



Data explosion drives storage modernization at Université du Québec (UQAT)

HPE 3PAR and HPE StoreOnce power groundbreaking research

Objective

Modernize the infrastructure to enable a massive influx of data while preparing for future storage needs

Approach

Deploy an all-**HPE solution** to improve performance and streamline the management of servers, storage, and backups

IT matters

- Increase storage capacity, expandable to 1 PB
- Consolidate 6 legacy storage systems onto one HPE 3PAR unit
- Reduce frequent availability issues to zero events in first 4 months
- Cut backup times, in one case from 3 days to 30–60 minutes

Business matters

- Offer innovative courses based on new media and gaming
- Ensure a reliable online experience for users
- Support 3 campuses with a lean IT team
- Leverage new capabilities with timely support



To accommodate rapid data growth, the Université du Québec en Abitibi-Témiscamingue (UQAT) modernized its storage infrastructure. UQAT's solution—built on HPE 3PAR 8400 storage and HPE ProLiant DL380 Gen9 servers, with the Intel® Xeon® processor—is meeting ambitious goals for expanded storage capacity, higher availability and stability, and reduced backup times.

UQAT is a public university in Quebec province that enrolls more than 5,000 full-time and part-time students, spread across three campuses and seven academic centers. In 2017, UQAT's School of Indigenous Studies launched a groundbreaking research project that required modernizing its **data center** and **storage infrastructure**. Team members are developing an innovative curriculum platform for research and teaching about Canada's aboriginal people. The platform will make extensive use of video interviews and oral histories, combined with online gaming, to deliver an engaging, immersive learning experience that teaches students about the nation's aboriginal history and heritage.

As Patrick Bédard, Director of Pedagogy and Technology, explains, "We knew we would need a very robust infrastructure to support this initiative. The solution has to handle explosive data growth, mostly video content. It also has to offer a positive and stable gaming experience while ensuring the daily productivity of developers, students, and



“For a research project that’s driving rapid data growth, we upgraded our storage infrastructure and data center, based on HPE 3PAR 8400 storage and HPE ProLiant DL380 Gen9 servers, with Intel Xeon processors. The new environment benefits all of UQAT, reducing availability incidents to zero and cutting backup times, from days to minutes in one case.”

– Patrick Bédard, Director of Pedagogy and Technology, UQAT

faculty. An all-HPE solution, built around **HPE 3PAR storage**, has allowed us to meet these challenges.”

Saddled with an outdated environment

UQAT’s legacy data center and storage infrastructure was outdated, complex, and hard to manage. It lacked adequate storage capacity for the expected data growth. Service availability issues occurred several times a week, affecting faculty, students, and developers. Offering an example, Bédard says, “A student who’s taking an online exam can’t wait five minutes for the next question to come up. That’s unacceptable.” He adds, “Data backup times were terribly slow. It could take three days to back up our Exchange environment.” He largely attributes this to a legacy infrastructure that included six separate **SANs**, which drastically slowed the performance of Veeam Backup & Replication.

Consolidating on an all-HPE solution

After defining core requirements, the UQAT team opted to tear out much of the old gear and consolidate storage, servers, and backups on an all-HPE solution. Replacing the disparate SANs, they implemented a

4-node, HPE 3PAR 8400 hybrid storage system, which provides 800 terabytes of capacity, expandable to 1 petabyte. Nine HPE ProLiant DL380 Gen9 servers, with the Intel Xeon processor, support the solution. Six are allocated to VMware® and three to backup storage. **HPE OneView**, installed on a virtual machine, manages the solution. A proof of concept confirmed that Veeam Backup & Replication, in tandem with HPE StoreOnce disk-based backup, could readily handle the university’s availability and stability demands.

Using storage snapshots taken directly from the storage server—bypassing the virtual environment—has greatly improved backup speed and efficiency. It now takes an hour or less to back up the Exchange environment, compared to three days. The transition from running Hyper-V in the legacy environment to running VMware on ProLiant servers contributed to increased stability. In the first four months after deployment, there were zero service availability incidents.

Furthermore, the combination of StoreOnce with Catalyst Share not only improves performance but also protects backup storage from being encrypted by ransomware.



Customer at a glance

Application/Solution

- By modernizing its legacy infrastructure, UQAT is helping preserve the cultural legacy of Canada's indigenous people.

Hardware

- HPE 3PAR 8400 storage
- HPE ProLiant DL380 Gen9 servers with Intel Xeon processors
- HPE StoreOnce 5100

Software

- HPE OneView
- Veeam Backup & Replication

HPE Pointnext services

- HPE Installation and Deployment Services
- HPE Proactive Care

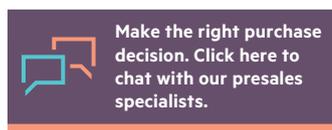
Streamlined infrastructure management

Bédard notes that the integration of VMware into HPE OneView greatly reduces the complexity of managing the infrastructure. "With the dashboard it's easy to monitor performance and capacity," he says. "When we're deploying new virtual machines, servers and hosts, tasks that used to take hours now take only 10 or 15 minutes. We're not a big team, so the time savings is important, allowing us to do more with less."

Bédard credits the HPE Pointnext services team with timely installation, deployment and knowledge transfer, based on best practices. "HPE helped ensure our new infrastructure was up and running the fastest way possible, so we could quickly take advantage of new capabilities," he said. Furthermore, 24/7 Proactive Care with lights-out monitoring allows the team to effectively support all campuses from UQAT's Rouyn-Noranda location, even though they only work during weekday business hours.

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