Lakeridge Health Network Implements BYOD and Remote Access, Advances On Its Goal to Be the Safest Hospital in Ontario

Lakeridge Health is coming out of a multi-year capital freeze affecting IT. By deploying VMware Horizon™ (with View), Lakeridge Health now offers physicians bring-your-own-device (BYOD) and new remote access capabilities. Lakeridge Health also implemented VMware vSphere® to bring its data center and Meditech clinical system hardware up to date. Benefits include improved patient privacy and hospital safety; improved physician satisfaction and remote access to systems; better data center performance; and hundreds of thousands of dollars of savings in hardware costs.

Lakeridge Health is one of the largest community hospitals in Ontario, Canada, serving more than 600,000 residents of Durham Region. Consisting of three acute hospitals, one specialty hospital, and several off-site facilities, Lakeridge Health manages more than 540 inpatient beds and employs more than 4,000 staff and physicians.

The Challenge

When Colin Stairs joined Lakeridge Health in 2011 as CIO, the organization had been unable to allocate capital to IT for a number of years, and 70 percent of equipment was past its end-of-life date. IT also had a reputation among users for not having sufficient funds to address their challenges. Physicians, in particular, were dissatisfied. They wanted to bring their own devices to work. They also wanted streamlined remote access to clinical systems from external offices and home.

At the strategic business level, Lakeridge Health had other challenges. Senior management had set the ambitious goal of becoming the safest hospital in Ontario. But achieving such a goal required sophisticated use of information to develop a seamless system of care around each patient—something that was far from possible given the current state of IT infrastructure.

Patient privacy and compliance were also concerns. Desktops were logged-in to generic accounts and only clinical applications were logged to the user. This left the temptation for clinicians to piggy-back an open session, rather than spend the time logging in on their own credentials. So audit trails were suspect, creating a hole in the protection of patient privacy.

Stairs saw all these challenges as interrelated. “A key factor in providing a safe and private environment is reducing barriers to using systems,” he said. “We needed to encourage our clinicians to use the systems as designed.”

Equally important was ensuring that the Meditech clinical information system was running on a current generation of hardware, and putting a disaster recovery plan in place.
BUSINESS BENEFITS
• Ensured patient privacy
• Increased hospital safety
• Improved clinician satisfaction
• Improved data center performance by 30 percent
• Saved hundreds of thousands of dollars on new hardware

The Solution
Stairs put together a series of strategic plans: a five-year plan to replace the hospital's clinical information system; a two-year plan to extend tap-and-go functionality—which allows users to sign onto a system by merely tapping their badge against it—to all clinical workers using proximity cards with the Caradigm Single Sign-On and Context Management solution; and immediate plans to offer remote access and bring-your-own-device (BYOD) capabilities to physicians and other members of the management and clinical staffs. Stairs also responded immediately to board concerns about aging data center infrastructure for its core Meditech system. “Virtualization was an important part of the infrastructure story of how we would achieve all these things,” said Stairs.

With $50,000* of discretionary funds, Stairs embarked on two simultaneous pilot programs for BYOD using desktop virtualization. One of them involved 30 users in a Citrix XenDesktop deployment, and the other 12 users in a VMware Horizon View 5 trial.

“When we evaluated the systems side-by-side on value—in terms of price for functionality—that there was no question that VMware was the best choice,” said Stairs. “We’re talking about hundreds of thousands of dollars of difference.”

Today, more than 600 people at Lakeridge are accessing VMware Horizon—among them, physicians, staff members, and the executive management team that includes the Chief Executive Officer, the Chief Nursing Officer, and the Chief Financial Officer, all of whom have iPads they use to access the virtual machines.

In the data center, Lakeridge considered Microsoft Hyper-V as the server virtualization solution—and even already had some Hyper-V implementations installed when Andrew Kelly, manager of technical services, joined Lakeridge Health. “The features available in VMware vSphere were far beyond that of the competitors for managing the server environment,” said Kelly.

Business Benefits
Because VMware Horizon has transformed traditional physical PCs into centralized managed IT services, physicians today can access clinical systems from virtual machines running on their choice of mobile devices—streamlining their work flows and improving patient care.

Doctors can also access the system remotely and have the same experience no matter where they log in. This is important for pandemic planning, when Lakeridge Health needs to be prepared to provision user’s offsite so they don’t spread infection.

The response from doctors has been enthusiastic. “Randy Wax, our Head of Critical Care, told me ‘We are really seeing a new, positive relationship develop with IT,’” said Stairs. “And he started engaging in solving additional issues both with the VM and in other areas.”

Lakeridge Health has rolled out tap-and-go functionality to the emergency department and is planning to go hospital-wide. “If I ask nurses to enter their user name and password every single time they approach a PC, I will have a revolt. So I absolutely have to speed that access and make it as streamlined as possible,” said Stairs. Horizon enables sessions to follow nurses around a unit no matter what devices are accessed.

Removing the barriers to system logons and user authentication also bolsters patient privacy. “If our workers don’t log in with their own credentials, we run privacy risks,” said Stairs. Also, he needed to guard against patient information leaving the hospital on mobile devices. “The zero footprint aspect of VMware is essential for that reason. I couldn’t work with any solution that left a footprint on an unencrypted BYOD device.”

*Canadian currency
VMware Case Study

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Colin Stairs
CIO and Chief Privacy Office
Lakeridge Health

In the data center, VMware vSphere saved Lakeridge Health a great deal of money by eliminating the need for large numbers of physical servers. “If we had to purchase a physical box for every workload, we wouldn’t be able to run our datacenter. It would be cost prohibitive,” said Kelly. He’s seen a 30 percent improvement on performance in the data center, which has now been 80 percent virtualized.

“This investment in VMware is aligned to our financial goals and managing our costs more effectively,” said Stairs. “It’s also aligned to the board’s requirements around risk management and making our systems more secure, safer, and avoiding downtimes.”

Looking Ahead

Word of what Lakeridge Health is doing has started getting out to other healthcare facilities in Ontario. “Our partners in the region are following our lead with tap-and-go solutions on the same architecture as ours,” said Stairs.

VMWARE FOOTPRINT
• VMware Horizon™ View™ 5
• VMware vSphere® 5.1

APPLICATIONS VIRTUALIZED
• Meditech

PLATFORM
• HP C7000 chassis and Gen 7 HP blades
• Windows Server 2008
• EMC NS480 SAN
• Proximity cards with Caradigm Single Sign-On and Context Management for tap-and-go functionality