

Royal Victoria Regional Health Centre

EXECUTIVE SUMMARY

Challenge

Deliver exceptional healthcare to patients by collecting and analyzing Big Data, supporting patient and staff mobility, and securely sharing the Electronic Health Record (EHR) and diagnostic images

Solution

- Brocade MLX Series
- Brocade NetIron® CER 2000 Series
- Brocade VDX® switches
- Brocade FCX Series
- Brocade ICX® 6430 Switches
- Brocade FastIron® SX Series
- Brocade ADX® Series
- Brocade 4900 and 5300 Switches

Results

- Reduced EHR backup time from 28 hours to 4 hours—a seven-fold improvement
- Improved the new cancer center's data integrity and accuracy rating from 14th to 10th in the province
- Improved overall patient satisfaction ratings and decreased wait times from the previous year

Healthcare Network Advances Patient Care

The Royal Victoria Regional Health Centre (RVH) recently completed the first phase of a four-year \$450 million expansion project that doubled the medical center's area to nearly one million square feet and added a state-of-the-art cancer center.

First opened in May 2012, the new RVH complex in Barrie, Ontario, comprises a technically elite medical center with 319 beds plus 12 bassinets in the Neonatal Intensive Care Unit (NICU). The new Simcoe Muskoka Regional Cancer Centre provides advanced diagnostics, radiation treatment, and follow-up cancer care to the nearly half-million people living in Simcoe County and Muskoka.

Brocade Delivers Performance, Service, and Support

At the heart of the RVH expansion is a Brocade® network that keeps critical information flowing smoothly 24x7. When designing the new health center, RVH outlined demanding network specifications for the speed, capacity, and flexibility to handle 2,000 end-user computing devices running approximately 400 software applications. The network is responsible for supporting a gamut of clinical, operational, and financial

functions, including RVH's core Electronic Health Record (EHR) from Meditech, drug libraries to support patient safety, and the integrated medical and radiation oncology records deployed by the cancer center.

The network also supports the health center's wireless infrastructure with more than 500 access points as well as smart infusion pumps, cardiac monitors, a telephone system, video surveillance, bedside multimedia—and even the heating, ventilation, and air-conditioning systems.

RVH selected Brocade networking solutions based on their high performance, scalability, and redundancy. Compared to other networking providers, Brocade also delivered the competitive pricing and unwavering service and support that RVH demanded.

"So many things depend on that network, but most importantly, the patient depends

WHY BROCADE

“Our requirements are high for patient care, especially when it comes to the network. Brocade, once we came into production, delivered.”

— David Shortreed, Interim Director of IT at Royal Victoria Regional Health Centre

on that network,” says David Shortreed, Interim Director of IT at RVH. “When we decided we were going to put in a network, we chose Brocade.”

RVH deployed Brocade MLX® Series routers at the core, gaining industry-leading 100 Gigabit Ethernet (GbE), 10 GbE, and 1 GbE wire-speed density; and rich IPv4, IPv6, Multi-VRF, MPLS, and Carrier Ethernet capabilities. In addition, the health center’s IT team deployed Brocade FCX Series switches at the network edge to deliver 1 GbE connectivity.

Health Center Manages Big Data Requirements

The Brocade infrastructure is easily handling the many forms and sources of Big Data that impact the healthcare IT network daily. A new cardiac monitoring system, a mission-critical data source, produces a continuous stream of ECG data. The monitoring system also relies on Clinical Decision Support (CDS) in its EHR—all of which require rich new data sets and storage.

The health center’s other data requirements are driven by a mushrooming population of mobile devices and an organization-wide Unified Communications (UC) strategy. All together, the data storage demand, like the medical center’s physical footprint, doubled at RVH.

With so much data, RVH’s business continuity strategy supports two data centers, one in active state and one in standby. Brocade technology has enabled the medical center to reduce the time required to back up its EHR from 28 hours to as few as four hours. “This is a huge productivity gain for us, up to a seven-fold improvement from our previous backup system,” says Shortreed.

At the Simcoe Muskoka Cancer Centre, the network transmits diagnostic images for multiple care givers. The center recorded 72,000 patient visits in 2012, its first year of operation, and it expects that number to climb to 80,000 in the second year and rise 2,000 to 3,000 more each year. The patient visits add to the volume of data, which has already grown to 7 TB.

“We take pride in knowing that we support the entire patient experience—from data in the electronic medical records system, to when they receive radiation treatment in the cancer center, and right to the bedside where they have an entertainment system that supports the television, Internet, and telephone,” says Don Caldwell, Network Administrator at RVH.

Health-Centered Performance Stats

The health center tracks multiple performance measurements to understand the quality of patient care it is providing. Many of these data points have already shown improvement since

the new centers opened. For example, the cancer center's data integrity and accuracy rating has jumped to 10th from 14th in the province. Overall patient-satisfaction ratings have improved, and wait times are expected to drop compared to last year. These improvements were possible due to the new facility, a committed care team, new state-of-the-art digital equipment, and the Brocade network infrastructure.

"Our requirements are high for patient care, especially when it comes to the network. Brocade, once we came into production, delivered," says Shortreed.

"We want to give clinicians—physicians, nursing staff, and other caregivers—what they require to provide patient-centered care, when and where they need it."

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