



CASE STUDY

Solution at-a-glance

Company name

Sears Canada Inc.

Industry

Information technology

Business size

Enterprise

Employees

48,000

Customer applications

Storing data and Protecting data

StorageTek® solutions

- FlexLine™ Shared Virtual Array® (SVA™) disk system (V960)
- T9840 tape drive
- PowderHorn® 9310 tape library
- Virtual Storage Manager® (VSM®) system

Other vendor solutions

Hitachi Remote Copy, IBM PPRC and IBM Flashcopy for data replication and backup

Business results

- Cut batch processing time by 45 to 80 percent to eliminate lost revenues resulting from morning overruns
- Liberated dwindling floor space and positioned company to lower future space consumption
- Eliminated over-allocation of enterprise disk
- Retired costly high-maintenance legacy disk arrays
- Cut CPU cycle minutes by 30 percent per year
- Slashed cartridge media consumption by 75 percent to save \$200,000 annually

Sears Canada

Sears Canada racks up sales, floor space and higher service levels with StorageTek virtual solutions.

Sears Canada (Toronto: SCC.TO) enjoys a significant retailing presence through 165 department, furniture and appliance stores. Its merchandise catalog has a circulation of more than 4 million to help ring up revenues that exceeded U.S. \$6.5 billion in 2002 alone. A talented team of 630 professionals provides the IT infrastructure and support to enable these sales and support the company's 48,000 employees.

Business issues

The IT team manages a myriad of applications, technologies and devices that one would expect for a corporation of this size. These include ERP PeopleSoft Financials, Lotus Notes e-mail and sophisticated DB2, Oracle and SQL database applications. Underpinning the applications that provide the heartbeat to daily operations is a heterogeneous mix of mainframes, servers and storage devices. Sears Canada's 36 terabytes of data under management is proof of the company's expansive operations.

In time, the company's 30 percent annual data growth began to tax its infrastructure. The batch processing of customer transactions, for example, periodically exceeded windows. This had the undesired effect of preventing some credit card sales during morning hours until the processing was completed. Moreover, the data growth caused a proliferation of racks devoted to storage arrays, tapes and other devices. Data center floor space dwindled and costs associated with shipping large numbers of tape cartridges to an offsite vault took an upturn.

Additionally, enterprise disk utilization rates were low due to the over-allocation of storage required to meet new end-user project needs. After a careful review of the situation, Chuck Williams, director of IT-alliance management at Sears Canada, called upon StorageTek to discuss ways to better utilize his resources, reduce his costs and increase the level of service he offered to customers.

The solution

The Sears Canada IT group selected StorageTek's FlexLine™ Shared Virtual Array® (SVA™) disk system (V960) with 236 gigabytes of capacity to optimize the use of its system-managed storage (SMS) pool (via IBM's Data Facility Hierarchical Storage Manager (DFHSM)). It is using the SVA to dynamically allocate storage to end-user projects as required, versus the previous standard of guessing. Approximately 275 disk volumes (780 gigabytes) were migrated from direct-attached storage disk (DASD) to the SVA.

The company also deployed StorageTek's Virtual Storage Manager® (VSM®) system back-ended by five T9840 tape drives. This allowed the IT team to implement storage data and media consolidation projects. The VSM system is also being used to write application data from the target marketing group and customer-transaction process groups, among others. After seven days, data volumes are stacked and written to tape for onsite backup.

Business benefits

Sears Canada practically eliminated customer sales transaction downtime. "The applications utilizing virtual tape have seen batch job stream

times reduced between 45 and 80 percent,” said Arlene Jenkins, enterprise storage architect for Sears Canada. “That’s been a big plus for us because, previously, customers going into a store often couldn’t make a credit card purchase because their customer information was locked out due to batch processing overruns. The VSM eliminated tape mounts and other time-consuming functions to speed our processing.”

