

Global Foreign Exchange Application Maintenance Support

Client Overview

The client is the world's leading provider of financial services to institutional investors. With \$15.3 trillion in assets under custody and \$1.9 trillion under management, the client operates in 26 countries and more than 100 geographic markets worldwide. Its broad and integrated range of services spans the entire investment spectrum, including research, investment management, trading services and investment servicing. In all of the markets that the client serves, it ranks among the top world wide service providers.

Business Drivers

The client's order management system could consolidate all foreign exchange order management and money market order functionality under a single system image. As per the business expansion and market changes, the client needed resources to provide system maintenance and support services while moving towards cost reduction and high quality delivery. Therefore, the client decided to move the maintenance and support work to China.

The key objectives for this project are:

- To ensure daily reliability, 6 by 24 hour availability, and optimum operating performance.
- To add new features for automating manual processes, new trading solutions, increasing clients, extending business, etc.
- To enhance or remove existing functionalities according to market changes, business rules change and trading policy revision.
- To support system upgrade, both hardware and software upgrade.

Project Challenges

The nature of the project and the complexity of the implementation presented Hengtian project team with the following challenges:

- Communication challenges between on-shore team and off-shore team considering time-zone differences and culture differences.
- Difficulty in understanding existing functionalities of the system due to lack of specifications and documents.
- The risk of breaking existing functionalities when implementing new features brings challenges for quality assurance.
- Apart from well-defined features, constant small new requirement changes during maintenance make requirement management even harder.

Solution/Methodology

Here lists some good solutions or methodologies proved from the project:

- **Outsourcing Model**

- 34 team members have or had worked off-shore to support the application maintenance in the past four years. Currently, 15 members are working off-shore on the project.
- Flexible and multi-channel communication approaches are adopted to ensure effective communication between the client and HT project team.
- **Application Development Technology**
 - It is built on J2EE platform, using different Java development technologies/frameworks, third party products, etc.
 - Reuse technologies are emphasized for similar components, and re-factor technologies are applied when existing design is not effective or beautiful.
- **Business Requirement Extraction**
 - Make use of existing documents to help understand application.
 - Adopt manual and automatic ways to catch business logics from codes.
 - Document the findings from code and update legacy documents to help continuous maintenance support.
 - Frequently confirm with customers about business requirements based on created/refined documents.
- **Integrated Testing Strategy**
 - Use functional testing and system testing to assure that maintenance actions do not break existing functionalities and that the system characteristics of the application are stable enough during maintenance.
- **Requirement Management**

There are two kinds of requirement formats in general:

 - 'Big' features: a standard release will be setup to manage them through a standard life cycle, and change request procedure is added to implement emergent changes during process.
 - Small and frequent changes: a central portal is setup (like issue manage tools) to include/exclude the changes and to track their status and information. Users, managers and engineers can use the portal platform to manage them together.

Achievements/Benefits

- Around 80%-90% of the maintenance and support work are done in China;
- Seamless extension of system capabilities with reduced costs;
- High quality and timely deliverables.

The system now supports:

- End-to-end flow of business, including Foreign Exchange Trading, centralized order management, and order routing to back-office;
- Hundreds of orders from 250+ external business clients;
- Different types of foreign exchange orders, such as limit order, benchmark order and market order;
- 1, 400+ users in 50+ departments of 14 sites (countries/areas);
- 15, 000 --30, 000 trades per week.

The Voice of the Customer

After a key release, clients passed their messages:

“I want to thank each of you for your hard work and dedication throughout the life of this project. The team encountered some very difficult and complex issues and constantly figured out ways around them. You worked through changing requirements, tight deadlines, and even survived a visit from me to the office in Hangzhou :). I am proud to work with you and appreciate all of your efforts in getting us to this important milestone.”

- By Client Project Manager.

“Please extend my thanks to all others on your team and the group in China who made this first step possible and so successful. “

– By USA Business Customer