



## Statistics Canada Harvests \$1.3 Million in Savings

VMware Virtual Infrastructure Enables Centralized Server Management, Enhances Business Continuity, and Cuts Hardware Costs

### RESULTS

- Saved \$1.3 million in annual server hardware and associated expenditures
- Achieved 10:1 server consolidation ratio
- Increased server CPU utilization from 4 percent to 80 percent at peak times
- Enhanced business continuity by reducing downtime and establishing reliable backup systems
- Centralized server housing, resulting in space and power savings
- Reduced server

### Statistic Canada's Strategic Streamlining Initiative (SSI) Proven to Be Very Successful

Statistics Canada (STC) is a government agency responsible for producing data that helps Canadians better understand their country's population, resources, economy, society, and culture. The agency works with the provinces and territories to improve statistical methods and systems and, ultimately, achieve more efficient information collection for evaluating and developing public policies and programs.

Shared services and the centralization and consolidation of IT hardware have been at the forefront of federal government initiatives for the past few years. To this end, STC with its Strategic Streamlining Initiative (SSI) has focused on four major areas for department-wide use: centralized storage, centralized backup/restore, file/print, and server consolidation. "This corresponds with our vision of consistently meeting and/or exceeding the clients' expectations in the provision and management of Statistics Canada IT Service Delivery by ensuring that careful consideration is given to performance, reliability, serviceability, scalability, security, continuity and disaster recovery," states Gary Roberge, chief, Regional Office IT and Intel Server Services at STC.

One particular area STC sought to improve was its IT infrastructure. "As it stood, the IT infrastructure across the organization's 65 odd divisions was a mixed bag. Every division had its own unique organically grown hardware infrastructure hosting an assortment of operating systems," states Roberge.

"Hardware and personnel costs were on the rise, the data center was reaching capacity, and budgets were on the decline," adds Roberge. "Though I was initially hired to manage IT support in the regions, it became apparent that centralization and consolidation of our server infrastructure in Ottawa was of primary importance and would fit nicely with our vision of regional centralization as well as the government-wide shared-services initiative."

### VMware's Packaged Deal Offers Statistics Canada the Most Complete Virtualization Solution Available

STC began evaluating virtualization processes in February 2005 as a way to centralize server management, consolidate 212 Intel servers at its headquarters in Ottawa, and improve business continuity and disaster recovery processes. According to Roberge, STC evaluated solutions in terms of ease of use, management tools, the number of virtual machines it could get on a physical server, and whether or not virtualization fit into its storage and backup strategies. Even though Roberge and his team also considered other virtualization products and non-virtualized blade server implementations, VMware proved to offer the best solution.

"Number one, we didn't think other products focused entirely on virtualization, and number two, we knew for sure that the VMware toolset was far superior to anything out there," says Roberge. "Some might say that virtualization is virtualization, but it's really the tools and packaged deal that VMware offers that led us to our final—and very good—decision to go with VMware virtual infrastructure."

Since the deployment of VMware software, the organization has moved 45 servers onto virtual machines on four physical servers, with approximately 1,000 employees now regularly accessing the applications running in virtual machines. Benefits have included:

- **Reduced hardware and labor costs.** Thanks to virtualization, STC estimates annual savings of close to \$1.3 million. "The difference in cost of capitalizing and maintaining a \$12,000 physical server versus a virtual machine was staggering. The physical server costs approximately \$812/month. With VMware virtual machines, the cost went down to \$300/month," says Roberge. "We've also reduced overtime fees by eliminating the need for 'middle-of-the-night' maintenance and repairs."
- **Increased server CPU utilization.** The organization has gone from about 4 percent CPU utilization to between 50 percent (average) and 80 percent (at peak times).



## VMWARE VIRTUAL INFRASTRUCTURE AT WORK

- ESX Server on 4-CPU HP ProLiant 580 G2s and on 4-CPU IBM X460s
- VirtualCenter running on 2-CPU HP ProLiant ML370
- VMotion
- Guest operating systems: Microsoft® Windows® 2003 Server Standard, Windows 2003 Server Enterprise, Windows 2000 Server, Windows 2000 Advanced Server
- Applications running in virtual machines include: Microsoft SQL Server, Microsoft Systems Management Server, SAS, WTS MS.net, Peoplesoft, Solarwinds Orion, Patrol, HP Insight Manager, plus network monitoring, development, testing and staging, and hosting servers

- **Improved server provisioning.** In the past, server provisioning was a two-month process, involving the government's standing-offer process, STC's own paper process, and then resellers' processes. "Now, we can provision a server in a day or two," says Michael Horsburgh, technical specialist, Regional Office IT and Intel Server Services at STC. "And if we're under crunch time, we can do it in about an hour. It's a huge improvement."
- **Decreased downtime.** "Business continuity was a huge selling point for our internal clients," says Roberge. "Prior to virtualization, very few divisions had backup systems. If their servers failed, that was the end of it. Today, they can put images on virtual machines and know that, should systems fail, their data will be safe."
- **Power savings.** Having a centralized housing area for servers has reduced space requirements as well as enabled power and cooling savings.

## The Future

Roberge and his team are continuing to extend virtualization across the organization. "We're moving virtualization into different areas and divisions. Attitudes have changed a lot. People who were at first hesitant because they couldn't physically touch the virtual machines are now starting to see the true value of virtualization," says Roberge. "We're probably putting up a server a week now."

STC has plans to make additional disaster recovery enhancements and upgrade to VMware Virtual Infrastructure 3 in the coming months. By March 2007, STC's goal is to have virtualized 100 servers and, within the next two years, moved over a total of 200 servers to virtual machines.

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