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SUCCESS STORY

Hitachi Storage Solutions at Work

City of Winnipeg

INDUSTRY	Government
SOLUTIONS	Consolidation

Hardware—Hitachi TagmaStore® Network Storage Controller model NSC55 and Hitachi high-end modular storage

Software—Hitachi Resource Manager™ utility package

Services—Provided by Hitachi Data Systems

"We were familiar with Hitachi Data Systems' reputation for quality and service. After an HDS Customer Engineer installed the Hitachi midrange system, we saw the flexibility and acceleration that disk-to-disk backup provides."

Tim Rushforth
Systems Analyst
City of Winnipeg

Winnipeg
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The City of Winnipeg Operates Model Chargeback Program with New Hitachi TagmaStore® Platform

The City of Winnipeg, Canada, was in need of a storage area network (SAN) to accommodate the demand for centralized, secure, and highly accessible data across city business units. The City's Corporate IT Department operated as an internal service provider but was hampered by an inefficient, direct-attached storage (DAS) environment. Hitachi TagmaStore® Network Storage Controller model NSC55 established Winnipeg's scalable, flexible, and efficient storage architecture, delivering savings and improving services.

Municipal governments are always seeking ways to deliver community services as cost-effectively as possible. Frugal business practices are more prevalent across municipalities—instituting internal cost centers and departmental chargebacks, for example. For the City of Winnipeg, in the south central Canadian province of Manitoba, the Corporate IT Department operates as a small business, charging other departments for some IT services, such as application hosting, system storage, and support, to offset the cost of providing those services. And its internal customers expect the same or better service levels and value that an external vendor would provide.

The Business of Government

As with any small enterprise, keeping customers happy while staying afloat is the IT department's first order of business. Unfortunately, other than a small SAN that hosted only the city's enterprise resource planning (ERP) system, the Winnipeg IT environment was mostly clogged with DAS servers that required manual updates, maintenance, and administration just to keep the status quo. This translated to a lower level of customer service than Winnipeg IT wanted to provide.

Response times to fill requests from business units for installing new applications or services could stretch to as long as a week or more because the work needed to be scheduled after production hours on nights and weekends. To add or expand existing infrastructure required disrupting service while the server was taken down and bad disks replaced or pertinent data configured and migrated. More than four months of IT staff time was spent each year just on managing the DAS systems.

"Because business units have a choice whether or not to use some of our IT services, we needed to be able to provide better value, and that meant faster response times, better internal pricing, and greater system reliability," says Terence Chan, Winnipeg's systems administrator. "We had a lot of overhead behind the old systems administration. By centralizing and automating our technology, we could provide better offerings and reduce the costs."

IT Requirements for Consolidation

A peek inside the existing corporate IT environment revealed mostly a Microsoft® Windows shop, running Exchange 2000 for 5,200 users, along with an Oracle 10g database for applications and the ERP system that ran a Windows-based event-driven architecture solution through the SAN. With the exception of the earmarked SAN, everything else was stored internally on DAS servers with a collective capacity of 25TB of data.

To develop a bid opportunity, the government procedure for considering vendor bids, Chan conducted a thorough assessment of both business and technology requirements for an architecture upgrade. Efficiency and scalability topped the list to help meet affordability and growth demands. The highest level of application availability was important to Chan, as was improving platform flexibility, reliability, performance, and service levels. And consolidation and centralization of systems, servers, and storage would help to simplify administration and optimize data assets.

The contracts were based on a whole solution that began by implementing first a Hitachi mid-range storage system to handle disk-to-disk backup and recovery, and then a Hitachi TagmaStore® Network Storage Controller model NSC55 to facilitate consolidation and centralization of Winnipeg's storage infrastructure.

"We were familiar with Hitachi Data Systems' reputation for quality and service. After an HDS Customer Engineer installed the Hitachi midrange system, we saw the flexibility and acceleration that disk-to-disk backup provides," says Tim Rushforth, Winnipeg's systems analyst.

"Because we had confidence in working with Hitachi Data Systems, we were talking again with the Hitachi account team about the NSC55 before it was released. The City of Winnipeg ordered the first NSC55 in the country," adds Chan.

The Power of Integration

Transitioning to the Hitachi architecture began with first migrating the Corporate Exchange 2000 Email Service to Microsoft Exchange 2003 and Microsoft Server 2003, and then bringing in the midrange storage unit for disk-to-disk backup and recovery. Backing up directly to disk provides a flexible intermediate layer to keep copies more current, render smaller backup windows, and speed restore processes.

A few months following that installation, the NSC55 was placed into the Winnipeg architecture to aggregate and manage Tier 1, mission-critical production data and infrastructure as a single storage pool. With 44TB of raw disk space and high-performance Fibre Channel, the controller-based platform began running the environment like a well-oiled business.

The preinstalled Hitachi Resource Manager™ utility package provides Web-based graphical user interfaces (GUIs)—operating in Winnipeg's Windows environment—to simplify storage management functions, including mapping for the SAN ports and virtual ports. The Corporate Storage Team mapped over 45 physical/virtual servers off the NSC55 to run the Oracle database, Exchange, file and print services, patch management, antivirus services, Web-based applications, and the ERP system. More than 25 physical servers are now able to boot directly from the SAN, which gives Winnipeg more choices and leverage for managing storage and universally gaining higher availability and data integrity. The NSC55 was configured with the following storage allocations to accommodate Winnipeg's operations: 4TB for the ERP system, 1.3TB for e-mail, 2.9TB for application hosting needs, and about 10TB for file, print, security and patch management tasks.

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Systems Administrator Terance Chan (left) and Systems Analyst Tim Rushforth (right)

Model NSC55 Catapults Efficiency

Chan and Rushforth are in the process of migrating 5TB of data from distributed departmental file servers to the NSC55, and the majority of the corporate-level storage has already been consolidated and centralized onto the NSC55. The number of file servers will be reduced from 25 to 2.

Since the Hitachi deployment, the Corporate Storage Team has seen significantly improved service-response times, as well as the simplification of the IT environment. Rather than performing upgrades, modifications, and expansions after production hours on nights and weekends, IT is able to provide same-day, same-hour service to its business unit constituents.

"We now have a highly effective enterprise storage subsystem," says Chan. "What was once tedious is now done in minutes without headache. Winnipeg IT is truly serving as an internal service provider, backed by the NSC55's reliability and efficiency."

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SS-064-00 DG March 2007