Large Canadian community hospital modernizes messaging by using BizTalk Server

Customer: Markham Stouffville Hospital
Website: http://www.msh.on.ca/
Customer Size: 2,000 employees
Country or Region: Canada
Industry: Healthcare

Customer Profile

Markham Stouffville Hospital (MSH) is a progressive, two-site community hospital with leading diagnostic services and clinical programs in acute care medicine and surgery, addictions and mental health and maternal and child rehab/transitional care; all of which are focused on the needs of our rapidly growing communities. Partnering with other specialist providers, the over 450 physicians, 17 midwives, and 1,900 staff of the hospital make it the center of community care for the almost 400,000 residents of Markham, Stouffville and Uxbridge.

Software and Services

- Microsoft Server Product Portfolio
  - Microsoft BizTalk Server
  - Microsoft SQL Server
  - Microsoft Visual Studio

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>
> Tim Pemberton, CIO, Markham Stouffville Hospital

To better support sharing patient information both internally and externally, Markham Stouffville Hospital knew it needed to upgrade its HIS to MEDITECH 6. By using BizTalk as the integration platform, the hospital reduced interface development time and costs, added support for processing high message volumes, and helped maintain reliable uptime. The combined solution helped MSH to streamline its perioperative process, increase the efficiency of patient treatment, and improve the safety of medication administration.

Updating healthcare information systems to keep up with growth

Markham Stouffville Hospital (MSH) is a progressive, two-site community hospital with leading diagnostic services and clinical programs in acute care medicine and surgery, addictions and mental health, and maternal and child health. Partnering with other specialist providers, the hospital's 438 physicians and 1,900 staff make it the center of community care for the residents of the City of Markham and the Towns of Stouffville and Uxbridge, a total population of almost 400,000.

MSH has always strived to be technologically innovative in support of its focus on high-quality patient care. To make it easier to securely share patient information both internally and externally, MSH planned to upgrade its healthcare information system (HIS) from MEDITECH MAGIC to MEDITECH 6.0, which meant migrating existing data to the new system. The upgrade also required MSH to change at least 25 existing HL7 interfaces in addition to developing numerous new HL7 interfaces. To avoid modifying all the downstream integrated systems, such as physician office EMRs and other provincial systems (WTIS, CCIS), MSH needed a

flexible integration engine that would allow it to sustain its downstream systems while making the changes it needed for the HIS migration.

The Microsoft BizTalk Server solution

MSH teamed with Dapasoft, a Microsoft Partner, to develop a migration solution that included the following:
- Microsoft BizTalk Server
- Microsoft SQL Server
- Microsoft Visual Studio
- Corolar Integration Suite
- Corolar HL7 Data Repository

MSH needed an integration platform that could support the healthcare data standard HL7 and other industry requirements, and process hundreds of thousands of messages daily while maintaining near-perfect uptime. BizTalk Server fit the bill.

BizTalk Server includes BizTalk Accelerator for HL7, which provides support for healthcare messages and adds healthcare-specific components that tailor how messages are processed for various healthcare applications. It also enables batching, acknowledgments, data validation, and the auditing and logging that healthcare organizations are required to perform. The robust messaging engine in BizTalk Server handles all data communication between the underlying Windows Server operating system and Microsoft SQL Server database on behalf of external applications, services, processes, and systems. With BizTalk Server, MSH can add interfaces to route messages based on the type of message they are: real-time messages (for instance, from mission-critical applications) can be routed through one channel, and lower-priority messages can be routed, in batch mode, through a different channel.

BizTalk Server relies on SQL Server for data storage and data persistence. SQL Server offers support for building mission-critical applications and data solutions using high-performance, in-memory technology across online transaction processing, data warehousing, business intelligence, and analytics workloads.

The results: reduced costs, increased reliability and efficiency

The BizTalk/Corolar solution provides a platform that makes it easy to modify and create interfaces to support MSH's enterprise integration requirements for applications within the hospital and external partners such as labs, physician offices, and provincial integration initiatives. As Tim Pemberton, CIO at MSH, explains "BizTalk allows us the flexibility to handle any type of messaging requirement. We are not restricted to just HL7 or just HL7 version 2.x."

By choosing BizTalk Server as its integration platform, the organization enjoys the following benefits:
- Reduced interface development time and costs
- Support for processing high message volumes
- Reliable uptime

Since the Meditech 6.0 migration, the hospital has reached its goals of streamlining its perioperative process, increasing the efficiency of patient treatment in the ER, and improving the safety of medication administration. MSH is currently one of only five hospitals in Canada to achieve the HIMSS Analytics Stage 6 EMR adoption model (EMRAM) designation. Of the five hospitals in Canada with this designation, MSH achieved the highest EMRAM score.

In the future, MSH intends to use the solution's data reporting features to make further improvements to reduce operating costs and improve the quality of care patients receive.