STORAGETEK ®

C A S E   S T U D Y

Greenville Hospital System

Solution at-a-glance

Company name
Greenville Hospital System

Industry
Healthcare

Environment size
Enterprise

Employees
7,500

Customer application
Protecting data

Archiving data

StorageTek® solutions
 PowderHorn® 9310 tape library
— T9940B tape drive
— ACSLS Manager™ software
— Professional Services
   – Project management
   – Implementation

Other vendor solutions
— VERITAS NetBackup software

Business results
— Backup time reduced by 75 percent to fit
   within a more stringent six-hour window
— Backup administration labor hours
   reduced by 75 percent
— System now fully compliant with
   HIPAA requirements
— More simplified solution provided by
   single vendor in partnership with
   software technology vendor

Greenville Hospital System cures HIPAA "flu" with StorageTek data protection solution

Successful daily data backups meet HIPAA requirements and fully support user file-restore requests.

Greenville Hospital System (GHS) is the largest healthcare

provider in the state of South Carolina. The company's 7,500

employees work across four major campuses and support a

total hospital bed capacity of 1,200. GHS excels in the treatment

of heart disease, cancer, women's and children's health,

emergency medicine, neurological and orthopedic problems.

The hospital has earned a reputation for excellence and is now

in the process of building a teaching and research facility on

the Greenville campus in collaboration with local universities.

"StorageTek Professional Services created an end-to-end solution for us with their technology partner VERITAS. Our backup times shrunk by 75 percent to help us better meet HIPAA requirements. And they accomplished this leveraging our installed PowderHorn tape library and with minimal use of my busy staff."

Tip Jones
Director of Information Systems Operations
Greenville Hospital System

BUSINESS ISSUES

Like other healthcare providers, GHS is bound by the Health Insurance Portability and Accountability Act (HIPAA). Among other stipulations, this act mandates the creation and application of procedures to generate and manage identical copies of electronic health data that are retrievable when needed. Fines for compliance violations can reach a feverish $250,000.
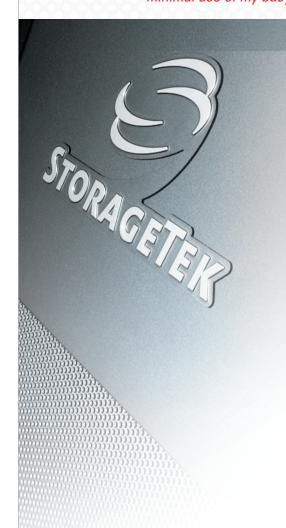
Previously, that might have been a problem for the hospital. The hospital's open systems Windows environment includes 350 servers. Following strong data growth, GHS's backup window began to exceed 24 hours. The diagnosis revealed a backup process that utilized three different methods across multiple tape mediums. The 24-hour backup process also had the side effect of reducing employee productivity through decreased availability to applications and data.

"There was never a morning that we didn't have a conversation about which backups failed the night before," said Tip Jones, director of information systems operations for the hospital. "And if users inadvertently deleted something, it would take hours to restore it. Occasionally, with backup failures and the time taken to do backups exceeded the required time windows, we simply didn't have the data. We had to act fast to cure that situation." GHS evaluated vendor proposals, deciding in favor of StorageTek®. "There were a number of things that factored into our final decision, including being able to quickly complete the project and leverage existing infrastructure while not taxing my in-house staff."

THE SOLUTION

StorageTek's Professional Services' project managers helped the hospital stabilize its problem by standardizing its UNIX and Windows backup processes, utilizing an installed PowderHorn® 9310 tape library. The team also gave the solution a dose of VERITAS's NetBackup application. Nine T9940B Fibre Channel capacity-centric tape drives were added to the library to support the implementation. Currently, two UNIX servers back up three terabytes of daily data to the PowderHorn tape library.

At the project's conclusion, the StorageTek-crafted solution, in partnership with VERITAS software technology, replaced a legacy backup process, which included manual intervention, with a fully automated process.

BUSINESS BENEFITS

According to Jones, the short project turn-around time and importance of getting the job done right the first time were important considerations.

"StorageTek provided a 'one-stop shop' solution, working closely with VERITAS to complete the project," explained Jones. "They put together the hardware require-ments and mapped out the backup process in short order. I had confidence in their ability to do the job correctly and liked the fact that they didn't draw heavily on my overworked staff to make it happen."

The effort had a healing effect on the hospital. Post-implementation performance shows that all backups are being complet-ed within a much smaller six-hour window. That benefit alone helped GHS meet its primary business goal for the project, as Jones recalled.

"Our backups are healthy now — HIPAA-compliant, all day, every day. And so far, we've been able to fulfill every user data restoration request."

