

## Surgeons' Association Takes Backup off the Critical List with Quantum's De-duplication Technology

### AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS

The American Association of Neurological Surgeons (AANS), based in Rolling Meadows, IL, is a scientific and educational association with more than 7,200 members worldwide. It provides members with ongoing continuing medical education (CME) to maintain board certification, through state-of-the-art educational offerings. These include annual meetings and courses throughout the year, and a wide variety of online opportunities. The AANS actively advocates on behalf of neurosurgery on Capitol Hill, publishes a quarterly socioeconomic publication as well as the Journal of Neurosurgery, produces high-profile media campaigns, and hosts a public Web site with in-depth patient education materials. Additionally, AANS Web sites are used by members to sign up for courses, track CME credits, coordinate speaking engagements, and purchase educational materials. There is also the internal back-office network that carries out the business side of the Association.

"We are here to serve our doctors as well as the staff that work at the Association," said Anthony Prochaska, network administrator for AANS. "To achieve this, we have to provide reliable service and iron-clad data protection."

### LENGTHY BACKUP WINDOW

The organization's five-person IT staff is responsible for three sites, 32 servers and seven Web sites, so uptime is critical and so is minimizing the time spent managing operations.

When it came to backup, however, the IT department struggled. As data to backup each night reached 800 GB, their older tape system couldn't keep up and backup jobs were extending into the work day. Whenever jobs had to be restarted, it made the problem worse. "We were unable to finish backups in a timely manner and they were running into the next business day," said Prochaska. "Our backups were failing and they needed to be done before 6 a.m."

### PICKING THE RIGHT DISK BACKUP—QUANTUM LEADS THE WAY

Prochaska thought that using disk as a first backup stage might solve his performance problem but buying enough disk to hold all his backup data would cost more than his budget allowed. He talked to different disk backup vendors, including several who suggested using de-duplication technology to increase capacity over conventional disk. He narrowed the field down to five vendors and asked for their advice.

"It was important for me to find a solution that would meet by backup and retention criteria as well as fit within my budget," he said. "Except for Quantum, none of the other companies' reps came on site and really took the time to understand what we needed."



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### SOLUTION OVERVIEW

- Quantum DXi 3500 disk-based backup
- Symantec Veritas Backup Exec 10D
- Quantum tape library for offsite storage

### KEY BENEFITS

- Backups occur within window and backup speeds increased by 3X
- 27 to 1 de-duplication ratios allow month of backups to retained on disk
- No more failed or incomplete backups
- IT staff free to focus on other duties
- \$5000 per year saved by reducing media usage

AANS found Quantum responsive and thorough. “The sales and pre-sales team spent a lot of time making sure they understood what my problems were, analyzing my data, and looking at the overall backup environment before they recommended a solution,” said Prochaska. “Quantum was also willing to help me evaluate the impact that using the DXi technology would have on our specific data under different retention and growth scenarios.” This, reported Prochaska, really took the pressure out of the decision making process.

The product AANS selected was a Quantum DXi-Series disk backup and replication appliance, which utilizes Quantum’s data de-duplication technology. The DXi-Series technology typically allows users to store 10 to 50 times more backup data than conventional disk, but the results vary with backup methodology and data change rates. An important part of Quantum’s pre-sales service includes a detailed sizing analysis.

Quantum estimated that AANS would be able store about 20 times more backup data on the DXi appliance than on conventional disk, and it recommended a system sized to accommodate five years of growth. The configuration used the DXi appliance as a virtual tape library using iSCSI protocol over an Ethernet connection. This configuration let AANS leverage the same basic interface to BackupExec that they were already using and their existing iSCSI infrastructure. Just as important as the technology, however, was the Quantum team.

“I chose Quantum simply because I believed in the technology and knew that there was someone standing behind the product,” said Prochaska. “Even after the purchase, the pre-sales engineer continues to check in on me. No one else does that. I bought a team not just a solution.”

#### **DXI PROVIDES BACKUP PERFORMANCE AND 27 TIMES MORE STORAGE CAPACITY**

Implementation of the DXi system took under an hour, according to Prochaska. A Quantum engineer helped with the install, and a presales engineer was also on site to verify that everything went according to plan. The only issues encountered were with BackupExec backup software settings, and the Quantum personnel helped resolve this during integration.

The results exceeded AANS requirements on all fronts. The backup performance, thanks to a combination of using a disk target and adjustments to the backup architecture, increased more than three times, and failed or incomplete backup jobs have effectively disappeared.

“We have more than tripled our backup speeds and now complete the process before 6 a.m. every morning,” says Prochaska. “Since we have implemented the DXi solution, every night has been a successful backup, and that’s what I wanted.”

The capacity advantage of the DXi-Series data de-duplication also exceeded expectations. “The reason we turned to data de-duplication was because backing up to regular disk would have filled the system up too quickly due to our retention policies,” says Prochaska. “And with our expected growth rates, there was no way we could survive on such a system for five years while keeping within budget.”

The Quantum sizing estimate had predicted rates up to 20 to 1, but “we achieved better than a 27 to 1 de-duplication ratio with the DXi,” said Prochaska. That means that AANS can retain 27 TB of backup data in only 1 TB of usable disk space in the DXi appliance. The more efficient storage allows all the backup data to be retained on disk for a month, to store full backups to make restores more efficient, and to stay within budget.

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### EASY TO MANAGE; CONSISTENT RELIABILITY

"The Quantum DXi is a plug-and-play solution that is very easy to manage," said Prochaska. "With the DXi, I can make the virtual cartridges as big as I want, and backup failure never occurs. The DXi has eliminated a huge burden and I just don't have to worry about backups anymore."

### DISASTER RECOVERY PLANS USING DXI

The current AANS system still uses tape for disaster recovery, but the amount of tape used and time to manage the process have both been reduced. The association now backs up all its data to the DXi appliance each day, retains four weeks of backups on the system, and writes data to tape once a week for offsite storage and long-term protection.

Just as data de-duplication lets users store more data on disk, it also dramatically reduces the bandwidth required to replicate backup data, allowing many users to replicate full backup data sets daily over existing WAN links. AANS plans to add a second DXi appliance and to use replication to improve DR protection and further reduce media handling.

"Replicating between DXi units will enable us to eliminate tape completely in some sites since we will have copies of backup data on disk offsite," says Prochaska, "and the replication strategy will give us better daily off-site protection."

### ABOUT AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS (AANS)

Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons (AANS) is a scientific and educational association with over 7,200 members worldwide. The AANS is dedicated to advancing the specialty of neurological surgery in order to provide the highest quality of neurosurgical care to the public. All Active members of the AANS are board certified by the American Board of Neurological Surgery, the Royal College of Physicians and Surgeons of Canada, or the Mexican Council of Neurological Surgery, A.C. Neurosurgery is the medical specialty concerned with the prevention, diagnosis, treatment and rehabilitation of disorders that affect the spinal column, spinal cord, brain, nervous system and peripheral nerves. <http://www.aans.org>

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### About Quantum

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