

RYERSON UNIVERSITY

"It's just amazing the kind of benefits—and even joy—my department is experiencing since converting our environment with VMware Infrastructure 3 a year ago. With cutting-edge VMware management tools like VirtualCenter, VMotion, High Availability and Consolidated Backup, our systems administrators' roles have changed so much, they see their jobs differently. And providing clients with a whole new level of service puts them on a different level: They've become heroes."

— Eran Frank
Manager, Technical Support Group

KEY HIGHLIGHTS

Challenge

Address the university's continually increasing server demand while taming server sprawl and systems-administration headaches at two maxed-out data centers

Solution

With VMware Infrastructure 3 Enterprise, 130 servers are consolidated onto 13 physical hosts—while providing faculty and students with an unprecedented level of service, including dramatically fast and inexpensive server provisioning, better backup and comprehensive disaster protection

VMware at Work

VMware Infrastructure 3 Enterprise, featuring:

- ESX Server 3
- VirtualCenter 2
- VMotion
- VMware Consolidated Backup
- High Availability (HA)

Deployment environment

- ESX Server 3 running on Dell PowerEdge 1955 blade servers attached to Dell/EMC CX3-20 mirrored SAN arrays
- Mission-critical applications running in production in virtual machines: Oracle Database 10g and SQL 2000/2005 databases, Web servers (Apache/IIS), SharePoint 3.0, Microsoft Active Directory domain controller (Windows Server 2003 R2)
- Guest operating systems: Windows Server 2003/2003 RS, Linux (RHEL 4/5), Novell (6.5/7.0)

Ryerson University

Toronto-based Ryerson University is known for its career-focused approach to education. That means giving students and faculty the tools they need to pursue their varied fields of interest—including an ever-growing number of computer applications. "To keep up, we kept buying dozens of servers a year," explains Eran Frank, the manager of the university's Technical Support Group. "Then in late 2006, we hit the wall at our two campus data centers. We just could not expand anymore."

The university began virtualizing its data centers with VMware Infrastructure 3 (VI3) in early 2007. "I'd been doing my homework on virtualization, and when VI3 came out, I decided it was time to make the move," he recalls. "It was mature and thoroughly tested in real companies. I felt confident I could stake my reputation on that rollout."

In the past year, Ryerson has virtualized most of its x86 (Intel) environment, which is predominantly Windows-based, but also includes an increasing number of Linux applications. As a result, the hardware footprint at the university's two data centers has shrunk by 90 percent—they now house 13 instead of 130 physical hosts—and IT costs have plummeted. Frank estimates that the university will save half a million Canadian dollars over three years, "mostly because we won't need to replace 200 Intel servers every three years," he says. Best of all, in Frank's view, is the fact his team can deliver those virtual platforms quickly. "What used to take 5 weeks now takes about 15 minutes," he says.

Some of the improvements from virtualization may not be apparent to the university's academics and students, but they make a huge difference behind the scenes—and to the IT staff. "When the motherboard failed on one of our blade servers, the virtual machines that were hosted there restarted automatically on other blades," Frank says. "By the time I got the failure notice on my BlackBerry, the service was already restarted. It was beautiful: The downtime was around 40 seconds."

Results

- Ninety-percent reduction in physical servers
- Dramatically lowered hardware, systems administration and power costs—for an estimated CDN \$570,000 savings over three years
- Eighty-percent reduction in the amount of floor space devoted to servers and storage
- Power and cooling costs slashed 80 percent
- The cost of provisioning servers reduced 65 percent
- Virtualization and mirrored SANs at the university's two data centers offer full disaster recovery for the first time—with estimated recovery time cut from months to minutes



CUSTOMER SNAPSHOT