The Hospital Costa del Sol, a large public hospital in the Andalusia region of Spain, was established in 1993 as part of a program to implement cutting edge business management technology in order to deliver quality healthcare more efficiently. In 2001, Empresa Publica Hospital Costa del Sol (EPHCS), the organization that administers the hospital, announced plans to fully integrate the institution's operations. Several attempts, using various commercial integration products, were made. They failed, usually due to a lack of reliability and their inability to integrate applications in a timely fashion. But in 2007, EPHCS successfully cured their integration headaches by switching to InterSystems Ensemble®.

Proof-of-concept Project Complete in One Week

“One of the main reasons we decided to implement InterSystems Ensemble, completely replacing the Orion Rhapsody software, was the speed of integration,” says Juan Ramón Martín Huertas, Director of Information and Communication Technologies (ICT) at EPHCS.

In fact, the proof-of-concept project, which involved using HL7 and the Java API to access the Pharmacy and the departmental Pathology applications, took only one week. Based on that success, EPHCS implemented Ensemble as an Enterprise Service Bus (ESB), enabling communications between 11 major systems within the Hospital del Sol, including applications from HP, Roche Diagnostics, GE Healthcare, Cardinal Health, and others. The
primary integration mechanisms are HL7 messaging, database access via ODBC/JDBC, and invoking Java processes, Web services, and external URLs. Ensemble also integrates the AT4Wireless short text messaging system, through which healthcare professionals and patients can be informed about schedules, appointments, the status of laboratory reports, etc. And because Ensemble, besides being an integration engine, is a full-blown development platform, new applications can readily be incorporated into the overall operations of the hospital. Says Martín Huertas, "Ensemble has the capacity to implement integration services independently for each application that the hospital uses, with staging areas to configure and test before moving the integration service into production on the same server."

**Ensemble Provides Reliable Messaging**

Ensemble’s high-performance message repository, which enables the guaranteed delivery of messages as well as complete message tracking, also proved to be a major benefit. EPHCS found that the thorough message and process traceability provided allowed them to rectify the mistakes that sometimes occur in the process of integrating systems. "Ensemble has a very high level of traceability on the operations being conducted," says Martín Huertas, "so it is possible to determine exactly what has happened since the trigger of a particular event."

Messaging reliability was a concern for EPHCS so, even before performing the proof-of-concept project, they put Ensemble through rigorous resilience and volume testing. The tests showed that end-to-end integration processes completed without the loss of any messages – even after the simulation of unplanned failures of the integration server. In production, the integration server at the Hospital del Sol processes an average of 13,625 HL7 messages per day at an average time of approximately 15 milliseconds each.

**InterSystems’ Technical Support is a Plus**

When evaluating integration platforms, another important requirement for EPHCS was that the vendor provides accessible and effective technical support. Providing excellent support is also very important to InterSystems. Says Martín Huertas, "We can have direct contact with the product developers, who are constantly evolving Ensemble to incorporate improvements and suggestions from their customers. Compared to the other systems EPHCS has used in the past, this policy is an extremely favorable factor for the agility of our technology infrastructure."

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