TIBCO StreamBase

BENEFITS

Rapidly build automated applications cost effectively

- Accelerated collaboration between developers and business stakeholders
- Enterprise-class event processing performance
- Detection of relevant and urgent business moments
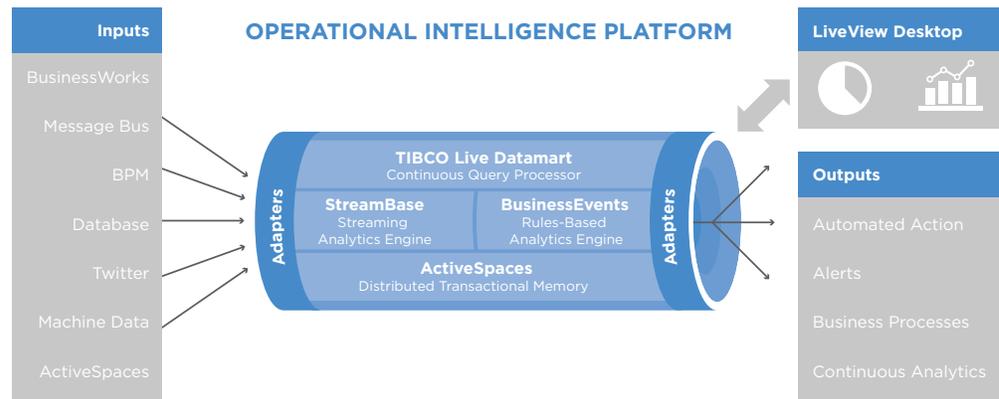- Option to add human-oversight to the automated fast data process

"Event-driven monitoring and fraud detection with StreamBase makes it easy for us to whittle 100 million trading events down to the few that matter and act in real time."

— Bruce Ostrover,
BNY ConvgeEx

AT A GLANCE

TIBCO StreamBase® is an industry-leading event processing platform for applying mathematical and relational processing to real-time data streams. It enables organizations to rapidly build and deploy event-driven applications for automated processes at a fraction of the cost and risk of alternatives.

TIBCO EVENT PROCESSING IN THE FAST DATA ARCHITECTURE

OPERATIONAL INTELLIGENCE PLATFORM

Inputs
BusinessWorks
Message Bus
BPM
Database
Twitter
Machine Data
ActiveSpaces

Adapters

TIBCO Live Datamart
Continuous Query Processor

StreamBase
Streaming
Analytics Engine

BusinessEvents
Rules-Based
Analytics Engine

ActiveSpaces
Distributed Transactional Memory

Adapters

LiveView Desktop

Outputs
Automated Action
Alerts
Business Processes
Continuous Analytics

TIBCO STREAMBASE CAPABILITIES

TIBCO STREAMBASE STUDIO – ACCELERATE COLLABORATION IN APP DELIVERY

TIBCO StreamBase Studio™ is a powerful Eclipse-based integrated development environment for DevOps and other IT developers to quickly build applications, as well as deliver fast-paced, incremental releases for streaming analytics.

Using the industry's best graphical language, EventFlow, TIBCO StreamBase Studio makes data visible and externalizes control over data modeling decisions. Business stakeholders can change the behavior of automated systems without having to rework the code. Integrating fully with R and TIBCO® Enterprise Runtime for R (TERR) , it also allows rapid implementation and iteration on mathematical models.

With these capabilities, your developers and business analysts can collaborate more effectively than they would with any other event processing platform on the market. Compared to traditional programming, TIBCO customers have reduced time-to-app-delivery by 3–5 times with StreamBase Studio.

TIBCO STREAMBASE LIVEVIEW SERVER – ENSURE ENTERPRISE-CLASS EVENT PROCESSING PERFORMANCE

TIBCO StreamBase LiveView® Server is a multi-threaded event server that can be optimized for processing real-time streaming event data to meet your requirements. It includes tools to build features for improved performance against latency and throughput. You can also design and build failover for high availability.

Applications built in the StreamBase platform server are compiled into Java bytecode at runtime. This improves real-time responsiveness to changing conditions in nanoseconds despite the upsurge in data size and complexity. EventFlow also allows you to add concurrency and multiplicity to your application to increase scalability.

CONNECTIVITY

GENERAL MESSAGING
- Apache® Kafka™
- RabbitMQ
- TCP/IP
- TIBCO Enterprise Message Service™
- TIBCO FTL®

HISTORICAL DATA
- Apache Avro™
- Apache Cassandra™
- Apache Hadoop®
- Apache HBase™
- Apache Parquet™
- HP Vertica
- JDBC
- Microsoft SQL Server
- MySQL
- Oracle
- TIBCO ActiveSpaces®

STATIC DATA
- CSV files

INTERNET OF THINGS
- MQTT
- OSiPi
- WiTSML

MODELS
- Apache Spark™ ML
- H2O
- PMML
- R

CAPITAL MARKETS: MARKET DATA
- Active
- Bloomberg
- CME
- Exegy
- MB&FBOVESPA

CAPITAL MARKETS: EXECUTION
- Bloomberg
- CME
- QF/J
- StreamBase FIX

CAPITAL MARKETS: ASSET CLASS SPECIFIC
- Deutsche Bank autobahnFX
- Currenex
- GAIN GTX
- Hotspot

Numerous financial institutions, including those with an average trading volume of tens of billions of dollar a day, have adopted TIBCO StreamBase to win in the extremely intense capital markets. Energy companies depend on StreamBase to avoid very costly exploration and production equipment failure in real time. Retailers use StreamBase on Black Friday, the single biggest sales day of the year.

