

Retailer Improves Data Management to Reduce Costs and Safeguard Customer Goodwill

Summary

London Drugs operates a chain of retail locations in Canada. One of the company's most important lines of business is the PhotoLab, an online service for storing, sharing, and ordering prints of digital photographs. To reduce costs and improve PhotoLab users' experience, London Drugs deployed a data management solution based on the Microsoft Application Platform. With the solution, the company has drastically reduced backup time and associated costs, simplified management, and improved the functioning of an important, customer-facing system.

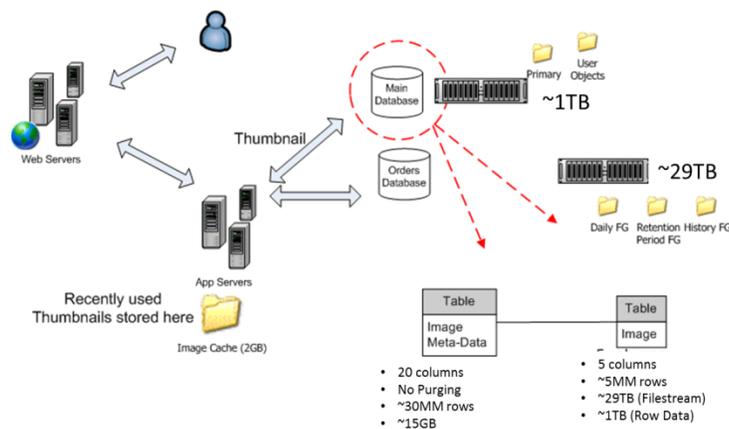
Mission-Critical Systems

The volume of data in the London Drugs PhotoLab system, already about 30 terabytes (TB), grows by as much as 30 gigabytes (GB) a day. To comply with a goal of never deleting customer photos, London Drugs needs a highly available and reliable data solution that is simple to administer, back up, and restore.

Solution Overview

Several years ago, the London Drugs PhotoLab system was becoming difficult to manage and backing up the databases was problematic. Increases in both the popularity of PhotoLab and the size of the digital photographs that customers were uploading resulted in such a massive volume of data that backups took more than 24 hours and disk storage was growing prohibitively expensive. One solution would have been to begin enforcing an advertised time limit for image storage, but the company found this option unacceptable because its customers had grown to expect no such deletions. "In addition to revenue, PhotoLab generates a great deal of customer goodwill and loyalty toward London Drugs," says Samantha Kinoshita, the company's IT Manager for Infrastructure and Operations. "To start deleting files would hurt that relationship, so we decided to seek better data management tools instead."

In 2008, London Drugs began working with Microsoft Services to address the problems. Deployment of Microsoft SQL Server 2005 data management software gave London Drugs access to improved table partitioning and file groups, which reduced the difficulty of the backup and restore process. But backups were still frustratingly large because it was impractical to store the photographs except as unstructured image data in the system's operational database. Working with a Microsoft Services consultant, London Drugs learned of the FILESTREAM storage attribute available in a beta version of Microsoft SQL Server 2008 and recognized its value proposition for further improving storage and management of the PhotoLab data. "With the FILESTREAM attribute, we can define columns in SQL Server tables specifying that the image data is actually stored in the file system," explains Shaun Tinline-Jones, the Microsoft Services consultant. "Because most digital photographs these days are at least 1 megabyte and are predicted to grow to 50 megabytes in the future, they are much more efficiently handled by the NTFS file system than by the database." The solution includes the following components:



"Relying on the Microsoft Application Platform gives us confidence that our most important systems will perform exactly as we need them to, when we need them to."

Samantha Kinoshita, IT Manager for Infrastructure and Operations, London Drugs

Top Reasons Why London Drugs Chose Microsoft

London Drugs built its mission-critical PhotoLab offering on the Microsoft Application Platform because:

1. It delivers the reliability, flexibility, and scalability required for such an important line of business.
2. Microsoft frequently updates and improves its products, so the solution can more easily evolve to include new technological advances and fit changing business needs.
3. Integrated tools and products reduce administration and development costs.
4. Familiarity with the Microsoft environment is widespread in the work force, so costs for training and support are reduced.

