



Success Story

Thomas Nelson Community College Grows into the Future with Solutions from NetApp and PLANIT



KEY HIGHLIGHTS

Industry
Education

The challenge

Improve availability and manageability of IT infrastructure while improving backup and recovery strategy for file shares and e-mail.

The solution

Implement NetApp® unified storage at two locations to provide redundancy and disaster recovery capabilities.

Benefits

- 100-fold faster recovery time objective (1.5 hours vs. 1 week)
- 12-fold improvement in recovery point objective (2 hours vs. 24 hours)
- Eliminated delays when accessing file shares
- 15% cost savings over competitor's solution

CUSTOMER PROFILE

Community colleges are experiencing a surge in enrollment as the worst economic downturn since the Great Depression prompts job seekers to return to school to learn new skills. The fourth-largest of 23 community colleges that fall under the Virginia Community College System (VCCS), Thomas Nelson Community College (TNCC) has served the Virginia Peninsula since 1967, and enrollment is at an all-time high. Named after one of the signers of the U.S. Declaration of Independence, TNCC has around 9,913 students enrolled and about 450 faculty and staff.

The college recently opened a campus in Williamsburg, part of Virginia's "historic triangle" that gave birth to the United States, in addition to its existing campus in Hampton, 35 miles away.

THE CHALLENGE

When the Williamsburg campus opened, TNCC needed to equip the new campus with a network operations center and data center. The college saw an opportunity to improve its overall IT infrastructure, as its current systems at the Hampton campus were outdated and difficult to manage, and its SAN array was nearing capacity. Nightly backups to tape took 24 hours.

Although tapes were sent off-site each day, the college had no way to recover quickly in the case of a disaster. Situated in a hurricane-prone area, TNCC wanted to implement redundant storage to improve its recovery time objective (RTO) and recovery point objective (RPO). It also wanted to improve performance for its students, faculty, and staff, who often experienced delays accessing file shares and e-mail.

"Above all, we wanted a campus-to-campus infrastructure that could continue to grow into the future," says Catherine Szpindor, vice president of IT, Thomas Nelson Community College. "So we needed to find a way to upgrade our current facility to be compatible with the new facility we were putting in at the new campus."

THE SOLUTION

TNCC worked with Virginia-based NetApp partner PLANIT Technology Group to conduct an assessment and determine the hardware and software architecture that would be required to realize the college's goals. The ability to easily replicate Microsoft Exchange and Windows file shares and home directories between the two campuses for redundancy was a key objective.

“NetApp technology is helping us meet the vision that we laid out when I first came to the college: to provide higher availability and more reliable IT services.”

Catherine Szpindor

Vice President of IT, Thomas Nelson Community College

Based on PLANIT's recommendation, the college implemented NetApp FAS2050 active-active systems at both campuses. The fact that TNCC's parent organization in Richmond, Virginia Community College System (VCCS), had recently secured business continuity for more than 240,000 users and achieved more than \$800,000 in cost savings with NetApp was also a major factor in the decision.

“We looked at a lot of different storage alternatives,” says Szpindor. “But after PLANIT's presentation on NetApp and the cost savings that the VCCS office had already realized by using NetApp, we decided that NetApp was the way to go. We liked the fact that NetApp had a simplified, unified architecture—we reviewed some potential architectural designs with other technology, and we thought that NetApp had a cleaner solution, with fewer components to connect.”

Szpindor and her team also appreciated the fact that the VCCS engineers who were already familiar with the NetApp management interface would be able to assist if the

college was ever shorthanded on IT staff. “Like most community colleges, we have a limited IT staff, and they have to do a lot of things,” says Szpindor. “We only have two full-time network administrators, so the ability to leverage some of the expertise that the VCCS office had on NetApp was very attractive.”

BUSINESS BENEFITS

99% backup success with decrease in backup time

TNCC now relies on NetApp Snapshot technology—a feature of the Data ONTAP® 7G operating system—to create point-in-time copies of its 2TB of file share data and 300GB of Microsoft Exchange e-mail in minutes.

“In the previous environment, we had to prepare the tapes, and then the actual backups would run close to 24 hours,” says Wayne Davis, manager of Network Services, Thomas Nelson Community College. “We still use tape just as a safeguard, but we're much less reliant on it now. NetApp Snapshot copies save us time we used to spend preparing tapes, and now our

daily backup to tape runs in eight hours or less. That's because we're getting better performance from NetApp, and also because we're eliminating redundant data objects in our file shares with NetApp deduplication technology. It's a beautiful combination.”

Because the Snapshot backups are automated and verified, including those created with NetApp SnapManager for Exchange, TNCC's backup success rate has improved from 75% to over 99%, says Davis.

NetApp SnapRestore allows for recovery in minutes or even seconds, depending on the amount of data. NetApp Single Mailbox Recovery for Microsoft Exchange software can recover individual mailboxes in minutes, making it possible for the college to accommodate restore requests that previously were not practical. “It would have taken days to restore a single mailbox in our previous environment,” says Szpindor.

