

GEM Case Study

Middleware Analysis

Situation

A business-to-business service provider needed confidential analysis of potential middleware platforms and a proof of concept trial. The company's transaction volume had grown substantially in a short period of time, and a new infrastructure was required to sustain the growth and support their customer's demands for increased data exchange. The company's technical infrastructure was internally designed, and the company wanted to evaluate third party solutions before embarking on redevelopment.

Solution

This project would require two stages, first was the selection of a middleware product. Second, a prototype system would have to be built to prove the concept and enable a deeper review of the middleware and how it would behave in a production-like environment. The decision was critical to the company's development agenda.

To select the appropriate middleware, the project team to perform a detailed evaluation of messaging middleware products and determined the best fit with company's technical requirements. The following vendors were evaluated.

- IBM MQSeries
- TIBCO Rendezvous
- Vitria BusinessWare
- Talarian SmartSockets

After extensive review, the project team selected the TIBCO Rendezvous product. The product met the technical requirements and provided the best fit of tools and off-the-shelf and third party adapters that could be utilized by the company's customers.

The prototyping activity was a significant effort, since the proof of concept would be a replica of the current applications, but utilizing the TIBCO technology as the secure communications layer between application components.

Next began the design and implementation of a prototype that would provide secure communications on the Internet between heterogeneous components of the system. The company personnel required training in middleware concepts and TIBCO specifically, so the project team developed and delivered the internal training to the company technical personnel. Then the project team established a set of internal team procedures for consistent, high quality Java and TIBCO development.

Once the TIBCO infrastructure project was underway, the work was accelerated through use of the GEMObjectSpan™ XML program. The tool simplified the mapping of business objects to and from the TIBCO message queues. Additional application component prototypes were designed and implemented and application adapters were built using the TIB/Adapter SDK. Some Smalltalk based



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applications had to be converted to Java in order to work with TIBCO and this required the development of several generic tools including a Smalltalk-to-Java Converter and Functional Test Tool with Java-like scripting language.

GEM's Role

GEM provided unbiased technical knowledge for the middleware evaluation and practical experience to develop adapters and perform the conversion of a core information processing application to a middleware capable language (Java). GEM then executed the proof of concept project which enabled the company's personnel to make their final decision concerning the use of the Middleware. GEM contributed the following to the project:

- Leading the selection review.
- Prepared and delivered TIBCO training.
- Created the internal design procedures.
- Developed custom TIBCO Appender and Mail Appender services for log4j (a uniform Java logging approach).
- Wrote new Java applications.
- Converted Smalltalk applications to Java.
- Designed and wrote TIBCO Adapters.
- Mapped existing Objects to Java and TIBCO.

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