

BUSINESS INTEGRATION THROUGH SERVICE-ORIENTED ARCHITECTURE



“The Orbix product line offers the only end-to-end solution for a CORBA infrastructure in our environment, providing comprehensive integration for the OS/390 (MVS) platform. There is no need for us to dismantle our existing infrastructure to deploy on-line business opportunities. IONA enables us to leverage multiple technology generations in a flexible system, which ensures shorter development cycles and investment protection.”

- Stephan Murer, Chief Architect, Credit Suisse

BUSINESS PROFILE

CREDIT SUISSE

Financial services provider

INDUSTRY

Finance

IONA PRODUCTS

Orbix 3®

Orbix for OS/390™

BENEFITS

- Cost savings
- Reduced time-to-market
- Business systems consolidation
- High performance and scalability
- Centralized system administration



Headquartered in Zurich, Switzerland, Credit Suisse Group is a leading global financial services company. Credit Suisse Financial Services provides private clients and small and medium-sized companies with private banking and financial advisory services, banking products, and pension and insurance solutions from Winterthur. Credit Suisse First Boston, the investment bank, serves global institutional, corporate, government and individual clients in its role as a financial intermediary. Founded in 1856, the company has almost 150 years of experience, and operates in over 50 countries, and employs approximately 73,000 staff. In 2002, Credit Suisse reported total assets under management of approximately 870 billion euro.

Credit Suisse's IT infrastructure is based around the Credit Suisse Information Bus (CSIB). The CSIB is a service-oriented architecture (SOA) that provides access to core business applications, running mostly on mainframes. For this reason, the CSIB uses Orbix for OS/390.

CONSOLIDATING BUSINESS APPLICATIONS

In recent years, Credit Suisse's business systems have evolved to integrate emerging technologies with its mainframe systems, which are the backbone of the Credit Suisse IT

environment. Also, Credit Suisse has needed to standardize its hardware and software platforms. Its approach was to provide a consistent view of corporate data, and remove data duplication.

Credit Suisse wanted the ability to present core business applications as a collection of reusable business services. By publishing functionality and data in this way, Credit Suisse would be able to design new applications that could access business functionality through a documented interface, without needing to consider the platform or database on which it resided. The interface needed to be secure and reliable, and provide data access to a variety of new and existing applications. Credit Suisse required sub-second response times for tens of thousands of concurrent users. The interface needed to be highly available, and have the ability to be managed centrally.

“Our previous, proprietary middleware infrastructure was becoming difficult and expensive to maintain. As more and more platforms and technologies were used, the cost of its maintenance became prohibitive. We designed CSIB as an enterprise-wide infrastructure that would enable faster application integration through a service-oriented architecture,” said Martin Prater, Head of Common Middleware, Credit Suisse.

ACCELERATING APPLICATION DEVELOPMENT

The CSIB allows Credit Suisse to use its mainframe systems as business services, which can be made available to developers creating new user applications. Credit Suisse used Orbix for OS/390 to integrate the CSIB with its mainframe and UNIX business systems. As a result, its application development process has improved significantly. Orbix has enabled Credit Suisse to decrease the time-to-market of its applications dramatically, and so enabling it to offer its customers new services quickly and before its competition.

The CSIB went into production in May 1999. By the end of 1999, Credit Suisse had implemented five applications using 35 business services. At that time, there were only 800 users of the applications. Since then, the usage of CSIB has grown enormously. By the end of 2001, Credit Suisse had implemented over 50 applications, using 500 business services. There are approximately 15,000 internal users of applications relying on the CSIB. In addition, customers using on-line trading applications and e-banking applications are also generating transactions dispatched to the CSIB. The new applications generate 15 million service invocations each week.

This improved application integration process is due mainly to Credit Suisse's ability to reuse business service functionality across applications. Orbix ensures that each service has a well-documented interface, which is stored in a centralized repository. Services are re-used regularly up to four or five times and, in certain instances, twelve times. This reduces application integration time significantly because up to 80% of the services required by an application are already available to developers. The reuse of business functionality has led to significant cost savings in the development time of new applications.

