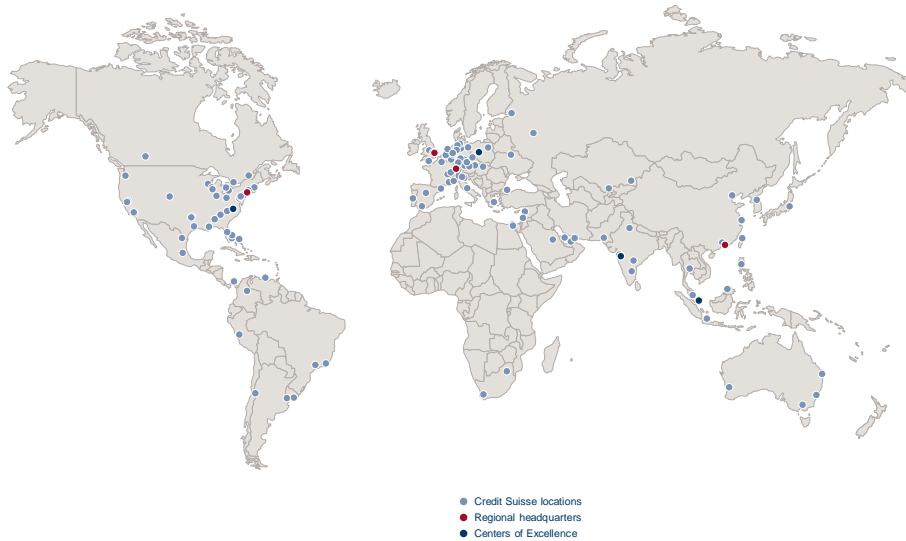




Topics

- Organizational Context
- Streetside Order Management and Routing
- Business and IT Driven Change
- Lessons Learned
- Conclusion
- Q & A

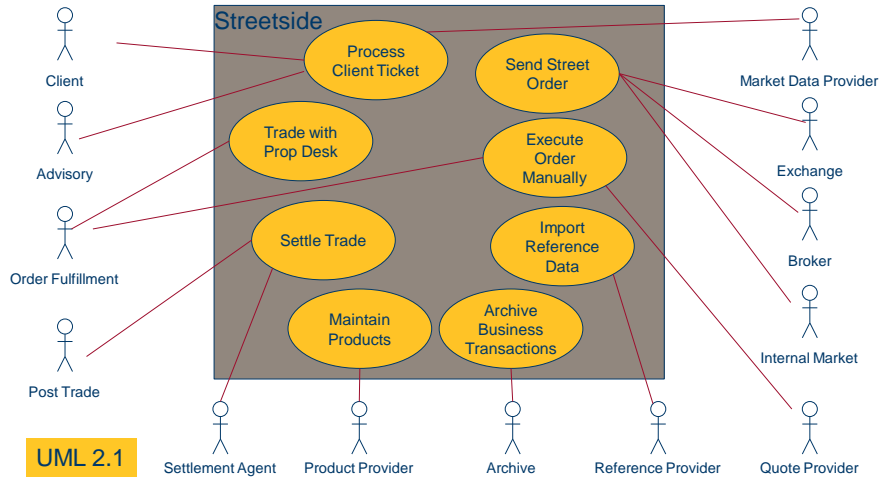
Credit Suisse



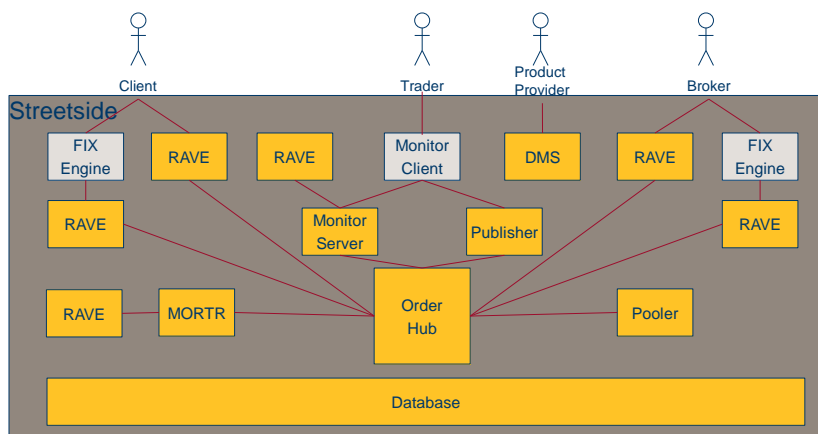
The Program



Functional Context



Communication



UML 2.1 MORTR – Mid Office Router RAVE – Rules and Validation Engine DMS – Data Management Server (RAVE)
All components access database, except FIX Engine and Monitor Client

Starting Point

- Legacy Replacement
- Leveraged existing CS application, AGORA
 - Disaster Recovery (-)
 - Compliance Checking (-)
 - Intraday Reporting (-)
- The original team decided to replace AGORA
 - In memory database with a relational database
 - New software component, the OrderHub.
- High personnel turnover
 - Collaboration, people and technical challenges
- Architectural Changes
 - Missed or partially implemented requirements e.g. throughput, service times, and availability
 - New, changed interfaces in support of pressing functional requirements
- Investment between USD 10-15 M a year

Business and IT Driven Change

Past

- Fixed income
- Derivatives
- New brokers and clients.
- Disaster Recovery (DR/BCP)

- Legacy dependencies
- Rewritten Pooler
- Decommissioned JCopy, TNS
- Reduction of comm. protocols
- Virtualization
- Benchmarking + COTS Logging
- Improved Scalability
- COTS Persistence layer
- Continuous Integration
- CMMI (Level 2 and 3)



Upcoming

- E-Ticket – Better support for telephone based trading activities.
- International location rollouts.
- Integration with Advanced Execution Services (AES)
- Securities Journal + Reporting
- Reconciliation

- Product Line Architecture
- Database & Hardware migration
- Source Configuration Management (SCM) system migration
- Integration: next generation client trading system and settlement system

People build systems

Interpersonal relations
+
Organizational relations



Affect Architecture



Time spent evaluating options ...

...is time well spent

- COTS Eval. Methods
- ADD™
- ATAM™
- Tools for
 - Analysis
 - Decision Making
- PLanguage



When producing design documentation ...

...focus on important stakeholders.

- Template Documents
- Stakeholder oriented Views
- UML Template Model
- CMMI



Have an architectural road map

- Vision
- Align tactics and strategy
- Reverse failure
- Accommodate change



What's in my roadmap?

Considers stakeholder priorities e.g.:

- Time to market on new features.
- Stability and throughput, then performance.
- Expect maintainability always

Each step consists of:

- Components and connectors view
- Component responsibilities/partitioning
- Important quality attributes - stakeholders.
- Estimates
- Technical dependencies

Example:

- I. Single protocol for asynchronous, synchronous communication - for maintainability.
- II. Multi instance capable/clusterable components – failover and throughput
- III. Commercial rule engine – maintainability, flexibility
- IV. Enterprise service bus for features like adaptors, routing – maintainability, scalability.
- V. Data access layer – performance through caching, scalability, maintainability.
- VI. Domain oriented components – maintainability, performance

Conclusion

Thank you.

- Organizers
- Audience



Q & A



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