CASE STUDY

Solution at-a-glance

Company name
NYU Medical Center

Industry
Healthcare

Environment size
Enterprise

Employees
5,080

Customer application
- Storing data (Tier 2 storage: BladeStore disk system)
- Protecting data (Tier 3 storage: tape backup on L700e tape library)
- Archiving data (9840 tape cartridges) Migrating to Linear Tape Open (LTO) Ultrium Generation 2 tape cartridge
- Managing data (automated ILM via Application Storage Manager® (ASM) software)
- Sharing library (Automated Cartridge System Library Software [ACSLS Manager software])

StorageTek® solutions
- BladeStore Disk system (80 terabytes)
- L700e tape library
- T9840 tape drive
- Application Storage Manager® software
- ACSLS Manager™ software
- Remote Managed Storage services

Other vendor solutions
- IBM Shark (Tier 1, primary storage)
- SIENET Magic (picture archiving and communication system)

Business results
- Significantly enhanced patient care delivery
- Customer met HIPAA data protection requirements six months early
- Centralized PACS utility model slashed infrastructure and administrative costs
- Reduced costs

NYU Medical Center

StorageTek-Siemens PACS solution improves patient care and bottom line health at NYU Medical Center

New York University (NYU) Medical Center is one of the nation's premier centers of excellence in healthcare, scientific research and medical education. The Medical Center consists of two hospitals: Tisch Hospital and Rusk Institute of Rehabilitation Medicine, and New York University School of Medicine.

Business issues

NYU Medical Center is a microcosm of the healthcare industry and how hospitals are adapting to the challenging regulatory environment. One example is the medical center's initiative to provide compliance with HIPAA data retention requirements, due to take effect in April 2005.

While meeting regulatory requirements is important, it pales in comparison to NYU Medical Center's primary mission of improving patient care outcomes. Decision makers there regularly review opportunities to apply new technologies to better serve its patients.

This philosophy resulted in the deployment in early 2003 of a picture archiving communications system (PACS). StorageTek, in partnership with Siemens, the medical center's PACS application provider, worked hand in hand to develop the PACS, focusing on enhancing both performance and operational efficiencies. The new technology enabled the medical center to cut costs and boost revenues.

The solution

After a lengthy evaluation process, NYU Medical Center adopted the StorageTek information lifecycle management (ILM) storage infrastructure solution to leverage better performance from its SIENET Magic PACS application. StorageTek helped the medical center consolidate its discrete departmental networks into an enterprise-wide, PACS-support infrastructure incorporating four facilities and multiple modalities, from MRIs to cardiology.

Due to NYU's long-standing partnership with IBM, the IT department uses the IBM Shark for its short-term RAID solution, but its long-term strategy is to move to the StorageTek BladeStore disk system with 80 terabytes of capacity. The medical center uses the Shark disk arrays as tier 1 primary disk storage for patient images in the first six months. When images from multiple modalities are written to primary disk, three copies are also written. One is written to the StorageTek BladeStore. This device serves as a tier 2 host, holding data migrated from primary disk. A second and third copy are written to StorageTek's L700e tape library (tier 3). Copy two resides in the library for up to seven years, while copy three is moved offsite for disaster recovery purposes.

To manage the current images data of more than 20 terabytes, the medical center uses StorageTek's Application Storage Manager (ASM) software application. This allows IT managers to use policy-based management practices to administer and retrieve data across its multi-tiered storage system.

Business benefits

NYU Medical Center's policy-based patient data management processes helped it meet its primary goal of complying with HIPAA information retention regulations — six months early.

But more importantly, the centralized, enterprise-wide storage services utility model has enhanced patient care. A Web-based access interface was introduced to boost practitioner collaboration on patient cases by enabling access from anywhere.

