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CUSTOMER SUCCESS

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ)

Far-flung Government Agency Improves Backup for Remote Offices

A government agency in the Canadian province of Québec wanted to replace backup tape libraries in dozens of remote offices with a centralized solution. After a competing product resulted in unworkably long backup times, they tried Veritas NetBackup PureDisk™. Thanks to NetBackup PureDisk's deduplication and incremental backup technologies, a backup that formerly took 183 hours now takes just 19 minutes, and the largest office has a backup window of just 90 minutes.

MAPAQ—the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec—is responsible for regulation and support of agriculture, fishing, and food processing in Canada's largest province. And though MAPAQ maintains more than 75 offices around the 1.5 million-square-kilometer (595,000-square-mile) province, a crew of just 15 handles the information technology for those all of those sites.

It's an understatement to say that many MAPAQ sites are in remote areas. Take the office in Cap Aux Meules; it's on a speck of land called Magdalen Island in the fish-rich Gulf of St. Lawrence, a five-hour ferry ride from Prince Edward Island. Functions at MAPAQ offices vary; some house technical and scientific personnel, while others provide space for office workers who manage agriculture subsidies, environmental reports, food-safety inspections, and the like.

The common denominator is that all MAPAQ offices consume and generate data that's important to the health and well-being of millions of Canadians, so the information in these offices needs secure, reliable protection.

ORGANIZATION PROFILE

Website: www.mapaq.gouv.qc.ca

Industry: Government Agency

Headquarters: Québec City, Québec, Canada

Employees: 2,000

SYMANTEC SOLUTION

Data Protection

Why Symantec?

- Dozens of remote offices supported by single, centralized backup server
- Deduplication speeds backup process
- Incremental backups mean static documents are copied just once
- Deduplication means more effective use of storage

Backups extend beyond their windows

Not long ago, safeguarding information in these remote offices seemed an impossible task. While some of MAPAQ's offices protected their data by storing it on servers in the ministry's data center in Québec City, the majority—45—had servers and tape backup systems on-site. Non-technical office personnel swapped tapes and maintained the libraries, but this was an imperfect solution. Occasionally, tapes were not changed or were loaded incorrectly; data restores required on-site intervention by non-technical personnel.

For a time, MAPAQ's IT department tried to back up these remote servers to the ministry's storage area network (SAN) in Québec City on the weekends, but that too proved problematic. "We didn't have enough hours in the weekend to complete the backup," says Conrad Frechette, technical architect with MAPAQ. "They never finished."

Several issues contributed to the long backup times. The remote backup solution MAPAQ previously tried only performed complete backups, so large quantities of static documents were being copied over and over again every weekend. And though most sites had T-1 network connections, some had connection speeds as low as 64K. One remote office required 183 hours to send its data backup to Québec City; another took 61 hours.

Proof of concept to production in two days

In late 2007, frustrated MAPAQ officials invited representatives from Symantec to demonstrate Veritas NetBackup PureDisk™. A proof-of-concept test was proposed, using live data from ten remote sites that represented a variety of servers and bandwidth challenges.

MAPAQ was intrigued by the NetBackup PureDisk client, which incorporates data duplication and encryption at the client site. Data deduplication had the potential to dramatically decrease the amount of backup data being sent over the wire to Québec City. The NetBackup PureDisk client was deployed remotely from MAPAQ's data center; the proof-of-concept system was tested, and the ten sites were initially backed up in less than two days. "The implementation went very well," Frechette recalls.

After the initial backup, the power of incremental backups (also called "differential" backups) kicked in. With incremental backups, only documents that have been modified since the previous backup are saved. This provided tremendous value for MAPAQ. "One site with 40 gigabytes of data now sent just 24 megabytes. The one office that had required 183 hours to send its backup to Québec City now could be backed up in 19 minutes," Frechette says.

The proof-of-concept was immediately approved and converted to a production system. Storage space was allocated on the MAPAQ storage area network (SAN) and NetBackup PureDisk clients were deployed to other MAPAQ remote sites over the next few weeks. "Now, the longest backup job takes one hour and 30 minutes," Frechette says. "That is a big site with lots of activities and data."

Frechette soon realized that the speed difference would allow him to increase his backup frequency. "NetBackup PureDisk can take a differential backup each day, so the result is the same as taking a full backup each day." He also felt more secure in knowing that data was encrypted at the remote offices.

MAPAQ also deployed Veritas NetBackup to copy the remote office backups from disk to tape in Québec City, establishing a one-month disk-to-disk-to-tape backup regimen that continues to serve the ministry well.

SOLUTION AT A GLANCE

Key Challenges

- Decrease backup windows
- Improve backup reliability
- Remove tasks from non-IT staff members
- Centralize backup for data security

Symantec Products

- Veritas NetBackup PureDisk™
- Veritas NetBackup™

Technology Environment

- Remote office server platform: Windows 2003 R2.
- Applications: Microsoft Office 2003 and various Web applications.

BUSINESS VALUE AND TECHNICAL BENEFITS

- Backups that formerly took 183 hours now take 19 minutes
- Backup hardware upgrade now unnecessary
- No need to maintain tape libraries in remote offices

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Conrad Frechette
Technical Architect
MAPAQ

Flexibility and savings in the future

Frechette expects NetBackup PureDisk to provide MAPAQ with more flexibility in coming years than the remote backup system it replaced. Although he and his staff are working to curb data growth, some growth is inevitable; to accommodate it, "We only have to grow the space on the SAN," he says.

He also expects to get more mileage from his existing backup server. "Our old backup system had an issue with evolution," he says; adding hardware to it posed costly technical challenges. But with NetBackup PureDisk, Frechette does not anticipate the need to change backup hardware, even as he upgrades to PureDisk version 6.5. The new version of PureDisk will improve performance, particularly in the disk-to-tape portion of the backup system.

MAPAQ's success has caused Frechette to consider other ways to leverage the agency's NetBackup PureDisk investment. The ministry runs two schools of agriculture, and Frechette is studying the possibility of bringing them into the NetBackup PureDisk remote backup regime when their onsite tape libraries reach end-of-life. "A new tape library would cost C$25,000, but if we can back up these sites with NetBackup PureDisk too, we save the expense of buying a new library," he says.

Labor efficiency would be garnered because the schools currently have on-site technical staffs who perform and maintain backups. With MAPAQ IT staff in Québec City running NetBackup PureDisk backups, the on-site individuals will be freed to perform other tasks.

"If we can use NetBackup PureDisk with no future expense other than disk space on the SAN, that will be a better solution," Frechette concludes

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>
> **Conrad Frechette**
> Technical Architect
> **MAPAQ**