Another benefit is reduced data-center floor space formerly dedicated to retired disk arrays and no-longer-needed tape cartridge racks. “The virtual volumes reduced 1 terabyte of disk subsystems down to 256 GBs, which freed up some badly needed floor space,” said Jenkins. “And the VSM compression and stacking capabilities have substantially consolidated our cartridge rack space — from thousands of tapes to hundreds.”

Financial benefits

“StorageTek’s V960 has been a performer for us,” said Williams. “We were able to migrate data from legacy disk arrays, retire them and eliminate the high-maintenance costs we were saddled with. More importantly, however, we shifted the DFHSM data-compression burden from our hosts to the V960, which liberated more than 9,500 CPU minutes per year. We were able to delay processor purchases and apply CPU minutes to other higher-value activities. That’s a fantastic bang for our investment dollar.”

Sears Canada also realized substantial storage data and media-consolidation benefits. “With the combined VSM and T9840 tape drives solution, we’ve been able to reduce our tape media consumption by 75 percent resulting in an annual savings of \$200,000,” said Williams.

Technology benefits

Among the many technical benefits Sears Canada achieved, Jenkins credits the StorageTek account team with truth in advertising. “The V960 disk system was shipped with 236 GB of physical space,” explained Jenkins. “StorageTek promised a compression ration of 4:1, which would have given us 944 GBs of compressed capacity. Our actual compression ratio has been closer to 5:1, which should give us approximately 1.1 TBs. It’s always nice to get a 17 percent surprise in our favor.”

The problem of over-allocation has disappeared as well. “The V960 is so flexible that we’re able to allocate the initial storage that end-users actually need to meet their project needs with full confidence that we can turn up more on a moment’s notice, when required,” added Jenkins.

The VSM disk system was central to overcoming the challenge of shrinking floor space. Its deployment liberated significant floor space and positioned Sears Canada to hold the line on space that would otherwise have been dedicated to tape cartridges. “Our virtual volumes on the VSM have grown to 27,943 presently, which equates to 286 T9840 cartridges,” said Williams. “The new technologies have saved us a lot of precious floor space we can use for other things.”

The reliability of the VSM also has been a boon, according to Jenkins. The IT team has found it so reliable, that it no longer backs up hosted data. Instead, the company saves application data to virtual volumes that remain on the device until it reaches 75-percent capacity. The information lifecycle management plan then calls for data to be archived to 9840 tape media.

StorageTek Performance metrics summary

Goal	Before StorageTek solution	After StorageTek solution	Result
Meet batch processing windows to allow early-morning store transactions	Batch window overruns	Reduced batch processing runs by 45 percent to 80 percent	Eliminated lost revenues due to batch processing overruns
Reduce over-allocation of storage to end users	Very low utilization	Approaching 100 percent utilization	Able to assign storage as needed to fully utilize StorageTek devices
Conserve future use of floor space	Virtual volumes have grown to 27,943 the equivalent of 27,943 T3490 tapes	27,943 equates to 286 compressed 9840 cartridges	Eliminated need for additional 9310 tape libraries
Reduce CPU cycle hours devoted to DFHSM data compression	32,292 minutes per year	22,724 minutes per year	30 percent reduction in CPU minutes (9,568 minutes per year)

Case study company: **Sears Canada**
www.sears.ca

“The StorageTek V960 and VSM have delivered a fantastic bang for our investment dollar. They increased the level of service we deliver to internal- and paying customers, cut our cartridge media costs and allowed us to free up substantial floor space through data- and media-consolidation projects. Virtualization has arrived in a big way here at Sears Canada.”

Chuck Williams, Director of IT-alliance management, Sears Canada



ABOUT SEARS CANADA

Sears Canada is a multi-channel retailer with a network of 122 full-line stores, 44 Sears Home stores, over 2,200 catalog merchandise pick-up locations, 143 dealer stores, 15 outlet stores, 51 floor covering centers, 50 auto centers, 110 Sears Travel offices and a nationwide maintenance, repair and installation network. The company also publishes Canada’s most extensive general merchandise catalog and offers shopping online at www.sears.ca.

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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ER 0011 A 10/04