According to Chris Petillo, director of PACS at NYU Medical Center, "Our primary users require as much data as possible in a reasonable amount of time. Even five minutes is too long. Clinicians here love the fact that they can see the latest patient images, plus any prior studies, for comparison at the click of a mouse. We needed a very reliable, long-term archive solution with speedy access to data, and the StorageTek system gives us both of those."

Financial benefits

When the medical center's IT managers crunched their own numbers, they discovered a compelling case in favor of an ILM-tiered solution — one that promised to both cut costs and generate new revenues.

"We consolidated a number of discrete departmental infrastructures down to one enterprise-wide PACS network," said Petillo. "Previously, each department, whether it was the MRI group or Cardiology, would buy, install, maintain and manage its own equipment. The departments are still charged for these services based on our utility model, but the centralized infrastructure is much less expensive to them overall. We're saving on acquisition costs by buying storage in volume, and the whole network is easier to administer as well."

Better still, the medical center is able to leverage its PACS utility model, together with OC-3 and backup DS3 communications links, to offer new, revenue-generating, outsourced reading services.

"The StorageTek solution delivers the performance and capacity to substantially increase the volume of readings we can make," added Petillo. "We've already seen an increase in the number of overall readings we can do, which translates to more revenues. And we're aggressively gearing up to market tele-radiology services to healthcare entities around the country that can't afford to field their own systems."

Technology benefits

"The biggest technological benefit was the speed of the new solution," explained Petillo. "In the old days, when people used MOD jukeboxes, it could be hours before someone loaded the MOD. Sometimes they'd have to send someone into a basement to put in a tape for a doctor. It could take hours before someone got around to it. With the StorageTek BladeStore and tape library, we can push that same image exam to physicians in minutes, at most."

Petillo also appreciates that the ILM solution took his support team and end users out of the day-to-day data transfer world. ASM helps his administrators handle these tasks transparently. With a current data volume exceeding 20 terabytes, the BladeStore's 80-terabyte capacity leaves plenty of room for growth over the next four or five years.

The StorageTek solution's remote administration capability also received high marks. Petillo's data center is a 25-minute cab ride from the office. Being able to get utilization and performance information using UNIX commands through StorageTek's SAMU GUI makes life simpler for the overworked professional.

In fact, remote management has been such a benefit that NYU Medical Center decided to contract for StorageTek's Remote Managed Storage services. "RMS services will help us on a number of levels. Operationally, it will help us administer our network much more proactively with a strong set of reporting tools," described Petillo. "From a business perspective, it's going to eliminate conflicts we have with departments over chargebacks by generating precise usage reports."

StorageTek performance metrics summary

Goal	Before StorageTek solution	After StorageTek solution	Result
Increase quality of patient care delivery	Would not easily allow for comparisons needed to improve diagnostic read	• Patient current and prior exam retrieval in seconds • Medical practitioners can confer simultaneously to treat patients	• Patients receive faster and more accurate care delivery by physicians who can access and diagnose exam images in seconds. • Medical practitioners can access exam images from anywhere using Web-based interface. Collaboration combines multi-disciplinary skill sets for better care.
Meet HIPAA data protection requirements	Labor-intensive data retention process	Automated data retention via information lifecycle management strategy	Met April 2005 HIPAA requirements 6 months early.
Cut expenses	Multiple, discrete, departmental image modality infrastructures	Centralized image modality infrastructure	Deployed a utility services model that centralized and consolidated storage infrastructure and administration to reduce costs.
Increase revenues	Limited network scalability	Flexible and high-capacity scalability	• Delivered infrastructure to support faster exam image retrieval to increase volume of patient image readings. • Scalable infrastructure sufficient to support outsource image exam processing business model.

About NYU Medical Center

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Case study company:
NYU Medical Center
www.med.nyu.edu

"StorageTek created a tailored information lifecycle management solution to meet our regulatory, business and budgetary objectives. Our PACS application performs better and is a key element to delivering better patient care and higher practitioner productivity."

Chris Petillo, Director of PACS, NYU Medical Center

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

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