Hewlett Packard Enterprise

Athabasca University

Converged storage helps distance learning pioneer regain its edge

Athabasca enhances learning experience for 40,000 students worldwide

Objective
Create a modern IT infrastructure to power a more engaging and dynamic learning environment

Approach
As part of a larger IT transformation, replace a patchwork of legacy storage with a cutting-edge, converged storage solution

IT Matters
- Consolidate block and file storage
- Increase availability for users worldwide
- Eliminate downtime for maintenance
- Increase storage flexibility, simplify management
- Free staff to focus on value-adding activities

Business Matters
- Enhance competitive standing in distance learning
- Build student loyalty via a richer learning experience
- Support diverse teaching methods and learning styles
- Save $70,000 in annual maintenance

John Latremouille's first experience with distance learning was a frustrating one, but not uncommon for his fellow students at Athabasca University. A longtime IT professional, Latremouille had enrolled in an online psychology course offered by Athabasca, the pioneer in distance learning in Canada. Founded in 1970, the fast-growing university currently serves 40,000 students worldwide.

But to Latremouille's disappointment, the class he took was completely text-based. "People have different learning styles that call for different approaches to teaching," he explains. "I tend to be more of an oral learner, so I struggled to engage with the written material." As a non-traditional student juggling a busy work and family life, Latremouille was also dismayed to find that scheduled system maintenance outages fell on Sunday mornings, the exact time of the week when he was most free to do homework and class projects.

The experience stuck with Latremouille, and six months later, when an executive recruiter coincidentally approached him about a position as Director of IT Operations at the university, he jumped at the opportunity to "get in there and fix things."

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The classic problems of a pioneer

"From an IT perspective, Athabasca had the classic problem of being a pioneer," says Latremouille. "We were the first in many areas, but over time we found ourselves weighed down and competitively outpaced, due to our legacy infrastructure." The most immediate challenge he faced in the new job was a lack of IT standards. "There were five operating systems, four virtualization technologies, and lots of white-label servers with no manufacturer support," he says. "The network lacked a modern architecture, and the storage environment was a hard-to-manage mix of technologies and vendor products. And all of it was dispersed around campus."

Taken together, these factors caused availability issues for students, limited the faculty's ability to utilize modern distance learning methods, and constrained the IT staff's options for managing storage and implementing a disaster recovery strategy.

A man, a plan, a storage platform

Latremouille quickly developed an infrastructure plan, secured funding commitments, and established standards to take Athabasca into the 21st century. For example, he began a phase-out of white-label devices in favor of supported vendor products. His team chose to standardize the university's virtualization deployment on HPE ProLiant servers running VMware vSphere.

In consultation with HPE partner PC Corp., they also set out to consolidate their fragmented, legacy storage environment onto a single platform. The legacy storage consisted of NetApp—used for Citrix file shares and VMware server virtualization—Hitachi Data Systems (HDS) for PostGreSQL and MySQL database storage, and attached storage arrays on individual servers.

"Unless we provide a great distance learning experience with guaranteed uptime and availability, students will go elsewhere, whether for one class or their entire degree. And we'll lose their friends and colleagues who might have enrolled here, based on word of mouth."

– John Latremouille, Director of IT Operations, Athabasca University

These disparate components presented challenges in Athabasca's IT environment. The obsolete HDS systems were past their end-of-life date and required applications to be taken offline whenever the system was being reconfigured. Though he credits NetApp with offering a quality NAS product, Latremouille adds a caveat. "In using their SAN, we ran into lots of issues," he says. "When we were maintaining disks, things would break. We

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needed a solution that would let us easily decommission our existing SAN, consolidate and centralize storage, and allow whatever we were using to be attached, whether it was block or unstructured/file storage."

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"At this point, all our shared storage is centralized, easy to manage, and lightning fast to backup. Furthermore, it positions us to cost-effectively move to a more comprehensive disaster recovery stance."

