William Osler Health System
Community hospital corporation transforms IT with EMC

OVERVIEW
William Osler Health System is one of Canada's largest community hospital corporations serving the greater Toronto area. Supported by 4,700 healthcare professionals, Osler's three hospitals provide a comprehensive range of acute care, ambulatory, and ancillary health services.

BUSINESS CHALLENGES
With technological advancements enabling super-high imaging resolutions, Osler's medical imaging systems are generating ten times as much data as they were five years ago. Increased use of unified voice, text, and email communications also is contributing to a 20 to 25 percent growth rate of Osler's overall data assets. Osler's earlier-generation EMC storage systems were reaching capacity thresholds and its tape backup systems were becoming increasingly time-consuming and costly to manage.

Osler looked at Dell and HP solutions, but neither offered a product suite that met its multifaceted needs. Instead, Osler chose a comprehensive storage, archiving, and backup and recovery solution from EMC.

Donavan Miller, Osler's team lead, infrastructure, explains, “EMC has strong, mature integration across its product lines, which assured us of trouble-free interoperability. With its Microsoft expertise and specialized tools, EMC was a great fit for our Microsoft Exchange and Microsoft SQL Server environments.”

SOLUTIONS
For production storage, Osler deployed EMC® VNX® unified storage. Osler uses a FLASH 1st strategy that leverages the EMC FAST™ Suite, consisting of FAST Cache and FAST VP, along with Flash and high-capacity disk drives. VNX runs all of Osler’s critical applications, including MEDITECH electronic health record (EHR), Siemens picture archiving and communication system (PACS), Cisco CallManager unified communications, Microsoft Exchange, Microsoft SQL Server, and ImageNow document management.

In addition, for its development environment, Osler is replacing NetApp storage with EMC VNXe® unified storage.

Osler deployed EMC Isilon® scale-out storage on site for archiving PACS and document images. Osler also will implement EMC SourceOne™ to archive Exchange and SQL Server data stores to Isilon, along with EMC SourceOne Discovery Manager to enable discovery and secure legal hold of archived content for compliance. Archives are replicated to another Isilon system at a remote site for disaster recovery.
Results

- Enabled Infrastructure as a Service for improved cost efficiency
- Reduced archiving operational costs by 25 to 30 percent
- Decreased backup windows from ten to two hours
- Saved $40,000 to $50,000 annually due to reduced tape usage

For backup and recovery, Osler is replacing StorageTek tape backup with EMC Data Domain® deduplication storage systems. All critical applications are backed up daily to Data Domain with EMC NetWorker® unified backup and recovery software, including EMC NetWorker Module for MEDITECH and EMC NetWorker Module for Microsoft Applications.

In addition, Osler will use EMC RecoverPoint™ to replicate VNX storage to its remote site.

Osler has virtualized 60 percent of its infrastructure, using VMware® vSphere™ to virtualize MEDITECH and CallManager, and Microsoft Hyper-V to virtualize Exchange and SQL Server.

TRANSFORMING IT, IMPROVING PERFORMANCE

EMC's comprehensive solution suite has transformed Osler's IT infrastructure, eliminating many manual tasks while delivering outstanding performance.

"The power that VNX provides is incredible," says Donavan. "We haven't even scratched the surface and it's already giving us more performance than we need."

With tight integration between VNX and both VMware and Hyper-V, Osler has accelerated its virtualization effort, eliminating physical servers and freeing data center space. This integration combined with excess performance capacity enabled Osler to build a cloud and offer Infrastructure as a Service (IaaS) to outside organizations.

For example, Osler now delivers IaaS to Shared Services West, a company that hosts SAP applications to Osler and two other Toronto-area hospital corporations.

"There are great economies of scale when multiple hospitals inside and outside our network share access to a high-end infrastructure built on EMC and virtualization technologies," explains Donavan. "We recoup some of our upfront costs and the outside hospitals save a lot of money compared to building their own infrastructures."

“Our outsourcing model is so successful, we're preparing to offer Infrastructure as a Service to additional hospitals. The agility and efficiencies we've gained from our virtualized EMC infrastructure are making this possible.”

Donavan Miller
Team Lead, Infrastructure at William Osler Health System

OPTIMIZING COST AND CAPACITY

Isilon has helped Osler reduce costs while gaining needed scalability. For example, when Osler’s IT team needed to add another 85 terabytes to the archive and disaster recovery sites, they were able to add Isilon nodes quickly without the outside assistance previously required.

“Isilon provides the flexibility to grow without the need for complex configuration,” Donavan reports. “Overall, Isilon costs 25 to 30 percent less to operate than our previous archive system.”

In addition, Isilon provides the capacity and performance Osler needs to support the increased resolution and size of PACS images as well as growing Exchange mail stores.
Donavan comments, “By archiving emails to Isilon with SourceOne, we expect to improve our Exchange performance because space is freed on the production systems. Auditors also can more quickly query archived data without involving our staff. That will save us a lot of time.”

**REDUCED BACKUP WINDOWS FROM TEN TO TWO HOURS**

EMC solutions have also transformed Osler’s backup and recovery operations.

“Daily backups of our Exchange environment took about 10 hours with tape,” Donavan recalls. “Now, because Data Domain deduplication has reduced the size of Exchange backups by 50 to 80 percent, daily Exchange backups complete in less than two hours.”

He adds, “NetWorker provides us with a single tool for backing up both our VMware and Hyper-V environments, which saves us time and reduces complexity.”

Eliminating tape is also contributing to additional savings.

"With Data Domain, we have reduced our backup administration time from two and a half hours to just 15 minutes per week,” says Donavan. “We also save about $40,000 to $50,000 yearly on tape purchases.”

**IMPROVING PATIENT CARE AND EFFICIENCY**

With its comprehensive EMC solution, Osler has a more efficient and agile next-generation IT infrastructure.

“Our outsourcing model is so successful, we’re preparing to offer Infrastructure as a Service to additional hospitals,” Donavan explains. “The agility and efficiencies we’ve gained from our virtualized EMC infrastructure are making this possible.”

"Strategic projects like these are helping increase our operational efficiency while improving access to the data clinicians need to deliver optimum patient care,” he adds.

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