



CASE STUDY

Solution at-a-glance

Company name

The Canadian Depository for Securities Ltd. (CDS)

Industry

Financial services

Environment size

Enterprise

Employees

400

Customer application

Protecting data

StorageTek® solutions

- V2X2 Shared Virtual Array disk system (predecessor to the FlexLine™ V2X2 Shared Virtual Array® (SVA™) disk system)
- Power PPRC, Proxy PPRC, PPRC SnapShot software suite

Business results

- Reduced time requirements for disaster recovery to further facilitate 2-hour recovery commitments
- Eliminated the need for a pending communications upgrade at the time of the implementation
- Integrated mainframe and open systems administration to simplify management

The Canadian Depository for Securities Ltd. (CDS)

Canadian securities depository achieves superior disaster-recovery capability with StorageTek solutions

The Canadian Depository for Securities Ltd. (CDS) is the nation's securities depository, clearing and settlement organization. CDS supports Canada's equity, fixed income and money markets, holding securities on deposit with a value of \$2 trillion, which is equal to double the country's annual GDP. The firm handles more than 50 million securities trades annually, and settles more than 13 million international transactions with the United States alone.

In short, CDS is critical to the Canadian capital markets. As a result, Canadian regulatory agencies place stringent demands on the company including a two-hour disaster-recovery restoration mandate.

Business issues

"Downtime is unthinkable to us because an outage would negatively impact our flow of securities transactions," said Donna Fawcett, director of technical services for CDS. "That's one reason we're so focused on enhancing our business continuity (BC) / disaster recovery (DR) capability."

So after careful analysis of its infrastructure and business needs, CDS management set a goal of more efficiently replicating data to a remote site with the ability to synchronously mirror both mainframe and open systems data simultaneously. The legacy process was using two separate protocols for the company's mainframe and open-systems environments.

The firm's BC / DR infrastructure upgrade plan included a costly communications project. And while CDS could add bandwidth to meet the new demands of its storage network, IT executives hoped to defer the \$500,000 initial expense to relieve pressure on their flat budgets.

Adding to the strain on its storage network, the company had spent the previous four years upgrading its settlement capabilities through a major restructuring of its financial services applications. For example, it shortened its stock trade settlement capability from three days to one. A natural consequence of the application retrofit was 100 percent growth in data, from two terabytes to four terabytes.

The solutions

In May 2002, SVA960 disk subsystems were installed to provide CDS with synchronous-mirrored capabilities between its open systems and mainframe environments.

A comprehensive list of criteria was drafted and vendors were asked to submit solution proposals. The RFP included one last uncompromising requirement—the winning vendor would need to issue a written performance guarantee as part of its offering. Among the four respondents, only StorageTek® anted up such a commitment.

In 2004, CDS upgraded to a newer solution utilizing three of StorageTek's V2X2 Shared Virtual Array disk subsystems (predecessors to the FlexLine™ V2X2 Shared Virtual Array® (SVA™) disk system). Two are deployed at the company's primary datacenter in Toronto and one at its hot DR site. Synchronous mirroring is provided by two linked V2X2s utilizing StorageTek's Power PPRC and PPRC SnapShot microcode in the CDS mainframe environment and Proxy PPRC for the CDS open systems environment. The third V2X2, at the primary site, is used for data storage that currently does not require mirroring, but could be mirrored as requirements dictate. CDS, in fact, had selected StorageTek for all its storage needs.

Said Fawcett, “We engaged StorageTek Professional Services to work with us to integrate a comprehensive, multi-platform DR procedure using the capabilities of the V2X2 Shared Virtual Array disk subsystem into our existing DR plan. One benefit of this approach was that the solution enabled us to consolidate our mainframe and open systems management tasks and run them from a single interface by one administrator.”

Business benefits

Most financial services companies must operate within stringent requirements. CDS is required to produce an annual audited report to stakeholders on its stated internal control objectives and procedures. Business continuity is one of several internal controls described in the report and CDS performs a DR test semi-annually to provide assurance that critical applications can continue in the event of a disaster.

