Bank Deploys Real-Time Analytics to Improve Trade Recommendations

Improving client satisfaction — and profits

Trading equities for private wealth clients requires the ability to quickly provide informed and relevant information to valued clients. When a wealthy client calls requesting stock purchase recommendations, traders often have only seconds to present insightful recommendations tailored to a client's unique needs and interests.

A major global investment bank sought to minimize the subjectivity inherent in this process by providing automated, personalized recommendations based on each profile as well as current market opportunities. By combining historical big data analysis with real-time personalization and analytics, the bank has been able to provide traders with instant access to trading recommendations personalized to a client's preferences, goals and portfolio composition to improve customer satisfaction, increase retention, reduce risk and maximize results for high-value customers.

VOLTDB

Addressing the need for personalized real-time analytics

In the past, traders primarily reviewed feeds from their Bloomberg terminals as well as other news and investment feeds, which made the process highly subjective. While the feeds provide real-time market data and high–level analytics, each broker had to rely on their own knowledge of the client's stock

preferences and historical trading activities. The bank sought to implement best practices for delivering trading recommendations by automating the delivery of relevant trade recommendations based on market conditions, investment analysis, portfolio goals and historical trading patterns.

By personalizing recommendations for each private wealth client, the bank sought to provide traders with clear options to present to clients, minimizing subjective trader decisions in favor of recommendations that reflected the goals

of the client, the risk/reward analysis of each recommendation and the profitability of the bank. The bank needed a massively parallel database architecture that could scale linearly across nodes while maintaining data consistency and high availability. After evaluating alternatives, the bank selected VoltDB to drive its personalized, real-time trading recommendations for its wealthiest clients.

VoltDB is the only in-memory database purpose- built to transform a business with fast data, or data in motion. It offers the speed and scalability of the best distributed data architectures, with the ease of use, familiar data models and transactional capability of traditional relational databases— but without the hefty price tag.

Real-time personalization of trading recommendations

VoltDB offers high-speed performance and the ability to process thousands to millions of discrete incoming events per second. It is a ground-up redesign of the traditional relational database architecture designed to run 100% in memory on scale-out commodity hardware. VoltDB combines the familiarity of SQL and the data consistency and reliability of traditional relational systems—but with none of the tradeoffs of NoSQL offerings.

The bank uses message queuing software to ingest real-time data into VoltDB, including:

- Stock quotes

- Financial news

- Internal bank positions in various equities

- Other internal proprietary data

The bank's proprietary trading application draws on the data in VoltDB tables to identify good trades for the client and the bank, which are then displayed on trader screens. When a high-net worth client calls and asks about an equity, the application analyzes the customer's historical information as well as real-time information being fed into VoltDB to automatically make stock purchase recommendations. The trader can then place the order if the customer approves, or offer alternatives the application has decided are more favorable to both the client and the bank. Once the information has been processed it is sent downstream to a data warehouse and to other subsystems to process and reconcile the transactions.

Implementing VoltDB to handle fast ingestion of data and perform real-time analytics has provided the bank with the ability to create applications that can make data-driven decisions on each event as it enters the data pipeline. VoltDB's combination of high-throughput, transactional consistency and stateful, durable data make it easy for the bank to write high-velocity request/response applications that automate trade recommendations.

VOLTDB

Streamlining stock trading recommendations

The bank implemented this real-time personalization solution in less than four months and now

provides traders with real-time equity trading recommendations. The bank traders use heat maps displayed on their monitors that combine real-time and historical data to automatically:

- Provide real-time trading recommendations for high-wealth clients

- Use intra-day data to personalize trade recommendations

- Minimize risk for both customers and the bank.

When private wealth clients call to discuss trades, the bank's proprietary applications automatically analyze over 25 data sources and generate a short list of trade recommendations. The bank has been able to leverage historical data and real-time feeds to provide traders with highly qualified equity buy- side recommendations while restricting traders from recommending stocks that are a poor fit with the client's goals and objectives.

In the past, recommendations were typically made by traders scanning multiple monitors to review the client's portfolio, goals and trading patterns. Today, traders make informed recommendations based on real-time analytics. The bank has improved service to its wealthiest customers while better managing risks and increasing profitability.

About VoltDB

VoltDB is an in-memory transactional database for modern applications that require the ability to manage data at unprecedented scale and volume, with 100% accuracy.

Unlike OLTP, Big Data, and NoSQL offerings that force users to compromise, only VoltDB supports all three modern application data requirements:

Millions — VoltDB processes relentless volumes of data from users, devices and sources.

Milliseconds — VoltDB ingests, analyzes, and acts on data instantaneously.

100% — Data managed by VoltDB is always accurate, all the time, for all decisions.

Telcos, Financial Services, Ad Tech, Gaming and other companies (including iOT technologies) use VoltDB to modernize revenue-critical applications. VoltDB was founded by a team of world-class database experts, including Dr. Michael Stonebraker, winner of the coveted ACM Turing award.