THE BEST MAINFRAME CORBA IMPLEMENTATION

Credit Suisse developed its own integration infrastructure in the early 1990s based on IBM MQSeries™. This infrastructure connected a number of applications to Credit Suisse's mainframes. This proprietary infrastructure became difficult and expensive to maintain because Credit Suisse needed to develop

much of its own functionality, such as error handling and a naming service. It decided to add a CORBA infrastructure to complement the existing MQSeries architecture.

Credit Suisse had stringent performance and scalability requirements for the new architecture, so a mainframe-based solution was the preferred choice. It evaluated products from several other vendors, but chose IONA's Orbix for several reasons. Orbix had a native OS/390 CORBA implementation, with IMS and CICS adapters. It also supported PL/I, the language most commonly used in Credit Suisse mainframe applications. By now, IONA has a worldwide reputation for supporting business-critical applications. Credit Suisse realized IONA's strong commitment to Orbix and the CORBA standard.

"IONA's continued strategic commitment to CORBA is important to us. We were investing heavily in our architecture, so it is vital that we can have confidence in our CORBA vendor and implementation. Through its product and strong customer references, IONA proved that Orbix was the right choice," said Markus Tresch, Head Cross Platform Services, Credit Suisse.

SERVICE-ORIENTED ARCHITECTURE

CSIB was built using Orbix for OS/390 and the Orbix CICS and IMS adapters. Mainframe business services are exposed as well-documented interfaces in the form of CORBA IDL (Interface Definition Language). The services are usually PL/I applications that implemented as IMS or CICS transactions, sending the response back to Orbix and the application. User applications trigger a call to Orbix, which sends the request to the OS/390 and waits for the reply. Clients use OrbixNames™ to retrieve the locations of the services that they need to invoke.

IONA's Professional Services organization contributed to the success of the CSIB project. An IONA Professional Service consultant worked on-site with the Credit Suisse team for approximately 12 months to assist with the development of the architecture. Part of this work was to show how the existing services could be exposed as Web services.

Credit Suisse's use of Orbix to build CSIB has been very successful. The SOA has enabled Credit Suisse to consolidate its mainframe systems without disrupting user applications. It has also enabled the rapid development of

new applications through the reuse of existing business functionality. The architecture has positioned Credit Suisse to incorporate new technologies into its infrastructure, such as Web services.

"The CSIB is a major investment in our IT infrastructure. It performs a business-critical function, so we rely heavily on the performance and stability of Orbix to ensure that our business operates efficiently. With Orbix at the core of CSIB we have a platform to take advantage of future business opportunities and new technologies," said Mr Prater.

PRODUCTS

Orbix for OS/390 offers a set of mainframe-native application development and integration tools and services that make it easy to integrate mainframe systems—including new and existing COBOL, PL/I, IMS and CICS applications—with applications running on UNIX or Windows platforms. Orbix for OS/390 enables IT organizations to reuse the business procedures and business logic locked up in their mainframe applications, transactions, and data in a consistent and broadly supported fashion. IONA's product can also be used to make mainframe systems accessible to users or other systems across the Internet.

Corporate Headquarters

IONA Technologies PLC
The IONA Building
Shelbourne Road
Dublin 4
Ireland
Tel: +353 1 637 2000
Fax: +353 1 637 2888

US Headquarters

IONA Technologies, Inc.
200 West Street
Waltham, MA 02451
USA
Tel: +1 781 902 8000
Fax: +1 781 902 8001

Asia-Pacific Headquarters

IONA Technologies Japan, Ltd
SKI Akasaka Building
3-21-16 Akasaka, Minato-ku
Tokyo 107-0052
Japan
Tel: +813 3560 5611
Fax: +813 3560 5612

Sales: info@iona.com

FTP site: ftp.iona.com
www.iona.com

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