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— Steven Payne, Systems Analyst, Information and Technology Services,
Hastings and Prince Edward District School Board

HP customer case study: Hastings and Prince Edward District School Board

Industry: Public Sector (Education)

Objective:

Deliver reliable technology, service and support to provide a space-saving IT infrastructure that enhances productivity and collaboration

Approach:

Provide scalable network of servers and storage using HP BladeSystem c7000 enclosures, HP ProLiant BL480c and BL460c server blades, and an HP MSA Fibre Channel SAN

Business benefits:

- Enhanced staff productivity through better collaboration, communication and workflow
- Faster access to email
- Larger mailbox capacity for retaining more organizational knowledge
- 99% email uptime (increased from 80%)

IT improvements:

- Projected 73% footprint reduction through virtualization (consolidating 90 physical servers onto 15 physical servers running 100-150 virtual machines)
- 20%-30% reduction in IT administration time where blades are used
- 90% reduction in cabling for Exchange infrastructure using HP Virtual Connect
- Ability to back up email
- More efficient use of storage space
- Increased security due to selective storage on SAN



Ending an IT Nightmare

It's the kind of scenario that wakes up systems administrators in a cold sweat: You're in rural Canada supporting IT for a geographically large school district and your legacy mail server fails. There's no server to fail over to, minimal email backup, and your storage is on the same box as the server. What do you do?

When faced with this scenario in real life, Doug Smith, Applications Co-ordinator, and Steven Payne, Information and Technology Services, rushed to Toronto to buy a new controller card and felt that it was time to replace the hardware.

With 17,100 students, 46 elementary and 8 secondary schools, as well as over 1,800 teaching and support staff, the Hastings and Prince Edward School District spans 7,221 square kilometers. It's a four-hour drive from the south end of the district to the north end.

Only a good IT network can unify a district this big. But an aging infrastructure, including 10-year old servers and NetScape Messaging Suite, presented many problems. Teachers and administrators were growing frustrated with slow or interrupted access to email, and needed a way to collaborate with each other without driving possibly for hours.

Solution at a glance

Hardware

- HP BladeSystem c7000 enclosure
- 2 HP ProLiant BL480c server blades
- 4 HP ProLiant BL460c server blades
- HP StorageWorks MSA 1500 Fibre Channel SAN

Software

- Microsoft Exchange 2007
- Microsoft Office 2007
- Microsoft SharePoint
- VMware ESX Server (not yet implemented)

Operating System

- Microsoft Windows Server 2003 R2 Enterprise x64 Edition

HP Services

- HP Care Pack services

HP Partner

- Zycom Technology, Inc
www.zycomtec.com

“There was no more space for hard drives in the old mail server,” says Payne. “Everybody had a 40 megabyte quota for email, and of course, whenever the server got slow, storage got slow, since they were on the same box. Every Monday morning we’d have to come in early, reboot the server and wait a half hour for all the messaging services to start.”

Aging hardware aside, the district was facing another problem: the server room was full, and it was getting hot. The servers were so tightly packed in the current data centre that the air conditioners could no longer keep the air moving, so three floor fans were added to keep the temperature down.

Saved by “Blades of Glory”

To ensure scalability, address power and cooling challenges and support its Exchange and SharePoint deployment, the district decided to invest in the space-saving HP BladeSystem.

“We looked at blades from the competition, and chose HP mainly because of the hardware quality. When we opened up the servers and put them side by side, the difference was obvious,” says Payne. “Also, the blade solutions we looked at could only handle 10 servers per enclosure. We can handle 16 half-size or eight full-size.”

“We’ll see a 20 to 30 percent reduction in IT administration time with the HP BladeSystem.”

Steven Payne, Information and Technology Services, Hastings and Prince Edward District School Board

In March 2007, the district approved budget for a much-needed technology refresh that included an HP BladeSystem c7000 enclosure with two HP ProLiant BL480c and four BL460c server blades, an HP MSA Fibre Channel storage area network (SAN), as well as Microsoft Exchange 2007, Office 2007 and SharePoint.

Since it was deployed, Smith and Payne have taken to calling the HP BladeSystem the “Blades of Glory,” inspired by the 2007 figure skating comedy starring Will Ferrell.

“The blades are very efficient in terms of space and power consumption,” says Smith. “And then with virtualization, it’s pretty amazing what you can do.”

In the near future, the district plans to use VMware virtualization software to achieve a projected 73 percent footprint reduction by consolidating 90 physical servers onto 15 physical servers running between 100 and 150 virtual machines.

HP SAN Increases Redundancy, Availability and Performance

HP Partner Zycom Technology, Inc. provided deployment and integration services, and helped the district plan its storage strategy.

“Zycom was great to work with,” says Payne. “They engaged HP architects and came up with a really awesome solution. I hadn’t even looked at a SAN because I was looking at storage blades, and Zycom explained why the SAN would be better for our needs. Then they helped us set everything up and walked us through it.”

The HP SAN allows the district to make more efficient use of disk space and provides increased data security due to selective storage access.

“We also have faster access to data through a redundant fibre channel connection directly from the blade switch,” says Smith. “And, because we’re keeping the server and the storage separate, if the server fails we can be up and running quicker because we can point any server to the data.”

Virtual Management Tools Reduce Administration Time

The district is also benefitting from remote administration features that allow most hardware configuration tasks to be performed without physically touching the HP BladeSystem.

“I was able to run a fairly high-level upgrade on our Exchange server from home because I didn’t have to worry about attaching to a KVM and physically being on a keyboard and mouse attached to the box,” says Payne.

The HP BladeSystem has also eliminated 90 percent of the district’s cabling costs for its Exchange infrastructure. With HP Virtual Connect, connections and configurations between server blades and the LAN and SAN are defined once and can then be deployed at the click of a button and migrated to another server bay instantly—all without disturbing the LAN or SAN settings or administrators.

“As a result, we cut hours off server deployment. We don’t have to engage cable technicians to come in and pull a drop-through back to our wiring closet,” says Payne. “Overall, we’ll see a 20 to 30 percent reduction in IT administration time with the HP BladeSystem. Plus it’s all redundant hardware now—we don’t have to worry about a device failing in the middle of the night.”

Technology You Can Rely On

In October 2007, the district went live with its new email and productivity applications. The business impact was immediately obvious.

“With our previous mail server, senior administrators had to wait until after hours to send out messages to the entire staff,” says Smith. “Now they can send whenever they want, they have faster access to email, and our email uptime is 99 percent, whereas it was around 80 percent with the old server. With the HP BladeSystem, our teachers and administrators are able to rely on our district’s messaging technology. That’s something they couldn’t do before. And they can now collaborate and share materials much more easily, quickly and dependably. We have a much better learning and working environment to support student success.”



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