



# IT TRANSFORMATION ENABLES BETTER HEALTHCARE

Royal Victoria Regional Health Centre chooses a Dell EMC XtremIO all-flash array to help to transform its data center, improve information access and enhance patient care



Healthcare

Canada

## Business needs

RVH needed to support a growing portfolio of programs and services while delivering the highest-quality patient care. Accomplishing this required improving access to medical information and boosting the performance of systems and applications, so that caregivers could respond in a timely manner to patient needs.

## Solutions at a glance

- [Dell EMC XtremIO](#)
- [Dell EMC Connectrix MDS](#)
- [Dell EMC PowerPath/VE](#)
- [Dell EMC Data Domain](#)
- [Dell EMC PowerEdge servers](#)

## Business results

- Offers dramatic performance gains over previous HPE 3PAR arrays
- Streamlines run times on data-intensive reports
- Meets demanding query response times required by MEDITECH EHR
- Reduces costs for data center floor space, power and cooling

Up to  
**80%** better  
performance



**12-30x**  
faster reporting



Canada's Royal Victoria Regional Health Centre (RVH) provides healthcare to more than 450,000 residents in a large area of central Ontario. RVH's team of more than 380 physicians and 2,500 staff members team delivers exceptional care and specialty services including cancer and stroke care, orthopedics, intensive care and mental-health services.

When RVH expanded to offer new services not found elsewhere in the region, the demands on its healthcare information system increased. To deliver optimal patient care and support these services, RVH had to give physicians and staff easier, faster access to data, both in hospital environments and across the broader community. That meant providing them with a consolidated view that would bring all pertinent data together. Rapidly growing data stores needed to be optimized for fast, responsive performance. RVH also wanted to eliminate expensive data migrations by deploying a technology foundation that could support growth and change.

Pat Harkins, chief technology officer for informatics and technology services at RVH, explains, "We had performance issues with our HPE 3PAR 6400 series storage arrays, both in meeting RVH's requirements and supporting our other facilities. We needed a solution that would not only meet our current data performance needs, but would also drive the future of our health information system."

## Deploying new technology to enhance patient care

RVH chose Dell EMC XtremIO to replace its legacy arrays, initially investing in a single 20TB X-Brick to support its MEDITECH EHR application. Thanks to XtremIO's always-on data reduction — which has provided RVH with data compression and deduplication at a 4.3:1 ratio — only slightly more than 20 percent of

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**Pat Harkins**

Chief Technology Officer for Informatics and Technology Services, Royal Victoria Regional Health Centre

4.3:1

data efficiency  
ratio



the X-Brick's physical capacity is currently in use. This will enable RVH to complete its planned upgrade from version 5.66 to version 6.0 of MEDITECH without any additional investment in storage.

For maximum performance, enhanced availability and scalability at an affordable price, RVH chose Dell EMC Connectrix network switches. They include two MDS-9148S units with a 12-port base that scales in 12-port increments up to 48 ports and delivers 16Gb/s Fibre Channel performance, and four MDS-9396S units with a 48-port base expandable to 96 ports, which also supports 16Gb/s Fibre Channel.

The switches come with a Connectrix MDS web browser user interface called Data Center Network Manager. RVH relies on Dell EMC PowerPath/VE software to automate and optimize data path pools to balance the flow of data across the switches, ensure redundancy and enhance performance.

Harkins related these upgrades to RVH's commitment to its patients. "Caring for patients is a 24x7 business," he comments. "Any moment where our system is not available has the potential to impact patients. Dell EMC XtremIO helps us achieve and maintain a 24x7 environment so quality of care is never compromised."

## Reliable data protection and efficient VDI

In addition to XtremIO, RVH relies on Dell EMC Data Domain DD4200 with Data Domain Boost for assured backup and recovery of its critical patient and business operations data, and it uses Dell PowerEdge servers in its IT environment. The IT team also plans to move portions of the hospital's virtual desktop infrastructure (VDI) environment from its existing storage platform to XtremIO because of its superior performance, responsiveness and high data reduction for the hospital's 1,000 concurrent desktops.

To implement the Dell EMC solutions, RVH has worked

closely with Teknicor, a Dell EMC-certified management consulting, technology service, and outsourcing provider headquartered in Woodbridge, Ontario.

## Better system performance and shorter reporting times

By replacing its legacy arrays with XtremIO, RVH greatly improved system performance and reduced runtimes for critical reports. Results include:

- 60-80 percent performance gains on various applications and processes
- Average latency with XtremIO of well under 1 millisecond (ms), which meets the MEDITECH application's response time threshold of not longer than 2 ms — compared to latencies of 3-10ms with the HPE 3PAR arrays
- Responses to complex queries reduced from 3-5 seconds to 1-2 seconds
- Daily data repository runs cut from 24 hours to just 2
- Completing an important financial report in 2 rather than 14 hours
- Accelerated other reports from 8 hours to as little as 15 minutes
- Reduced backup times from 8 hours to less than 2 hours daily
- Enhanced security because RVH can use flash backup copies of data, which aren't seen as a storage unit by malware and other threats

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**Pat Harkins**

Chief Technology Officer for Informatics and Technology Services, Royal Victoria Regional Health Centre

## Reducing migrations and space costs

RVH is saving significant costs as well because of XtremIO’s innovative architecture, which allows the system to be expanded without requiring data migrations that previously involved weeks of full-time work. The IT team has further simplified its tasks and cut time costs with the help of XtremIO’s intuitive dashboard, easy access to management information and real-time data on system health. In addition to the prospective VDI move, the hospital may move its cancer center software and other applications to the platform.

RVH also reaps benefits from XtremIO’s minimal requirements for power, cooling and data center space to further decrease expenses. XtremIO requires only a half rack, compared to two full racks for the previous storage array.

“XtremIO’s scale-out architecture makes it easy to expand as needed, rather than having to migrate our applications to accommodate growth,” explains Harkins. “This puts less pressure on our capital expenditures, because capital is always tight in Canada. And it eliminates costly downtime and disruptions. Those were big selling points for us.”

Regarding the Dell EMC merger, Harkins says, “I’ve worked with both companies for many years. Seeing Dell and EMC come together through this merger, there’s been nothing but improvements. Now, we get the best of breed across our whole IT platform. We’re very pleased.”



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