

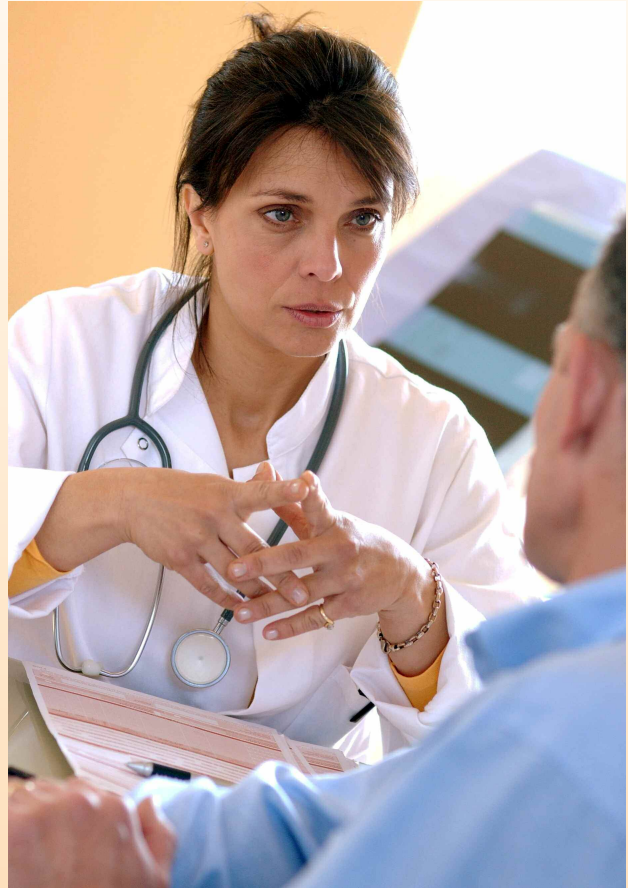
ENSEMBLE SUCCESS STORY: Providence Health & Services

Providence Health & Services uses Ensemble to extend capabilities of data warehouse to gain strategic business insights

Providence Health & Services, based in Seattle, Washington, wants to predict the future for its three acute care hospitals in western Washington, and has the data needed to do it. In western Washington alone this includes more than 400,000 encounter records annually from the hospital acute setting, and more than 1.5 million encounter records from 150 physicians' locations and clinics. However, only a small subset of this data is in the right format for importing into Providence's McKesson Horizon Performance Manager data warehouse for analysis and decision support. This limited set of data for analysis restricts Providence's visibility into business and clinical results and trends. It limits the organization's ability to act and shape its future, rather than react to events as they happen. To remedy the situation, Providence turned to the Ensemble enterprise integration platform.

Ensemble chosen for rapid development, broad access to data sources

One of the most critical components of any decision support system is the interfacing of data from the source systems – in this case the 12 different systems and 30 data sources targeted in Providence's three acute care hospitals in western Washington. The Providence project team researched tools that would consistently receive data from these sources, manipulate and scrub it, report inconsistencies, allow correction, and then send it to the data warehouse. Given the large data volumes and the desire for daily updates of the data warehouse, the chosen system had to have a proven record of performance.



The team chose Ensemble because they needed a rapid integration platform that could greatly simplify and accelerate creation of the application interfaces. Ensemble gives Providence a more streamlined and sustainable development environment for data integration than other tools. In this environment, senior business analysts determine scenarios for the project in terms of data interfaces and data flow, and then Providence programmers use Ensemble's graphical BPL (business process language) editor to flow-chart the scenarios and include rules for data transformations and other logic. From the BPL Ensemble generates the working code that Providence tests and tunes as needed. The result is a much shorter development cycle than it was without Ensemble.

An architectural solution

The Providence approach to the problem, with guidance from system integrator Birlasoft, uses Ensemble for an architectural solution, rather than approaching each data source as a separate integration project. Key to this architecture, and the successful transformation of data from the source systems to the McKesson format, is Providence's use of the Ensemble virtual document.

The virtual document allows users to send arbitrarily large and complex electronic documents as Ensemble messages. Each virtual document references an XML schema definition that indicates where to find specific data in the document. The Providence virtual document implementation references a schema definition for the 1,200 fields in the McKesson data warehouse. This XML document is the organization's "bible" for data integrity. Using this schema, Ensemble transforms source data into the McKesson format with absolutely reliable data integrity, and fills each field with the correct information. The system design makes it impossible to avoid this part of Ensemble, and it protects and actually improves data quality. Ensemble also allows Providence to handle user-defined fields.

A common language for understanding the business

Using Ensemble, Providence captures information from clinical and financial systems normally beyond the reach of the McKesson data warehouse. Providence could not find any other product that supports the large variety of databases and other data sources in its environment, and handles transforming the data into the McKesson decision support system format. By using Ensemble, Providence effectively extends the capabilities of the McKesson application.

Prior to each update of the McKesson data warehouse, Providence stages all of the data in Ensemble's built-in high performance database. In essence, Ensemble gives Providence a common language to handle data coming in from all the various sources reporting on different, critical dimensions of patient encounters and their effects on its clinical, financial, and operational performance. Providence staff uses this information to understand what's going on in its facilities and how to improve business and clinical performance.

More options for better management

Providence rolled out the upgraded, Ensemble-based data warehouse system in February 2006. Fed a rich, clean, and steady diet of data by Ensemble, the system has made predicting the future a realistic goal for Providence. Management now has much greater insight into the aspects of patient care that have operational impact but traditionally have been hard to track down, and an integrated view of financial, clinical, and operational issues. This includes integrated cost accounting standards for service line management, improved quality of patient payment transaction detail, and many other dimensions of performance. With this knowledge, Providence now knows which levers to push to make change happen.

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