– John Latremouille, Director of IT Operations, Athabasca University

Beyond these challenges, each vendor platform existed in its own silo, with its own management interface, a factor that increased costs, reduced efficiency, and made it harder to flexibly adapt storage to changing needs.

The benefits of truly converged storage

"Being able to put all our storage into one bucket and have one management console was critical to us," says Latremouille, noting that his team looked at solution approaches from several vendors. "We concluded that HPE 3PAR StoreServ storage with the HPE 3PAR File Persona Software Suite, was the only solution with all the capabilities we were looking for."

With all storage consolidated on the 3PAR StoreServ platform in one location, Athabasca University is achieving efficiencies that help provide an exceptional learning experience for students. Management, provisioning, and maintenance can be handled via a single, intuitive user interface for both block and file storage, through the 3PAR StoreServ

Management Console (SSMC). Because File Persona is a native feature of the 3PAR operating system, it makes it very easy to find storage and move it around "on the fly," Latremouille says.

Using Fibre Channel connectivity for block workloads and Ethernet connectivity for file workloads, database I/O performance has greatly improved, with queries running much faster. All this is possible without IT staff having to navigate between separate management interfaces or do any optimization of the query or application. Taking backups via snapshots is also much faster. A backup of vSphere virtual machines now takes seconds where it used to take minutes.

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"Our converged storage solution has saved us over $70,000 in annual maintenance fees. It also significantly reduced our space costs, thanks to a 70% smaller footprint and lower power consumption."

– John Latremouille, Director of IT Operations, Athabasca University

Latremouille cited the 3PAR StoreServ and File Persona's ease of use as a key advantage of the HPE solution. "For example, during data migration, HPE handled the first 15TB, and our staff did the rest, with no glitches whatsoever," he says. "The 3PAR has also allowed us to train most of our System Administrators to manage storage, which is a real benefit given that we don't have dedicated storage admins." The IT team was further impressed by the storage efficiency delivered by HPE 3PAR deduplication, which allowed Athabasca to forestall additional hardware purchases.

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Customer at a glance

Application

A high-performance, converged storage solution to efficiently and flexibly manage block and file storage and support evolving needs

Hardware

• HPE 3PAR StoreServ 7200C converged flash storage with solid state and hard disk drives

Software

• HPE 3PAR Operating System version 3.2.1.292 (MU3)

• HPE 3PAR File Persona Software Suite, a native feature of OS

• Adaptive Flash Cache

• Adaptive Optimization

• Dynamic Optimization

• Peer Motion

• Priority Optimization

• Virtual copy

HPE services

• Installation and Startup

• Training

• Proactive Care

Business applications

• VMware vSphere

• Citrix

• Microsoft Exchange Server

• Moodle

• Drupal

• Alfresco

• Banner ERP

• OROS

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"With a converged design for block and file storage, we've increased system availability which is critical for students to meet class deadlines. We also simplified management and empowered IT staff to flexibly make storage changes on the fly. And we've increased our agility, partly due to the performance of flash."

– John Latremouille, Director of IT Operations, Athabasca University

What the present looks like—and the future

"At this point, the major concrete benefit for AU is that all our shared storage is centralized, easy to manage, and lightning fast to backup," says Latremouille. Citing one example of the practical benefits, he notes that the IT group now centrally provisions and remotely supports virtual machines and storage for the school's 1,300 faculty and staff, many of whom work from home. Looking ahead, the storage solution positions AU to cost-effectively move to a more comprehensive disaster recovery stance, with more systems coming under the DR umbrella.

Once plans for a resilient enterprise network are completed, students and faculty will be able to more fully leverage the rich learning and collaboration features of Microsoft® Office 365® and other distance learning resources. Researchers will more easily share information and ideas worldwide. "As an institution, we're going back to our roots," says Latremouille. "We're moving toward a more innovative, flexible and interactive way of delivering education."

Learn more at
hpe.com/3PAR StoreServ Storage

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