London Drugs PhotoLab SQL Server 2008 Deployment	
Non-FILESTREAM database size	30 TB
FILESTREAM database size	15 GB (data only) 29 TB (FILESTREAM only)
Number of partitions	~100 (and growing)
Number of file groups	~65 (and growing)
Average daily rate	30 GB/day
Peak daily rate	100 GB/day
Hourly transaction log backups	Average: 2 minutes (6 GB) Peak: 3.5 minutes (12 GB)
Daily backups	Average: 20–30 minutes (30–50 GB) Peak: 30–45 minutes (50–100 GB)
Monthly backups	Average 2–3 hours (1.5 TB) Peak 3–5 hours (2.5 TB)
Restore time	30 minutes

London Drugs relies extensively on the Microsoft Application Platform throughout its IT environment:

- Microsoft SQL Server 2008 Enterprise with Service Pack 1. Manages data for mission-critical systems such as PhotoLab and the company's supply chain.
- Microsoft BizTalk Server 2004, Microsoft Message Queuing, and Terminal Services in the Windows Server 2003 operating system. Orchestrates data transfers between supply chain systems and provides employees with access to the data.
- Windows Server 2003 R2 Enterprise x64 Edition with Service Pack 2. Powers the company's applications, networks, and web services.
- IBM System x3850 enterprise server computers with dual quad-core processors and 30 GB of memory in a two-node failover cluster.
- IBM System Storage DS5300 storage area network.

Business Pain Points Addressed

London Drugs considers the PhotoLab offering not only a vital source of revenue but also a means of cultivating customers' loyalty and willingness to transact non-photo-related business with the company. Because it would be relatively easy for an unsatisfied customer to move on to one of the many other free, online photo-sharing services, downtime or unexpected deletions in the PhotoLab system are unacceptable. As a result, London Drugs wants the technologies that underlie PhotoLab to be highly available and reliable. By relying on the Microsoft Application Platform for its PhotoLab offering and throughout its IT environment, London Drugs has been able to:

- Improve the functioning of an important, customer-facing system.
- Match the reliability and ease of use of competitors' offerings.
- Help safeguard customer data from deletion or loss.
- Reduce the workloads of IT staff members and make them available for more productive, value-added work.

Technical Pain Points Addressed

For the PhotoLab offering to function properly, London Drugs needs data management tools that can handle large objects, back up 20–30 GB daily and 1.5–2.5 terabytes monthly, and quickly restore from backups. Customers expect their interactions with PhotoLab to be simple, fast, and glitch-free—even during peak times like holidays, when many customers use PhotoLab to order custom greeting cards. With the Microsoft Application Platform, London Drugs has been able to:

- Process approximately 30,000 photo uploads (40–100 GB) a day.
- Manage more than 10 million stored images, a data volume of about 30 terabytes.
- Reduce monthly backup time from more than 24 hours to 5 hours or less.
- Reduce backup restore time from 24 hours to 30 minutes.
- Achieve 99.99 percent availability with no unplanned downtime.
- Make more efficient use of disk space, reducing storage costs and extending the life of the current storage configuration.
- Have the option of switching from a storage area network to a less expensive network-attached storage configuration.

Conclusion

By relying on the Microsoft Application Platform for its PhotoLab offering and other important IT systems, London Drugs has improved the storage and management of its data and safeguarded the company's relationship with its customers. London Drugs now has cost-effective data management capabilities that can expand with its business and make it easy to take advantage of future technological advances.

About London Drugs

From a single community drug store that opened in 1945, London Drugs has grown to include 74 stores throughout Alberta, British Columbia, Manitoba, and Saskatchewan. In addition to pharmaceuticals and personal-care products, London Drugs offers cosmetics, computers and other electronics, and high-quality photo finishing. The company has more than 7,500 employees and serves more than 45 million customers annually.

For More Information

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