FINANCIAL BENEFITS

Fast, reliable implementation is one thing, but completing the task at a reasonable cost is another as Jones recounted. "Our directive here is to compete IT projects so that they increase our overall operational efficiency at the least cost. By leveraging the available capacity in our 9310 tape library, StorageTek helped us to increase its utilization, which, in turn, increased the return we realize on this asset."

At the operational level, GHS replaced mul-tiple storage tape media by standardizing on T9940B technology. "We got rid of every version of DLT and 8-mm media to reduce the amount of tapes we consume by consolidating onto the 9940 tape car-tridges. We went from a capacity of 40 megabytes to 200 gigabytes [a five-thou-sand-fold increase]. That delivers a tremendous value in terms of our per giga-byte media costs."

According to Jones, a second operational benefit is easier administration and mainte-nance. The PowderHorn tape library was already being maintained and has not incurred much in the way of additional work for the staff in its new role. Moreover, the labor-hours devoted to nursing backups dropped an estimated 75 percent — from one full-time-equivalent, highly trained net-work engineer, to a two-hour-per-day junior administrator.

"When our backups were running 24 hours per day, it was a full-time job to track which backups failed and schedule those for pri-ority treatment during out next window," said Jones. "With the new solution, we pretty much don't mess with backups unless someone calls to restore a file."

TECHNOLOGY BENEFITS

Jones credits the StorageTek solution with shrinking backup times by 75 percent, from 24 hours to six. "The standardization of our UNIX and Windows backups to the PowderHorn tape library via VERITAS soft-ware easily accommodates the backup of the 350 servers within six hours. And from a recovery standpoint, it's much easier to work with one standardized tape media instead of the large assortment we dealt with previously."

Underpinning the backup solution's bet-ter performance is an automated process made possible by the 9310 tape library's robotics and VERITAS soft-ware. The legacy process, by contrast, required human intervention to mount and dismount cartridges.

Additionally, the T9940B tape drive's per-formance eclipses that of the displaced DLT and 8-mm drives. The best the DLT devices could spit out was uncompressed performance of six megabytes per sec-ond throughput and a net capacity of 40 megabytes. The T9940B drives are deliv-ering compressed 70 megabytes per second throughput (43 percent faster) and a net capacity of 200 gigabytes (5,000 times more hosting capacity). As a result, the nine StorageTek T9940B drives were able to replace six 8-mm drives and eight DLT drives. And by consolidating legacy cartridge data onto the 9940 media, 350 PowderHorn tape library slots were liberated.

Jones had another reason to favor the T9940B tape drive over and above its per-formance. "The drive's reliability has been flawless — we constantly had issues with the old DLT drives."

Positioned for future growth

The StorageTek solution has been a welcome elixir, protecting the hospital against the ills of virulent data growth. As Jones described it, "HIPAA requirements, new hospital applications and imaging technologies are going to fuel significant annual data growth here. But I'm not concerned about that from a data backup perspective because all I have to do is add more backup servers running VERITAS to do more parallel backups to the PowderHorn tape library. We have a lot of room to grow."

About Greenville Hospital System

Greenville Hospital System's renowned medical team provides world-class care through a network of five state-of-the-art campuses and several outpatient treatment and wellness centers located throughout South Carolina's Upstate region. GHS professionals deliver more babies and care for more hearts than any other medical center in the state. Patients rely on GHS to offer advanced medicine — from providing critical care at the region's only Level I trauma center to finding a promising vaccine for skin cancer.

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ABOUT STORAGETEK

Storage Technology Corporation (NYSE: STK) is a $2 billion global company that enables businesses, through its information lifecycle management strategy, to align the cost of storage with the value of information. The company's innovative storage solutions manage the complexity and growth of information, lower costs, improve efficiency and protect investments. For more information, visit www.storagetek.com, or call 1.800.275.4785 or 01.303.673.2800.

WORLD HEADQUARTERS

Storage Technology Corporation
One StorageTek Drive
Louisville, Colorado 80028 USA
1.800.877.9220 or 01.303.673.5151

StorageTek Performance Metrics Summary

Goal	Before StorageTek solution	After StorageTek solution	Result
Leverage storage partner	Alternative solution required two separate vendors	One-stop shop solution and service/support	StorageTek-VERITAS partnership enables single-source solution implementation and support
Meet HIPAA requirements	Occasionally failed to back up all data	All data backed up	HIPAA data storage and restoration requirements are now consistently met
Reduce costs	1 FTE needed to manage backup solution	0.25 FTE needed to manage backup solution	Solution achieved 75% reduction in backup administration labor hours
Complete backups within specific window of time	Backups exceeded 24 hours and not all data backed up	Backups done under 6 hours and all data backed up	Solution achieved 75% reduction in data backup time, allowing it to easily fit in more stringent window
Meet all data file-restore requests	Some requests not met	All requests met	Service level to users has been upgraded