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FILENEXUS* CASE STUDY - Hamilton Health Sciences

Hamilton Health Sciences is a large teaching hospital with 1,000+ physicians, 8,000+ staff and 1,160 beds spread over 4 recently integrated sites.

An initial project to archive records from non-communicating legacy systems in the Lab, Pharmacy, Radiology and Clinical departments to a common archival/retrieval interface has led to large savings facility wide. Two examples of the many savings areas included:

- 1) Support fee savings from shutting down the legacy systems paid for the entire FileNexus project, inclusive of software, hardware, labour and internal resources, within a matter of months – with a year end net saving of \$400,000.00; and**
- 2) The time to retrieve a complete historical record for a patient, which before took up to 6 months, was now immediate – *a substantial saving in valuable staff resources.***

Over 5 billion records have now been archived to FileNexus. Later this year Hamilton Health Sciences will be expanding FileNexus to other production applications such as patient billing & accounts receivable, payroll, HR and time & labour.

“Archiving production systems in healthcare is rare. Normally, we’d just keep adding more servers and more disk space - that’s what hospitals do. But after the prototype, our people became aware of the benefits and once the server was up and running, it was very easy to use. There have been no technology-related issues and no support is required. The fact is, once you actually see it; it’s not hard to sell. You’re convinced.”

**Winston Sullivan
Manager, Information & Communication Technologies
Hamilton Health Sciences**

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FileNexus Case Study - Hamilton Health Sciences

When four hospitals in the Hamilton area merged in 1996 to form Hamilton Health Sciences, the union created one of the largest teaching hospitals in Ontario. It operated across four sites and had approximately 8,000 employees, 1000 physicians and 1,160 beds. It was one of the most comprehensive providers of acute care in Canada and one of the largest employers in the region. Also, through its affiliation with McMaster University's Faculty of Health Sciences, Hamilton Health Sciences focused on academics and research.

But there was a problem. Each of those four facilities had its own systems with different technologies and different cultures and since nothing was connected it was impossible to get a global view of a patient. Hardware was outdated and support cost was high. But the patients kept coming and, of course, so did patient data.

“Our goal was to enable users to search across all the patients and all that information with ease online,” says Winston Sullivan, Manager, Information and Communication Technologies, Hamilton Health Sciences. “We had a year to find the solution and implement it. There wasn't much time.”

Sullivan and his staff talked to other hospitals and found that many were in the same boat. (Hospitals historically keep patient information on microfiche). In fact, they couldn't find a single institution that archived its data online. Sullivan knew of storage-media technology called COLD (Computer Output to Laser Disc) and wanted to use this to remove the old systems and roll all that data over. He called a few healthcare vendors and found their solutions expensive, difficult to implement, and slow.

“We wanted to standardize everything across four sites and the first thing was to replace our business systems with one system – PeopleSoft,” he says. “We did that in 2000. Then we looked at our clinical system which had about 250 applications with different vendors, computers and different platforms. We managed to move to a single system on a single platform in April, 2002.”

Data from several disparate systems needed to be archived, including the Sunquest Lab System, Cerner PharmNet System, Cerner RadNet System, AMS Purchasing System, and Clinics Scheduling System. In April 2002, these systems were replaced by the new medical information system – Meditech.

That's where Loris Technologies Inc. came in. The Toronto-based company is a leading innovator in the programming, development and on-site application of digital storage technologies. Its product, FileNexus, is an electronic data repository of records – for any type of file, including electronic files, paper, forms, microfilm and even non-communicating computer systems – from virtually any source, including host systems, PCs, scanned images, emails or faxes. Records stored to FileNexus can be retrieved instantly without the user leaving the desk.



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“I had heard of FileNexus, but not for the archiving of legacy systems,” Sullivan says. “Loris offered us functional ability and a sound business case for price performance. They were cost-effective, flexible and Canadian. They offered ease of access and ease of use by caregivers.”

With the 8,000 employees at Hamilton Health Sciences, Sullivan knew that training on new systems was a potential nightmare. But with FileNexus, which operates on a Windows environment and is easy to use, all the user must do is key in the patient name to get information. This meant no training was required and that was a big plus because a lot had to be archived.

For example, the Lab at Hamilton Health Sciences needs very detailed patient information. How detailed? For a blood transfusion it has to know who donates the blood, how much is donated, where it goes, etc. It needs every single transaction processed by the system to be archived and searchable, and when an institution handles 40,000 transactions a day, that’s an ambitious undertaking. What’s more, since Hamilton Health Sciences is a teaching hospital, data must be retrievable for research purposes; the challenge here is that research people are generally not well versed in technology.

Says systems analyst Rick Calzonetti: “We had to move over *five billion* records. Take examination history for radiology which involved 525,000 documents pertaining to every patient seen for the last ten years. Each document was 10-12 pages in length. We had 1.5 million pages of data in one folder alone and the clinical area had 20 folders. Billing and purchasing had more folders. That’s a lot of information.”

In April 2002, the new medical information system, Meditech, went live with the initial applications – admissions, discharge, scheduling, radiology, labs, order entry and patient results. But it wasn’t easy getting everyone on board. Some staff were resistant because the systems they were used to were suddenly going to be removed and they feared losing their information. In short, it was a culture change.

So Loris built a prototype for the department of diagnostic imaging and a demo was arranged. Once the would-be users saw how easy it was to search and retrieve legacy data with FileNexus, they were sold. The same thing was done for the department of purchasing, with similar results. Says Sullivan: “In purchasing they saw they could access information they could never get out of the old system. A purchasing order is filed in so many different ways. But now it’s filed as a single document.”

The difference before and after FileNexus is like day and night. Before, using various screens and loading tapes and paper, it could take up to six months to compile a complete historical record for a patient. Now information is archived immediately. The user – a physician, nurse or radiologist – merely keys in the patient name and gets all the archival material they want.



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The benefits to Hamilton Health Sciences are significant:

- Software support contracts for legacy systems, which held information and had cost over \$400,000 a year, were no longer necessary and neither was full-time staff needed to maintain all that equipment;
- Transaction processing from one system to another that had involved some 180 interfaces now involved only five;
- The need for risk inherent with legacy systems – which involved old, unreliable systems on old hardware – was no longer a factor with the move to a more secure system;
- The entire system, including hardware and software integration, and internal resources, paid for itself in a matter of months.

Later this year Hamilton Health Sciences will extend FileNexus to other production applications – patient billing and accounts receivable, payroll, HR, and Time & Labour – with the potential for further savings, and all this at nominal cost. The anticipated benefits include:

- Increased speed of the system due to the archiving of historical data from the production systems;
- Reductions in paper and microfilm, as well as in the related storage and staffing costs;
- Significant reduction of host user fees since reports once archived to FileNexus will be retrieved through FileNexus rather than through the host system;
- Enhanced business continuity (disaster recovery) planning.

In addition, the archival and security features of FileNexus will assist in compliance with information protection/privacy legislation in North America, such as with the U. S. Health Insurance Portability and Accountability Act (HIPPA).

When all is said and done, Sullivan believes that Hamilton Health Sciences will be a bona fide showcase for the healthcare industry.

“Archiving production systems in healthcare is rare,” he says. “Normally we’d just keep adding more servers and more disk space. That’s what hospitals do. But after the prototype our people became aware of the benefits and once the server was up and running it was very easy to use. There have been no technology-related issues and no support is required. The fact is once you actually see it, it’s not hard to sell. You’re convinced.”