, I can get details such as consolidation ratios and utilization for both my physical and virtual environments without having to log into separate systems.”