Recovering 100 times faster

The college now uses NetApp SnapMirror software to asynchronously replicate only changed data blocks over Ethernet from Hampton to Williamsburg every two hours,

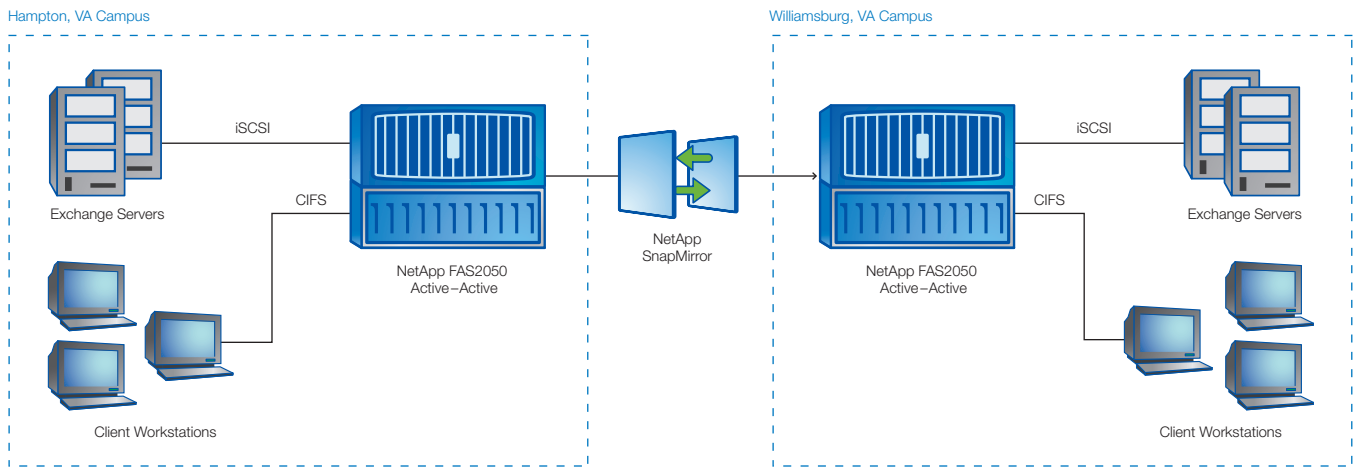


Figure 1) Thomas Nelson Community College storage infrastructure.

improving its recovery point objective 12-fold compared to restoring from a tape that could be as old as 24 hours. And a recent test proved that the college can fail over to either campus and restore services completely to meet a recovery time objective of 2.5 hours.

“Unfortunately, we did have an issue in our previous environment where we were down for a week—four days because of data loss and then three more because we had a problem with hardware,” says Davis. “With NetApp, we don’t have to worry about that kind of scenario happening again.”

“Our instructors and students are becoming totally dependent upon technology, both in the classrooms and with distance learning, so if we have an interruption in service of more than 30 minutes, we start getting complaints,” offers Szpindor. “And quite frankly, it interrupts the instruction. I would like to see us have 98% uptime for e-mail and file shares, allowing for refreshes and any maintenance that we have to do, and I think NetApp will get us there.”

Improved performance

Accessing the Exchange database using iSCSI is very fast, while CIFS access to file shares is nearly instantaneous, Davis reports. “In our previous environment, there would be a 5- to 10-second delay in accessing file share data,” he says. “The NetApp storage has removed that delay for our users.”

15% cost savings over competitor

Before PLANIT proposed the NetApp solution, the college was considering using a competitor’s storage hardware in conjunction with software from Data Domain, the cost of which would have put a storage hardware refresh at the Hampton campus out of reach.

“The NetApp solution was 15% less than the competitor solution in terms of total cost of ownership,” Szpindor confirms. “We would have had to dedicate the new storage hardware to the Williamsburg campus and continue to face the manageability and capacity issues that we were struggling with at Hampton.”

Enabling a new campus in less than two months

PLANIT helped the college meet an aggressive two-month time window for implementation, which included installation of all the equipment at Williamsburg, the NetApp deployment at Hampton, and an e-mail migration from Microsoft Exchange Server 2003 to 2007.

“If we had not met our deadline, it would have impacted our ability to open a brand-new campus,” says Szpindor. “The first day we opened we had student enrollment staff there, and we had students coming to enroll, so those systems had to be up. PLANIT treated us as if this was their own implementation and went the extra mile when we needed them.”

TNCC can now comfortably grow its data and IT infrastructure to meet demand. Network-related help desk tickets have decreased, and network administrators are able to turn their attention to more strategic activities, such as voice over IP, that have the potential to reduce costs for the college.

“The NetApp management interface is a lot easier to use than the competitor’s storage array we were using previously. It’s structured in a way that makes everything easily accessible.”

Wayne Davis

Manager of Network Services, Thomas Nelson Community College

“NetApp and PLANIT are helping us meet the vision that we laid out when I first came to the college: to provide reliable backups and failover capability so we can achieve higher availability and provide more reliable IT services,” Szpindor concludes. “We appreciate the fact that NetApp and PLANIT are helping us to achieve these fundamental infrastructure improvements.”

SOLUTION COMPONENTS

NetApp products

NetApp FAS2050 active-active systems

NetApp SnapManager® for Microsoft® Exchange software

NetApp Single Mailbox Recovery for Microsoft Exchange software

NetApp SnapMirror® software

NetApp SnapRestore® software

NetApp Snapshot™ software

NetApp Professional Services

SupportEdge Premium with Premium AutoSupport™

Protocols

NAS-CIFS, IP SAN-iSCSI

Environment

Applications: Microsoft Exchange Server 2007

Server platform: HP ProLiant servers running Microsoft Windows® Server 2008

Users: 1,100 students, faculty, and staff

NetApp partner

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