PRE-BUILT ADAPTERS – ACCELERATE DETECTION OF RELEVANT AND URGENT BUSINESS EVENTS

The TIBCO StreamBase platform comes with pre-built adapters and visualization options to connect with real-time and historical data sources. Data connectivity to more than 150 integration points allows developers to easily and quickly increase data volumes for comprehensive input without custom development and integration.

This robust connectivity improves your ability to detect relevant and urgent business events. It allows you to effectively hone in on the most critical business moments you need to act on in real time.

TIBCO LIVE DATAMART – ENHANCE FAST DATA PROCESSES WITH HUMAN OVERSIGHT

TIBCO® Live Datamart is the first analytic datamart of its kind that processes information in motion. Built on top of the StreamBase platform, it adds business-focused operational intelligence with visualization and alerts based on reactive queries that automatically update and push new results when data changes.

TIBCO Live Datamart allows business stakeholders responsible for configuring and managing automated decisions to see what is going on. Organizations that are not yet ready for full automation can create a more human-centric process.

TIBCO COMMUNITY – MAXIMIZE YOUR INVESTMENT

TIBCO provides training, certification, and forums to empower your developers to build and expand use of event-driven applications built on TIBCO StreamBase. You also gain access to more than a hundred reusable components using TIBCO Component Exchange. TIBCO has a strong global support network; You can find certified StreamBase developers on six continents.

USE CASES

TIBCO StreamBase can be used to develop streaming analytics applications in any industry:

- *FSI:* Algorithmic pricing and execution, foreign exchange (FX) trading, market data management
- *Retail:* In-store promotions, campaign optimization, real-time inventory tracking, fraud detection
- *Entertainment:* Zero-latency betting, decision support over concurrent games, online fraud and phishing detection
- *Telecommunication and Networking:* Real-time SLA management, network monitoring and protection, fraud detection
- *Transportation and Logistics:* Flight operations, train-to-shore communication, passenger experience management, parcel tracking, route optimization
- *Energy:* Production, fuel exploration, predictive equipment maintenance
- *Manufacturing:* Process optimization, order-to-inventory management, supply chain monitoring
- *Healthcare:* Patient flow monitoring, bed inventory management, procedure optimization, real-time disease detection
- *IoT:* Airline operations, locomotive operations, connected cars, smart homes

PLATFORMS AND STANDARDS

STREAMBASE STUDIO DEVELOPMENT ENVIRONMENT:

- 64-bit Mac OS X 10.7 Lion through 10.10 Yosemite
- 64-bit Windows 8.x Professional, 7.x Professional, Vista Business
- 64-bit Windows Server 2012, Windows Server 2008

STREAMBASE STUDIO:

- 64-bit Red Hat Enterprise Linux Advanced Platform 5
- 64-bit Red Hat Enterprise Linux Server 6
- 32-bit Windows

STREAMBASE SERVER:

- 64-bit Solaris 11
- 64-bit Red Hat Enterprise Linux Advanced Platform 5
- 64-bit Red Hat Enterprise Linux Server 6
- 64-bit SUSE Linux Enterprise Linux Server 11

SUPPORTED STANDARDS:

- APIs and programming languages
  - Plug-in APIs
    - Embedded Adapter/Operator (Java, C#/.NET)
    - INVESTMENT/JMS Message Converters (Java)
    - Functions: Simple and Aggregate (Java, C++)
  - Clients/External Adapter API (Java, C++, C#/VBA/.NET, Python)
  - Embedded Server API (Java)
  - Unit Test API (Java)
  - Monitor API (Java)
- Big data integration: Hadoop Flume
- Security: LDAP, SSL

CASE STUDY

ENERGY: PREDICTIVE EQUIPMENT MAINTENANCE

In the oil and gas industry, downtime caused by equipment failure can be very costly. For example, an hour of downtime for an electric submergible pump can cause revenue loss at $1,000 in oil production. The same goes for exploration drill downtime.

TIBCO StreamBase facilitates an automated action that can mitigate risks in real time. As opposed to historical analytics that provides dashboards with information too late to be acted on, predictive analytics can detect anomalies as they happen, allowing insight and action that can prevent equipment failure.

In a typical day of fuel production, this insight, "… results in $100M of additional bottom line revenue per year," says the VP of drilling operations at a major company. An executive at another firm asserts, "There's amazing insight in all that sensor data. With TIBCO, we can now do something about it while it matters. This is state-of-the-art drilling operations."