Said Fawcett, “Meeting the disaster recovery test requirement for recovery within two hours is a service level agreement (SLA) commitment we have with our board of directors and customers. Our latest annual test showed that the StorageTek solution delivered recovery performance 40 percent better than our previous solution, which allowed us to exceed our SLA [reduction from 100 minutes to 60 minutes].”

One of CDS’s BC / DR goals was to restore its systems back to their production data center from the DR site. The StorageTek hardware and software combination now allows the company to reverse-mirror data from the DR site to meet this obligation.

Financial benefits

Enterprise managers operating within a constrained IT budget have become a cliché in the current economy. In CDS’s case, the company

recently had invested a significant amount on required communications infrastructure upgrades and wanted to defer additional communications expenses.

“The StorageTek solution’s compression rates were sufficient to put off approximately \$900,000 in corporate telecom infrastructure, line upgrades and related operating expenses over two years,” added Fawcett. “Their representatives showed us how we could handle our data growth and manage synchronous data mirroring over our current communication lines. That was a nice bonus for us.”

Technology benefits

“By replacing our legacy disk arrays with V2X2 devices we cost-effectively met our current storage capacity needs while having sufficient room to meet future demand,” explained Fawcett. “We got about double the capacity for less than the cost of upgrading the aging equipment that was in place at the time.”

Coupled with StorageTek’s PPRC microcode applications, the integrated solution was essential to achieving CDS’ DR mission, as Fawcett elaborated:

“PPRC allows us to maintain synchronous mirroring between our primary and DR site while giving us the ability to properly test our DR capability. StorageTek’s software tools also make it possible for us to reverse mirror data. What we like most is being able to complete both tasks nondisruptively while maintaining mirrored data throughout the process. That was really important to us as a financial services entity entrusted with substantial transaction settlements.”

The performance of the StorageTek devices has withstood comprehensive testing and real-world use, as Darryl Levesque, Unix architect for CDS, recounted.

“With an average data compression of 4:1 [mainframe ≈ 5:1 and open systems ≈ 3:1], we’ve been able to manage the increased data traffic without having to buy more capacity. On the mainframe side, the StorageTek devices and software enable us to utilize production data in our testing and development environment—something we didn’t have the capability to do before.”

About CDS

The Canadian Depository for Securities Ltd. (www.cds.ca) is Canada’s national securities depository, clearing and settlement hub and a key information provider for Canada’s capital markets. CDS was established in 1970 to improve the efficiency of the financial sector through the provision of securities-related services in both Canadian and international markets.

StorageTek Performance Metrics Summary

Goal	Before StorageTek Solution	After StorageTek Solution	Result
Meet 2-hour mandated recovery requirement	100 minutes	60 minutes	Able to more comfortably meet mandatory disaster recovery requirement.
Stretch IT budget <ul style="list-style-type: none">• Reduce communications costs	• \$500,000	• \$0	• Deferred \$500,000 in communications equipment upgrades and \$400,000 in maintenance over 24 months.
• Reduce ongoing operating costs	• X	• X – 25%	• -25 percent reduction in ongoing management and maintenance expenses with single-vendor solution.
Simplify administration	Separate mainframe and open systems administration	Integrated administration of both environments	Single-pane-of-glass storage administration of mainframe and open systems networks.

Case study company: The Canadian Depository for Securities Ltd. (CDS) www.cds.ca

“StorageTek was the only vendor to back up its proposal with a written performance guarantee. We exceeded our SLA objectives at a lower cost and were able to defer nearly \$900,000 in communications upgrade expenditures utilizing StorageTek’s data compression capabilities. Needless to say, we’re very pleased with the solution’s performance.”

Donna Fawcett, Director of Technical Services, Canadian Depository for Securities Ltd.

ABOUT STORAGETEK

Storage Technology Corporation (NYSE: STK) is a \$2 billion global company that enables businesses, through its information lifecycle management strategy, to align the cost of storage with the value of information. The company’s innovative storage solutions manage the complexity and growth of information, lower costs, improve efficiency and protect investments. For more information, visit www.storagetek.com, or call 1.800.275.4785 or 01.303.673.2800.

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