

## Partnering with StreamBase to Drive Fly-By Analysis of Real-Time Data

VSTI Helps Several Defense & Intelligence Agencies Ensure Critical Data Doesn't Fall on the Floor

"StreamBase is a breakthrough technology that allows organizations to process and analyze huge data volumes and ensures that critical information doesn't drop on the floor. We're looking forward to helping our clients realize the tremendous business value behind adopting StreamBase as their core method for leveraging streaming data."

— Dr. Carol Lundquist, Senior Scientist, VSTI



### Goals

- Provide fast manipulation/querying of data for rapid business decisions
- Manage large back-end database queries coupled with auto-alert queries on incoming data
- Seamlessly integrate traditional RDBMS querying systems with stream processing
- Significantly reduce latency across multiple applications

### Achievements

- Achieve near-zero processing latency on incoming data to ensure real-time business decisions
- Auto-alerting of critical incoming data in real-time for quick identification of threats and opportunities
- Shortened development cycle to increase efficiency and effectiveness of IT resources

### About Vision Systems & Technology, Inc. (VSTI)

Vision Systems & Technology, Inc. (VSTI) is an Information Technology company that provides innovative technological services. The firm's core focus areas are Software & Systems Engineering, Information Assurance, Management Consulting, Customer Relationship Management, and Commercial Product integration. VSTI specializes in delivering comprehensive, best-of-breed solutions for our customers by leveraging established partnerships with commercial vendors and strategically aligned service-providers. For more information, visit [www.vsticorp.com](http://www.vsticorp.com).

### The Challenge

VSTI was facing a variety of issues on behalf of its customers, including the need to efficiently monitor, store, and query large quantities of data. In fact, some of their clients were being flooded with data and their current Oracle-based systems were struggling to keep up with the deluge - in one instance, a government system needed to load 1 billion records daily. As data volumes increased, the challenge moved beyond simply data loading – VSTI needed to help clients process incoming data more efficiently with a stream processing capability that could discern high-priority information from irrelevant data. VSTI realized that they needed a scalable, reliable, and cost-effective approach that could assess the content of incoming data, provide real-time alert triggers, and offer complementary value-added capabilities to the existing back-end RDBMSs that stored vast quantities of historical data.

"If a query involves a number of IT systems, a great deal of processing needs to be introduced across entire networks," explained Bryan Harris, CTO of VSTI. "If done right, in-memory caching can ease resources on the entire network, but it doesn't help streaming needs. What we needed is a combination of back-end and in-memory databases and streaming technology that would create enormous benefits across our entire network."

VSTI began looking for a solution that would complement important back-end databases and in-memory databases while adding efficiency to users on the front end – and entire networks. Stream processing became a clear necessity – solving sorting, alerting, and storage issues, all while reducing taxing query demands across various IT systems.

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# Driving Fly-By Analysis of Real-Time Data with StreamBase

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“Because so many of our government and other customers are being flooded with ever-increasing mountains of data, StreamBase’s ease of use and flexibility makes entire organizations more efficient and effective.”

— Bryan Harris, CTO, VSTI



## Business Value & Results

VSTI has developed a fully-integrated StreamBase demonstration in its Advanced Solutions Lab to help prospective clients better understand the extensive performance and analytic capabilities StreamBase can bring to their organization. As part of the prototype, StreamBase is being leveraged to identify documents (in the form of unstructured data) containing particular keywords – in real-time. Additionally, they have integrated the StreamBase instance with another application, AgentLogic, which automatically distributes relevant alerts across various systems. StreamBase not only streamlines the processing on incoming data, but has dramatically removed the fatigue and stress that IT systems often face when queries on huge volumes of data are being processed.

VSTI clients who use StreamBase include many organizations managing large quantities of data, whether structured records or unstructured text. Users can establish search criteria and – as StreamBase analyzes the data – they are alerted to relevant information based on pre-established criteria.

“As soon as a target profile is added into a table, StreamBase recognizes it immediately, allowing end users to manipulate data in a manner that previously required costly low-level coding by software engineers,” said Harris. “Because so many of our government and other customers are being flooded with ever-increasing mountains of data, StreamBase provides a critical capability to assess the content of in-flight data and respond accordingly, resulting in improved efficiencies of network, application and database resources.”

Currently, many VSTI clients and potential users are running systems that can handle the large quantities of data required. However, if new files run through StreamBase before hitting the database, StreamBase can sort through the low/high priority data enabling downstream data loading processes to load higher priority data first. In this manner, StreamBase complements traditional back-end RDBMSs and in-memory databases by assessing the value of incoming data prior to storage, rather than running resource intensive batch queries against terabytes of historical information after the data has been loaded.

## Why StreamBase

Harris led the due diligence process for selecting the right vendor that could address the pain associated with processing, analyzing, and reacting to high-volume data with near-zero latency. During this extensive process, he found StreamBase Systems and quickly realized that the StreamBase’s solution was a breakthrough software for high-performance Complex Event Processing (CEP). VSTI decided to assess StreamBase.

“Throughout our evaluation, we saw that while many similar solutions simply move data into memory for querying, StreamBase allowed the information to be analyzed in real-time, solving many of our data storage and subsequent data manipulation issues,” stated Harris.

Because StreamBase provides an in-flight query layer via StreamSQL, much more efficient and user friendly analytic solutions can be developed. Harris learned that StreamBase could filter their incoming data, allowing automatic alerting of critical business information to analysts, and then forward to traditional storage systems for future queries and analytic reporting. In addition, with StreamBase, VSTI can also deliver prioritized sets of data organized into target relevant data and non-target relevant data, dramatically reducing the time-to-benefit and significantly increasing data transparency for analysts who are tasked with time-sensitive operations and pattern matching.

## StreamBase Locations

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