

Community Hospital Integrates Radiation Therapy System with BizTalk Server 2006

Overview

Country: Canada

Industry: Healthcare

Customer Profile

The Credit Valley Hospital is located in Mississauga, Ontario, one of the fastest growing communities in the country.

Business Situation

When the hospital opened a regional cancer treatment centre in July 2005, it upgraded to BizTalk Server 2006 to leverage the solution's advanced application management features.

Solution

BizTalk Server 2006 enables the hospital's IT team to proactively monitor applications to help ensure availability in the acute care environment.

Benefits

- Improved information flow
- Proactive management
- Innovative applications

“BizTalk 2006 enables a smarter, proactive system that alerts us to errors in real-time so we can take action right away – before the oncologist notices something is amiss.”

Avril Cardoso, Manager, Application Services, The Credit Valley Hospital

The Credit Valley Hospital is a modern, dynamic community hospital delivering health care to the people of Mississauga, Ontario and the surrounding regions. The hospital stores medical information in a back-end hospital information system (HIS) called Meditech, and pushes data to a variety of clinical applications used by medical and support staff. It had deployed Microsoft BizTalk® Server 2004 to enable automated data transfer between Meditech and various applications in an integrated, scalable environment. However after the hospital opened a new regional cancer care centre in July 2005, it upgraded to BizTalk Server 2006 because the solution's advanced features allow for seamless integration with its radiation treatment planning system, VARiS. As well, the software's updated management interface enables the hospital's IT team to proactively monitor the VARiS system. This helps ensure application availability in the acute care environment.

Situation

In July 2005, the hospital opened The Carlo Fidani Peel Regional Cancer Centre to provide oncology services and treatment for patients diagnosed with cancer.

To enable better patient care, medical and support staff use a variety of clinical applications to access data such as patient demographic information and other components of the electronic health record, stored in its Meditech hospital information system (HIS). Medical applications typically use a standard specification called Health Level 7 (HL7) – similar to the Electronic Data Interchange (EDI) format used in business – for automatic data exchange. Most healthcare facilities use the HL7 standard to transmit millions of clinical healthcare messages daily.

The Credit Valley Hospital had deployed Microsoft BizTalk® Server 2004 and BizTalk Accelerator for HL7 for data transfer between its applications and Meditech. The solution automates this process, which helps make the hospital's systems more efficient and reduces errors caused by duplicate manual data entries.

With the opening of the regional cancer centre, The Credit Valley Hospital decided to upgrade to BizTalk Server 2006 to leverage the advanced feature set and management interface of the new software.

The hospital's cancer centre uses an application called VARiS to deliver radiation treatment to cancer patients. BizTalk Server integrates VARiS with the Meditech HIS so patient information flows to the application in real-time. The hospital's IT team wanted a better way to manage this process and troubleshoot any errors, so they could ensure that data was being sent and received properly between the two systems.

"If a radiation oncologist called us to say 'I can't find Patient X in my system', we really didn't have a way to find the problem. And they need an answer pretty quickly because they need the patient in their system in order to deliver treatment," says Avril Cardoso, Manager, Application Services, The Credit Valley Hospital.

Solution

After consulting with Microsoft Gold Certified Partner Cactus Commerce, The Credit Valley Hospital found a simple solution in upgrading to Microsoft BizTalk Server 2006 and version 3.0 of BizTalk Accelerator for HL7.

"We specialize in providing solutions to help organizations collaborate electronically, and we knew BizTalk 2006 had the capabilities The Credit Valley Hospital was looking for," says Jean-Yves Martineau, Chief Technology Officer and Co-founder, Cactus Commerce. "As well, BizTalk 2006 has an updated management console and improved deployment capabilities to help Credit Valley's IT team adopt new applications more easily as the hospital continues to grow."

BizTalk 2006 consolidates management functionality in the BizTalk Administration Console, which provides a single interface for configuring, deploying and running applications across multiple servers. Instead of requiring an IT administrator to search for problems, the console's Group Hub page displays them in colour-coded indicators so they can be seen easily, allowing the hospital's IT team to be proactive in solving the problems. It also gives administrators better insight into how the VARiS application is working by acknowledging transfer and receipt of data. Failed message routing functionality is configured so that BizTalk 2006 automatically sends an e-mail or text message to alert administrators when the system fails to transfer patient data between applications.

“BizTalk 2006 is proactive rather than reactive, which saves us a lot of time in trying to figure out what the problem is when the VARiS system goes down,” Cardoso says. “In an acute patient care environment, you want to know of a problem before clinicians discover it – you want to fix things before it interrupts their workflow.”

The Health Activity Tracker in BizTalk 2006 has an updated look and feel that enables quicker, more intuitive task management. As well, version 3.0 of the HL7 accelerator enables administrators to manage multiple interfaces and data streams from Meditech more efficiently through its party management capability.

Benefits

By upgrading to BizTalk Server 2006 and version 3.0 of BizTalk Accelerator for HL7, The Credit Valley Hospital is benefiting from a more feature-rich engine to ensure streamlined business processes and integration between the hospital and the cancer treatment centre.

Improved Information Flow

The Credit Valley Hospital's regional cancer centre is an acute care facility that depends on the VARiS radiation treatment planning system to deliver patient care. With BizTalk Server 2006, the hospital's IT team can ensure the flow of patient information from the back-end Meditech HIS to the VARiS system is uninterrupted.

“Patients register in Meditech, and BizTalk 2006 picks up their information and then sends the data to VARiS as well as an acknowledgement message, so both systems know the information has been received,” Cardoso says. “The benefit to the radiation oncologist is that they know immediately that the patient has arrived, and they can see the patient's demographic information which is integral to their clinical decision-making

process. It accelerates the patient care process because the information is there in real-time.”

Proactive Management

The alerting capabilities in BizTalk 2006 give The Credit Valley Hospital better insight into how the VARiS system is working, saving time in troubleshooting application downtime.

“In the past, if the system went down we had trouble identifying the problem right away. We wouldn't know about it until we got a call from the radiation oncologist, which meant the delay was impacting patient care,” Cardoso says. “BizTalk 2006 enables a smarter, proactive system that alerts us to errors in real-time so we can take action right away – before the oncologist notices something is amiss.”

Innovative Applications

The Credit Valley Hospital serves a large out-patient population, with some 50 clinics where people come in and out for daily treatment. Unit clerks spend considerable time registering patients who are checking into each clinic. In January 2005, the hospital's IT team initiated a pilot project to automate this process using five self-serve kiosks and barcode scanners. They allow patients to check themselves in for treatment in mere seconds, rather than waiting in line for staff to process their information.

“The automated patient registration kiosks allow unit clerks to focus more of their time on tasks associated with patient care,” says Cardoso.

With BizTalk Server 2006, The Credit Valley Hospital will be able to increase the scalability and reliability of these kiosks so they can be rolled out to 20 locations across the hospital.

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"We're currently using a screen-scraping scripting technology in the kiosks, so it's not really that robust," says Cardoso. "BizTalk 2006 will improve the application by communicating directly with each kiosk, and sending HL7 messages from the kiosks to Meditech."

Cardoso adds that down the road, The Credit Valley Hospital will be able to improve its return on investment with the kiosks by potentially using them for a variety of other things, including the sharing of educational materials.

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Software & Services

- BizTalk Server 2006
- BizTalk Accelerator for HL7 v.3.0

Partners

- Cactus Commerce

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