

# Rocky Start, Successful End

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In April 2008, Oregon Health & Science University in Portland deployed an electronic health records system at Doernbecher Children's Hospital and OHSU Hospital. With that go-live, the EHR from Verona, Wis.-based Epic Systems Corp. started exchanging data with at least 15 other information systems through 60 interfaces.

The Epic application replaced a legacy EHR. Likewise, the new integration engine replaced its legacy counterpart. Consequently, the university was able to migrate many of the legacy interfaces to the new engine. That meant that much of the work of building interfaces already was done. OHSU sidestepped considerable analysis of vendor requirements and reconciliation of different vendor interpretations of the Health Level Seven messaging standards for the systems that Epic would link to. It also skipped some configuration of communication parameters.

But that doesn't mean the transition was a smooth one. OHSU was a beta site for the newest version of its integration engine, called Rhapsody 3, from New Zealand-based Orion Health Ltd., with U.S. headquarters in Santa Monica, Calif. Despite the obstacles, the university is "very pleased" with the result, says Doug Clauder, an applications engineer at OHSU.

An interface is a communication portal on an information system, used to implement HL7 standards. "Interfaces communicate by sending messages to other interfaces," Clauder explains. "The messages contain information that is assembled by the sending system interface and unpacked by the receiving system interface." In essence, an integration engine - also called an interface engine - is a clearinghouse of interfaces. "It is an optional middleman between the sending and receiving systems," Clauder says.

Rather than pay vendors to build point-to-point interfaces between disparate information systems, the engine enables the building of interfaces in a central unit. "The value to that is if you want to send information from one system to multiple systems, the engine takes that one data stream and sends it out," Clauder says.

Some integration engines, including Rhapsody, also enable faster building of interfaces because some coding can be reused for other interfaces, cutting development time.

Further, an integration engine enables reformatting of data being sent from one system so it will be compatible with the receiving system. An integration engine also provides a central place to observe the flow of data. Analysts can determine if one or more information systems received transmitted data.

## Rocky Debut

The ability to migrate many existing interfaces and reuse code already in the Rhapsody engine were two substantial time-savers in the effort to link other information systems to the new Epic product. But the beta version of Rhapsody 3 had serious problems. "The software wasn't close to being ready," recalls Tom Drury, manager of healthcare technical services at OHSU. Adds Clauder: "We ended up being a testing facility."

Orion Health, the Rhapsody vendor, sent its top engineer from New Zealand to OHSU, where he stayed for at least two months. "He sat there night and day and pulled up code and found things I wasn't even aware of," Clauder says.

The bottom line: OHSU was very impressed with the support it got after receiving software from what it considered a weak quality assurance process, Drury says. The integration engine proved to be robust, currently processing 2.2 million messages every day, "with no unscheduled downtime during the last four months," Clauder says.