“In a year and a half, we will have built and deployed approximately 500 web services as part of our SOA, and we estimate that 80 percent of them will be used by multiple service consumers within the bank. Most of the savings IT contributes to the corporate goals of reducing costs and increasing productivity will come from our SOA implementation.”

Alan Megargel, Vice President, OCBC Bank

SOA for Banking—OCBC Bank Builds Reusable Services to Reduce Costs

With a rich heritage that can be traced as far back as 1912, OCBC is Singapore’s longest-established local bank and one of Asia’s leading financial services groups, with assets of U.S. $107 billion. OCBC is also one of the largest financial institutions in the combined Singapore-Malaysia market in terms of assets. The bank delivers a full spectrum of specialist financial services solutions through an extensive global network of more than 390 branches and representative offices in 15 countries and territories. In recognition of its product offerings, the bank has received a series of international awards, including U.S.-based Global Finance magazine’s award for Best Corporate/Institutional Internet Bank in Singapore, which the bank has won three consecutive years.

Launched in 2006, OCBC Bank’s five-year strategic initiative named New Horizons 2 has several goals, including growing the bank’s business regionally, mainly in China, Indonesia, and Malaysia. The initiative also sets a goal of transforming OCBC into a high-performance bank by taking a disciplined approach to reducing unit costs by 15 percent and improving productivity by 25 percent. A key strategy for reaching those goals was to replace the bank’s existing middleware with a TIBCO-based SOA that would help meet those cost-reduction targets by taking advantage of hundreds of reusable business services and by reducing the cost of developing application interfaces by 30 percent.

Selecting the Right SOA Experts

Since 2000, OCBC’s IT architecture standard has been to integrate all applications through a legacy middleware layer. That middleware, however, did not support web services. With the emergence of web service standards, OCBC decided to replace its legacy middleware with SOA. “We didn’t need to sell the concept of middleware to our business units, because it was already in place; we even had a placeholder for SOA in our technology roadmap,” says Alan Megargel, vice president, OCBC Bank. “But we still needed to find an experienced SOA vendor that could assist us in developing a governance framework and migrating from the legacy middleware platform.”

As part of the process of finding the right vendor, OCBC launched a pilot program in 2005 and selected TIBCO to implement it. The project was a simple one involving a handful of services and a simple application. “TIBCO won the business, primarily on
the strength of its tools, which are very easy to use, and the competency of its technical staff,” says Megargel. “Other vendors worked onsite for several weeks and weren’t able to build a working solution. TIBCO Professional Services, on the other hand, had a working solution within two days. It was quite impressive.”

Other reasons OCBC cites for selecting TIBCO include the high quality of local support in Singapore and excellent site references in the region. A team from TIBCO’s Professional Services Group (PSG) worked onsite to structure the SOA and draft guidelines and policies for its implementation. “TIBCO PSG ensured that we would be self-sufficient after their engagement was over,” says Megargel. “They were very competent and we’re quite happy with the support they have provided.”

Replacing Legacy Middleware with SOA

The migration challenge for OCBC was to migrate services without disrupting existing operations and to minimize the impact on client-side applications and on back-end host systems containing the organization’s database. The bank also wanted to maintain the same interface protocols, and did so in part by converting its internet banking channels from TCP/IP to web services.

The bank’s standard is to design all SOA services to have a SOAP over HTTP as well as a SOAP over JMS entry point. In addition, there is a legacy protocol in place, MQSeries. To lessen the impact on those client applications, the bank has built an MQ gateway in front of SOA services so that on the client side, administrators simply configure applications to point to a different MQ queue. Disruption to operations during the migration has been negligible. All new applications, however, and all new interfaces using those services, will communicate via SOAP standards.

OCBC launched its first SOA business service in 2006; within six months, the bank had 116 services in production—all of them reusable web services and 50 percent of them used by multiple service consumers. During the following 12 to 18 months, the bank planned to put 300 to 400 more reusable services into production and expected the number of services being used by multiple consumers to rise to 80 percent.

As part of the bank’s IT governance framework for its SOA service lifecycle, new services are evaluated prior to development by an integration competency center (ICC), consisting of a team of domain experts. “TIBCO assisted us in creating a set of framework documents, procedures and guidelines regulating how we would build and manage SOA services,” says Megargel. “In the service proposal phase of our SOA lifecycle, every service is reviewed to ensure it is reusable. Our goal is to make sure that 100 percent of SOA services going into production are reusable. If not, we use other means to do the integration.”

Achieving 100 Percent SOA Availability

OCBC’s SOA has enabled the bank to deploy a two-factor authentication system for increased security. When customers log in to the OCBC.com website, use the internet banking channel, their login requests are processed through the SOA. In fact, the bank is the first in the world to offer three forms of two-factor authentication. One is to use a primary password and is then sent a secondary password to enter. All these transactions pass through the TIBCO-based SOA in the back end, which is why the bank cannot tolerate any downtime on its SOA platform.

“Our SOA is the glue that holds all our applications together,” says Megargel, “so we require 100 percent availability. Since we went live with our first application in 2006, we’ve had 100 percent uptime.”

Alan Megargel, Vice President, OCBC Bank

application. And the third is to use SMS text messaging, where the customer enters a primary password and is then sent a secondary password to enter. All these transactions pass through the TIBCO-based SOA in the back end, which is why the bank cannot tolerate any downtime on its SOA platform.

“OCBC believes that integrating its SOA platform with its BPM solution is inevitable, and the bank sees that integration adding another dimension to its capabilities. “We expect our infrastructure to continue to play a major role in helping the company meet its New Horizons 2 objectives,” says Megargel. “The keys to our SOA success were having the right senior management support and the right project sponsor—in our case the CIO—forming the ICC, and selecting TIBCO as our technology partner.”

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