

# CANADIAN Healthcare Technology

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## Canadian Forces adopt new integration platform for their EHR

BY MICHAEL PALMIERI

As many healthcare IT executives know, the Canadian Department of National Defense (DND) is in the process of implementing a major, decade-long initiative focused on leveraging IT to enable optimal healthcare delivery to an estimated 85,000 regular and reserve army personnel.

Funded by more than \$100 million that's being expended across a 10-year time-span, DND's Canadian Forces Health Information System (CFHIS) project typifies the major investments in healthcare technology that are being made by multiple government agencies worldwide.

Lockheed Martin Canada is the systems integrator for the CFHIS program, which supports information sharing among 2,500 clinic-based Canadian Forces healthcare providers nationwide.

On the integration front, we've decided to replace the SeeBeyond eGate integration platform that was initially used with the Ensemble rapid integration platform from InterSystems Corporation in Cambridge, Mass. In our view, this has proven to be a key component in the success of this long-term project.

After extensive evaluation, InterSystems Ensemble was identified as the integration platform that would provide the capabilities needed by CFHIS in its current environment and to support future development plans. Of immediate importance to the CFHIS project are:

- Ease of administration. Ensemble provides real-time visibility into business processes and system performance. Problems can be diagnosed and debugged during live operations using Visual Trace. Moreover, service levels can be optimized by defining alerts to monitor critical resources. Ensemble is, in fact, an administrator-friendly platform which will be of long-term benefit to DND.

- Advanced messaging. The Ensemble messaging engine supports extensible mes-

sage routing that makes it possible to manipulate the format of the interface message content as it crosses the engine into formats that are required by other applications. The engine opened the door for Lockheed Martin developers to make changes that simply weren't possible with the previous integration platform.

- Visualization capabilities. Ensemble provides graphical modeling capabilities that make it possible to visually identify and appropriately associate interfaces to multiple applications and data repositories. Developers and analysts can focus on business processes, communication is improved, and barriers raised by differences in semantics or schemas are eliminated.

Ensemble also provides an integration and development environment that enables executing tasks in a very streamlined fashion. As a result, changes can be made quite rapidly, resulting in a productivity benefit that had a positive impact on the timeline for migrating to Ensemble.

Based on the recommendation of the Lockheed Martin team, DND opted to migrate CFHIS to the Ensemble integration platform. CFHIS serves approximately 40 sites across five time zones in Canada. Ensemble is the engine that links the CFHIS COTS applications that include Laboratory, Pharmacy, Radiology, Patient Administration, Dental and Core Clinical applications. It is an extremely complex system environment that incorporates literally hundreds of interfaces utilizing HL7 messaging to synchronize clinical and administrative health information among the applications running in locations countrywide.

Despite the complexity and massive size of the migration project, the transition was

successfully completed in a matter of months. We encountered very few challenges, all of which were successfully resolved quite rapidly.

By February 2008, the move to the Ensemble platform was complete, with all of the applications running in production mode and CFHIS fully operational. While we don't currently have the tools available to accurately quantify the return on the technology investment in Ensemble, the positive impact has manifested itself in no downtime and increased flexibility, which benefit the clinicians and administrators actively using the CFHIS.

We have taken a step forward in delivering the high level of quality care that is the primary objective for virtually all healthcare technology projects.

**Looking Ahead:** As of mid-2008, the Lockheed Martin CFHIS team was well positioned to move to a new phase of the program. Over the next two years, a primary focus will be on deployed operations. That is, implementation of the CFHIS to remote field units, including shipboard.

In addition, plans are to examine the feasibility of introducing the graphical dashboard that is featured within Ensemble's business activity monitoring (BAM) component.

Exploiting event-driven architectures, BAM solutions provide instant access to the real-time status of enterprise-wide operational processes via dashboard-style interfaces. Plans are being made to utilize Ensemble's data analytics and notification quantifications, combined with reliable messaging and some integrated business process management tools to create dashboards that will provide information needed to identify and resolve potential problems and to optimize healthcare delivery.

*Michael Palmieri is CFHIS System Development Manager for Lockheed Martin Canada.*



Michael Palmieri

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