

CommVault Disk-to-Disk Backup Spells “Confidence” for Sprawling Ontario School District

QUICK FACTS

Industry/Solution:

- Education

Platform/File System:

- Novell
- Windows 2000, 2003
- Red Hat LINUX
- Suse LINUX

Applications:

- Microsoft Office
- Qmail
- SAP
- Over 120 educational packages

Partner Hardware:

- Dell servers and desktops
- EMC CX500 & CX300 Storage Area Networks (SANs)

Challenges:

- Loss of confidence in previous backup solutions
- Need for faster backups over the network from remote sites
- Slow restores from off-site tape
- Need for a consolidated, simplified enterprise backup solution
- Need to eliminate tape, move to disk-to-disk backup

Solution:

- CommVault Galaxy Backup & Recovery
- Synthetic Full Backup

Benefits:

- Faster backups disk-to-disk reduced backup time
- Ease of management of a complex network
- Informative reports
- Synthetic Full backups reduce backup window
- Fast easy restores

Customer Profile

The Conseil Scolaire Catholique du Nouvel-Ontario (CSCNO) is the second largest French-speaking school district in Ontario. It includes 38 schools, from kindergarten through grade 12, 7,500 students, and 700 teachers, all spread across a 6,000 square mile swath of central Ontario. Larger than the state of Connecticut, the district stretches from Sudbury in the east 150 miles west to Sault Ste. Marie, and another 100 miles north to Wawa.

Data Management Environment

CSCNO is a highly computerized school district. Every school has 25 to 30 PCs and a Dell PowerEdge/Novell server tied back to the central site via a variety of links including T-1 lines and 100 megabit/second fibre. The central IT site at the Board office in Sudbury has fifty Dell servers running primarily Novell, along with Microsoft Windows 2000/2003, Redhat Linux, and Suse Linux operating systems.

CSCNO runs dozens of academic and business applications. A typical elementary or high school has about sixty academic software packages, and the Board office runs another twenty administrative applications, including Microsoft Office and other standard business applications, as well as SAP for human resources, payroll, and accounting applications.

Primary storage for the system is an EMC CX500 storage area network (SAN) with total capacity of 12 terabytes. For disaster recovery, a redundant site at a high school in Sudbury is equipped with an EMC CX300 SAN. There is no tape library in the system; backup is done disk-to-disk using CommVault Galaxy backup and recovery software.

A Crisis in Confidence

CSCNO moved to CommVault software as a result of an incident during the 2004/2005 school year. Roch Lachapelle, one of two coordinator analysts in the CSCNO IT

Department, recalls, “We had to do a restore from tape. The backup logs said the files were on backup tape and the tape was ready to go. But when we mounted the tape to do the restore, it said ‘data not available.’ Nothing in the log told us the backup had failed. The log said it was backed up! As a result, now we had no confidence in any of our backups. The Board decided we needed a much more robust solution.”

Building a New Solution

Because the district’s 38 schools do not have their own on-site IT people, the system must be centralized, with the backups done over the network to the data center. And, with schools scattered over such a large area, and a small IT staff, the system must be rock-solid reliable. With those goals in mind, Lachapelle and his team set out to build a new backup solution that would meet their needs and restore confidence in their backups.

CSCNO had determined that tape backup was just too slow to handle the large number of backups they had to do over the network, so their first goal was to get rid of tape. The IT team researched leading vendors in tape-less, disk-to-disk backup, and identified Legato and CommVault. They also wanted a synthetic full backup capability, because conventional full backups simply took too long. With the incumbent solution, their conventional full backup to tape each week-end started on Friday evening and ran through Sunday afternoon, a total of nearly 48 hours. That long process was highly vulnerable to hazards like power outages, and left no time for recovery if something went wrong.

In the Spring of 2005 CSCNO put out an RFP that included requirements for disk-to-disk and synthetic full backups. “Initially we chose Dell and Legato,” says Lachapelle, “but on closer inspection we realized that Legato could not do what the RFP called for, and Dell switched out Legato and brought in CommVault.”

