

Securities settlement system of new generation

Client

TOP 10 largest investment bank

Business Area

Middle Office

Asset Classes

Equities

Summary

System is used by Investment Bank Equities department who are responsible for providing support on clearing and settlement, accounting and reporting of trading operations on the market. At the moment 4 teams in Luxoft who are working on different areas including existing markets migration, new functionality requested by operations implementation, integrations with other systems on Bank level. Some strategic goals include implementation of FX, FI, Prime Brokerage support.

Technology Set

- Oracle 10g
- Java/J2EE
- IBM MQ / Tibco MQ
- Spring framework
- Hibernate
 - JMX
 - XML
 - RTPP
- Grails & Groovy, GWT

Integration

Internal and external systems

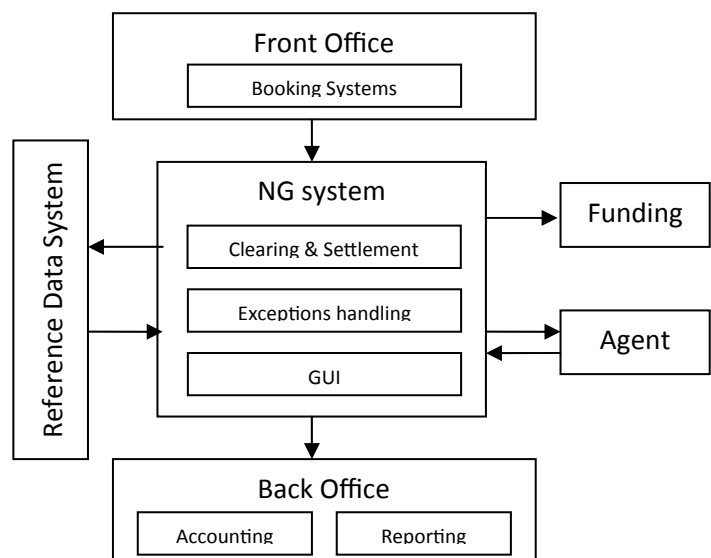
User Profile

IB Equities

Business Challenge

The goal of building new generation system is to eliminate a number of weaknesses of legacy Securities Settlement system which was not able to:

- to handle high market volume of operation,
- to be scaled up the solution
- show required performance
- provide competitive support cost



The Clearing and Settlement application is part of the application suite for the Change Program of the Securities Settlement Engine, a multi-year program.

Relationships Status

Fixed Price, Ongoing

Services Provided

Business analysis, development, QA, deployment

Team Size

25 + Luxoft team members

Duration

2+ years

The typical flow implemented within application suite: after receiving Trade from market or client booking system, NG creates Settlement to reflect situation in real world. To proceed with clearing and settlement system requests information from Reference Date Systems and creates SWIFT instructions to exchange with Agent system. Upon every operation there are a couple of reporting activities (Accounting – Back Office, Reporting – to regulatory institution, Funding – to reserve funds for operation). Exception handling mechanism provides ability for Operations Team to track and resolve possible issues over GUI.

The new solution consists of:

- A number of Straight-through Processing (STP) services providing confirmation, clearing, settlement and transaction reporting functionality.
- Accounting and Asset Servicing Solutions. Providing Operations Cash and Stock ledgers and support for Corporate Event processing.
- Reporting Architecture. Providing a scalable solution for reporting, Management Information and bulk interfacing.

This new application suite will eventually replace the existing Securities Settlement Engine and run on a low-cost, highly scalable infrastructure. This is in line with the strategic business challenge to deliver a scalable and convergent front-to-back infrastructure to support the increasingly high volume and commoditized securities business.

The solution supports processing for Cash Equities products and a limited set of related products for the moment. In future a number of other asset classes are planned to be supported.

Infrastructure and usage of the legacy system makes task of new solution delivery very challenging and complicated task. Since migration of the of required functionality still in progress delivery to production requires switching it off in legacy and enabling in new environment with appropriate messaging routing.

Luxoft Delivered Solution

From technical solution point of view Luxoft team was able to understand it and successfully obtain appropriate knowledge to join to the development in every short term. In the nearest future there are a number of remaining Markets, Client and Broker flows migration going to done. A lot of functionality from dynamically changing Product Owner backlog updated by end-users being implemented by the dedicated team.

From organizational point of view the team was facing a number of challenges to build sufficient communication model to work Distributed Scrum. In this area a lot of work was done and with appropriate solution build. The main point are:

Scrum agile development methodology in use

- Successfully Implemented Programme Style Scrum process
- Smoothly integrated to the regular Programme cross-component task distribution, development and releasing activities

Introduce release iterations

- 2-week iterations - Potentially deployable product every 2 weeks

The team incessantly improve processes and understanding of subject area in order to achieve its usual velocity and quality of development

- Regular Sprint Retrospections with ongoing improvements and knowledge transfers lead to continuous process improvement.
- During 10 Sprints Team went from fixing bugs to implementation business functionality involving all components of the application.

Automated delivery as much as possible

- Continuously implementing a user stories which are being released in to the Production

Test driven environment

- Team uses Company wide framework for automated and regression testing
- Team follows all main practices of continuous integration

Create Offshore Process Framework which allows easy joining of additional remote teams to activities on Project.

- The Framework can be used by other Bank departments as well as new customers to quickly start efficient development process on Agile basis.

Co-location of the majority of team members, use of virtual communication channels to increase team's efficiency

- Video conferences via Skype
- Use of Interactive White board
- LiveMeeting presentations

Benefits

New Generation System implementation allowed to achieve a number of benefits in different areas:

The solution is capable to scale to support

- 1M trades / day in Europe.
- Volumes resulting from subsequent solution extension to support US domestic & international and other geographies (Malaysia, Switzerland, Australia etc.)
- The solution must readily support key anticipated extensions, including:
 - Multi-depot functionality.
 - Extension to support new markets whilst maintaining a flexible generic process.
- Client segregation.
- Shortening of settlement cycles.
- Increasing levels of client self-service.

Componentization of the system reduces the complexity involved in making a change throughout the development lifecycle (from analysis through to regression testing) as the scope of the impact due to change is reduced. This reduction in the effort required to make and release change results in the ability to support an improved time to market.

The increased use of configuration of the system, rather than coding, also allows change to be introduced more quickly, as changes can be made at deployment time rather than requiring a full development lifecycle.

Support for timely delivery of change across a global environment is also provided by the ability to deploy concurrent, region- specific application versions.