

Real-Time & Historical Market Data Storage & Analysis



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BUSINESS ISSUE

Increasingly complex quantitative strategies and the explosive growth of market data volumes are driving the need for efficiently integrating historical data with real-time analysis.

CAPABILITIES NEEDED

Both buy- and sell-side trading organizations need tools to:

- Rapidly develop algorithmic and quantitative trading strategies which run queries against both real-time market data and large historical data repositories
- Back-test trading strategy algorithms using virtual feeds of historical data
- Quickly deploy trading strategies and evolve those strategies as market conditions change

SOLUTION

The StreamBase Event Processing Platform™ and Vertica Analytic Database offer customers the ability to rapidly build algorithmic and quantitative strategies, easily back-test these algorithms against large amounts of historical data, and quickly deploy and evolve these trading strategies as market conditions change.

STREAMBASE AND VERTICA

The StreamBase Event Processing Platform™ allows firms to develop complex trading strategies in a fraction of the time it takes using custom development techniques. In an industry where rapid time-to-market is a key competitive advantage, this is a critical component of any successful trading infrastructure.

The integration of StreamBase and Vertica allows for comprehensive back-testing of trading strategies. Raw and aggregated time series data captured by the Vertica database is fed into StreamBase to identify the most effective trading strategies.

Once discovered, the most successful strategies can then be rapidly deployed in the live market using StreamBase. The result is a solution that combines StreamBase's ultra low-latency and high-performance complex event processing (CEP) platform with Vertica's enterprise class market data storage and analysis.

Once implemented in StreamBase, trading strategies can be changed on the fly to react to real-time market conditions. As trades are being made, StreamBase can

store results and keep a record of how your algorithms perform over time for benchmarking.

STREAMBASE CHRONICLE™

StreamBase solves the challenge of integrating streaming event data and historical data with StreamBase Chronicle™, a data storage interface component for optimal connectivity to high capacity databases and data warehouses such as Vertica. By simulating data feeds with historical data, StreamBase Chronicle™ can help quantitative analysts rigorously test real-time applications and find more opportunities for alpha.

StreamBase Chronicle™ is comprised of three elements:

- A bulk loader for moving data from the StreamBase Event Processing Platform™ to the high capacity database.
- A high-performance StreamSQL operator for real-time retrieval of stored data from within a StreamBase application.
- A high-performance feed simulator for back-testing algorithms against stored time-series data.

CUSTOMER STORY

BlueCrest Implements Innovative, Real-Time Market Data Management Infrastructure



BlueCrest Capital Management is a leading European hedge fund with over \$15 billion in assets-under-management and an award-winning reputation for combining ‘technology, diligence and innovation to produce the most efficient risk-taking possible’.

In 2007, just as the credit crisis was breaking, BlueCrest set up a team under Justo Ruiz-Ferrer, their Head of Trading Strategy Systems, to develop a state-of-the-art market data management system. BlueCrest trades 24 hours a day, six days a week, across multiple markets using a wide range of data feeds. As markets move day to day and week to week, BlueCrest needed to rapidly re-configure data feed connections and plug the data into real-time models while optimizing management of the necessary data feed licenses. BlueCrest devised a solution that combines the rapid time-to-market event processing capabilities of StreamBase with the instant storage and retrieval functionality of Vertica.

Today, BlueCrest’s market data management infrastructure aggregates fixed income, equities, FX and related derivatives, exotic commodities, energy, and alternative asset classes. It captures each tick and calculates real-time analytics, ranging from simple data like last trade price to complex event-based analytics like volatility surfaces or correlation signals with time windows.

The resulting system provides a firm-wide infrastructure to access, conflate, enrich, and distribute market data with minimal latency and assured compliance, in real-time.

Download the full case study at: www.streambase.com/bluecrest

HANDLING MARKET DATA

StreamBase has been deployed with all asset classes, including fixed income, equities, FX, derivatives, exotic commodities, energy, and alternative asset classes. Examples of out-of-the-box connectivity include:

- ACTIV Financial
- Bloomberg
- CameronFIX
- Currenex
- DirectPlus
- EBS
- EMS/JMS
- Hotspot FXi
- Lime Citrus
- Thomson Reuters
- TIBCO
- UBS FX
- QuickFix/J
- Wombat

STREAMBASE AWARDS



Visit www.streambase.com to view webcasts, download the StreamBase full-product trial and read white papers written by industry experts.

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Specifications

STREAMBASE SPECIFICATIONS

StreamBase offers a highly available platform designed for enterprise-class event processing.

Connectivity

- Activ Financial
- Bloomberg
- CameronFIX
- Currenex
- DirectPlus
- EBS
- EMS/JMS
- Hotspot FXi
- Lime Citrius
- Thomson Reuters
- TIBCO
- UBS FX
- QuickFix/J
- Wombat

Visualization

- Eclipse RCP
- Adobe Flex
- Java Swing
- .NET
- MS Excel
- SL RTView

Application Programming Interfaces (APIs) for C++ Java, .NET

- Client API: used for building adapters that connect input and output streams to StreamBase
- Custom Function API: extends StreamBase functionality by supporting custom-built math and aggregate functions

Enterprise Functionality

- Clustering
- High availability
- Multi-core enabled

Server Platforms

- Red Hat Enterprise Linux AS 4.0, 5.0
- Novell SUSE Linux Enterprise Server 10
- Sun Solaris 10
- Windows XP, Windows Server 2003, 2008

Development Platform

- Red Hat Enterprise Edition AS 4.0, or 5.0
- Sun Solaris 10
- Windows XP, Windows Vista Business, Windows Server 2003, 2008

BlueCrest
BlueCrest Capital Finance, LP

www.streambase.com/bluecrest

Watch a video interview with the Head of Trading Strategy Systems at BlueCrest

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