Installation Went Smoothly

CSCNO installed their new SAN in August 2005 and installed the CommVault software in September, just in time for the start of the 2005/2006 school year. Saeid Yazdanmehr, the CommVault field engineer, came in for two days to install CommVault agents on all the servers. After the CSCNO team had worked with the software for a month, he came back for two days of fine-tuning. Lachapelle was impressed with Yazdanmehr's approach to problem solving. He says, "Saeid took time to listen and work out a solution. And if he did not have an answer, he didn't say he did. He said, 'I'll go back and talk to the engineers and figure it out.' He didn't just tell us what we wanted to hear. He told us the truth."

Faster, More Reliable Backups

With the CommVault backup solution, instead of daily incremental backups and a conventional full backup on weekends, CSCNO does incremental backups each night throughout the month, and a Synthetic Full backup at the end of the month. The monthly Synthetic Full backup of 500 to 600 GB takes about 10 hours to complete. Compared to 48 hours each week for the previous solution, that's a 95 percent reduction, from over 200 hours per month to 10 hours per month.

Staff Confidence

Before CSCNO installed CommVault, the technician responsible for backups spent at least one hour every day solving backup problems. "Now we look at the logs each morning, see everything is done, and that's it — ten minutes," says Lachapelle. "CommVault generates a report and emails it to us and we don't even need to get up off our chairs."

The CommVault solution is also far more robust. With the previous software, if the backup for one site failed, the whole backup failed, and there was no backup for that day. Now, if the backup for one school does not work, CommVault continues with the rest of the backups, puts the failed backup back in the queue, and tries again later. Says Lachapelle, "There might be a power failure at the school, or the link might be down in a snowstorm. With CommVault, when the link comes back up the backup is completed and we are right back on schedule."

Lachapelle also sees a happier computer room since CommVault arrived. He says, "Before, I'd hear our technician cursing the old backups. Now he feels a lot better coming to work in the morning. Before, he knew every morning when he got here he'd have backup problems from the night before to deal with. Now he comes in knowing that it's all done. So he's happy, and when the techs are happy, I'm happy."

Confidence in Disaster Recovery

To provide disaster recovery with the previous solution, CSCNO took backup tapes off site each day. As a result, if they needed to do a restore, they had to bring the relevant tape or tapes back from off-site. Now they do the backup to disk overnight at the central site on the EMC CX500 SAN, and the CommVault software replicates the backup to the EMC CX300 SAN at a redundant site at a high school in Sudbury. Restores can be done quickly and easily from the disk backup on site. "Now we have confidence that we have both backup and disaster recovery covered. That's very important to me. Sometimes we make things too complex. CommVault makes it simple. It's all on one screen, on one computer. That's ease of management."

Confidence in Restores

With their previous tape-based backup solution, because IT first had to retrieve the right tape from off-site, a restore usually took four to six hours, but sometimes took as long as two days. Shortly after the CommVault software was installed, Lachapelle got a demonstration of how much easier restores would be with CommVault. He explains, "I got a call from a teacher who had lost files. I had not yet read even the manual, but I couldn't say to the teacher, 'I'll take a week-long course and then I'll do the restore.' When the crunch came, I didn't have time to take a course. So I just fumbled through it, didn't look at the book, just went to the screen... and did the restore in about 10 minutes."

User Confidence

The IT mission at CSCNO is to make sure that teachers and students and administrators don't need to worry about whether their data is safe and available when they come to school every day and get on the network. Says Lachapelle, "With CommVault, users feel confident that even if they lose a file, we can find it for them and restore it. Confidence is the key. Teachers aren't computer techs, and may not be all that comfortable with technology. They want to concentrate on teaching, not computer technology. Our job is to make them confident and comfortable with the computer system, and CommVault helps us do that."

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