

## Market Data Analysis System

### Client

A top ten global investment bank

### Business Area

Multi-asset class trading, Middle Office,

### Asset Classes

Equities, equity derivatives

### Technology Set

C++, Java, JMS, Java WS, J2EE (Monitoring tool implemented via Web Interface)

### Integration

Market data provider, portfolio management systems, trading, and risk management applications

### User Profile

Traders, Strategy Makers and Analysts

### Geography

Worldwide

### Relationships Status

Ongoing ODC, T&M

### Services Provided

Development, maintenance with production support

### Team Size

Two team members

### Duration

2+ years development and ongoing maintenance and support

### Summary

Design an application to pull real-time and historical equity and equity derivatives market data for time-series analysis and reporting to the bank's traders and analysts.

### Business Challenge

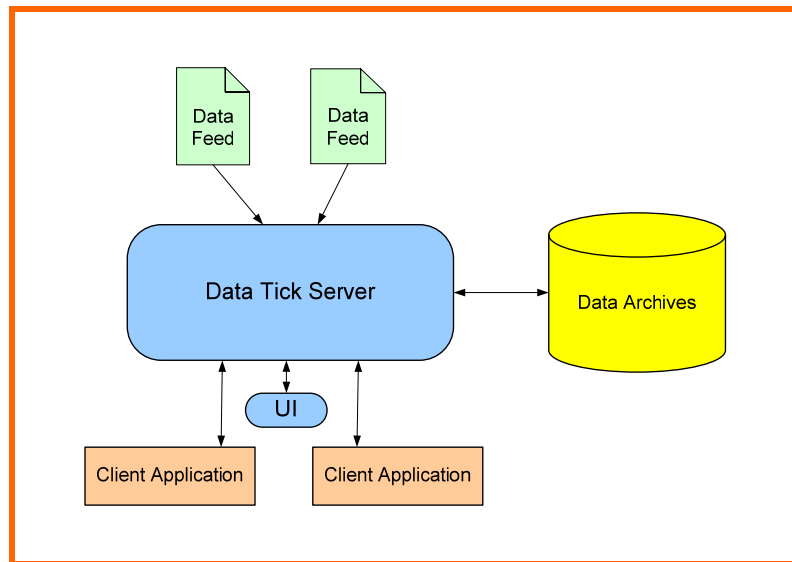
To improve tactical decision-making and to facilitate strategic planning, the bank initiated a project to develop an application to execute time-series analysis on equity and equity derivatives market data for import into their market analysis, trading strategy development, and portfolio management applications. The high-level requirements for the market analysis application were:

- Real-time capture of every tick from multiple exchanges
- Maintain an operational data store of historical quote and trade data
- Provide data filtration capabilities to remove unwanted data such as block trades, off-exchange trades, and auction trades from the time-series calculations and results
- Calculate multiple price-related values, including VWAP, TWAP and average spread
- Compliance with the highest levels of service in stability, performance and latency

### Luxoft Delivered Solution

Luxoft's experts in both the business and technical domains developed an application that met all of the business needs and provided additional capabilities to increase its value. The key features of the market data analysis solution include:

- High performance to deliver the data to the client systems within milliseconds
- A scalable system architecture that allows the application to grow along with the business
- The development of software adapters to allow painless migration to the new system without costly software changes in the interfacing systems
- New server instances provided low-latency data collection and processing for multiple exchanges
- A set of powerful, and easy-to-use system management tools to optimize reliability, performance, and stability
- Integration with numerous internal systems, including applications for algorithmic trading, portfolio management, manual trading, and risk management
- The development of powerful programming APIs for time-series calculations and market data queries



**Figure 1: Market Data Analysis Application**

## Benefits

Luxoft's solution provided the bank's equities and derivatives trading business with the following benefits:

- Improved and enriched capabilities to measure and predict trade activities
- Reduced costs through real-time integration between the exchanges and the bank's trading and portfolio management applications
- Significantly improved performance, stability, and latency in real-time market data retrieval while maintaining years of historical data
- A flexible, scalable system architecture to keep maintenance and support costs low
- Painless, low-cost migration to the new system
- System management tools to insure optimal system performance and reliability at the lowest cost

## Customer Feedback

Detailed feedback is available on request.