Truviso's Streaming Views Aid Hedge Fund's FX Trading

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NEW YORK — When **FX Concepts**, a $13.5 billion hedge fund specializing in foreign exchange, needed a handle on real-time streaming tick data, it turned to the streaming engine within the data analysis tool provided by **Truviso Inc.** whose software helps analyze large volumes of enterprise data to serve capital markets, foreign exchange and algorithmic trading needs.

"Truviso has some very clever things built into it, such as aggregation," says Kelly Adams, Chief Technology Officer of FX Concepts. "You can pretty easily write real-time aggregation routines to incorporate into your modeling environment. Truviso was just a good product for us because it specializes in this aggregation."

Truviso achieves "slicing and dicing" analytics of data by using SQL, according to Adams, without "the massive hurdle of a proprietary structure or language in a relational database."

"[Truviso] enables us to do a lot more granular research and observe how our fills are going," adds Adams. "We learn a lot about how our executions happen on the electronic platform. It's a microscope that lets us see what's going on. From there, we can make our own decisions on how to better execute."

In November 2007, **Hotspot FX**, which operates a spot foreign exchange ECN, began a partnership with Truviso to develop an ultra-low latency, algorithmic trading solution for FX traders. In February 2008, Hotspot and Truviso

had reached the early stages of rolling out their combined offering to clients. "The combined offering of the two platforms furthers the requirements of all organizations," says R. Keith Lite, Head of Business Development at Hotspot FX. "Algorithmic trading is beginning to take a foothold in our space. As much as third of the ECN platform business is now done by algorithms. But algorithms in FX mean something very different than in equities."

Algorithms that traditionally work for equities have to be fine-tuned for use in FX trading. "We encourage participants in the FX market to categorize algorithms in independent groups, with trial and error, because liquidity in the FX marketplace is very different from other asset classes," says Lite.

Truviso, as a processor of adaptive queries, uses a SQL database which is common in the marketplace and therefore easy to integrate, according to Lite. "Truviso also developed an extremely intuitive set of visualization tools," he says. "Hotspot pioneered FX trading in an ECN world and is known as a major source of liquidity for FX spot prices globally. We have the type of execution venue where algorithms complement trading strategies and vice versa because we're an anonymous, electronic system and fill executions in 10 milliseconds or less.

"If you put together these capabilities of Truviso and Hotspot, that's a very powerful offering, bringing the best of

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those complementary benefits to a trader or strategist who's looking at FX markets as an asset class," adds Lite. "They can look at Hotspot as an execution venue, using Truviso's tools and database." Hotspot is also contributing its historical data archive to the joint offering, notes Lite.

Truviso was established in 2005 and began forging partnerships during 2007, including collaborations with **Reuters, Tervela** and **GoldenGate Software,** making its tools available through more avenues. The business intelligence space it has entered is a $60 billion market, according to Boyd Pearce, President and Chief Executive Officer, who joined the company in those roles in February 2007.

GoldenGate, a provider of real-time data integration services, teamed with Truviso in September 2007 to offer real-time data extraction and continuous visibility, analysis, and proactive decision-making capability.

"The quality of an enterprise's operational business intelligence relies on its ability to convert streams of database transactions into relevant business events," says Tim Rathbun, Executive Vice President, Business Development and Marketing, GoldenGate Software. "The bundled solution delivered by GoldenGate and Truviso allows enterprises to continuously query in-flight data while it is still in memory, rather than repeatedly polling the database which adds significant latency and overhead. For the first time, companies will have real-time visibility into any event in any system across their extended enterprise, along with the ability to analyze and act on that information within increasingly tight decision horizons."

The joint bundled solution will perform low-latency functions such as event monitoring and exception handling. The solution will simultaneously perform complex analyses of hundreds of concurrent queries to find trends, exceptions, sequences, correlations and other business events of interest, as they occur.

The bundled solution is designed for low-latency applications, such as event monitoring and exception handling, which require continuous analysis of large volumes of heterogeneous data. It simultaneously performs complex analyses that can involve hundreds of concurrent queries, looking for trends, exceptions, sequencing, correlations, or other interesting business events as they happen.

"Until now, much of the crucial information needed for real-time event processing was trapped in traditional databases," explains Michael Franklin, Chief Technology Officer of Truviso, and Professor of Computer Science at **University of California at Berkeley.** "By teaming with GoldenGate, we can offer our mutual enterprises in financial, telecommunications, retail, and other sectors a robust solution that can access data anywhere in the enterprise."

Truviso set out to emphasize real-time data services, explains Pearce. "It's always ready so when you need it, you don't have to submit a query, punch a button or wait 20 to 30 minutes, or have someone say you can't run a report now because they're too busy," says Pearce.

Users of Truviso can optimize decisions, knowing what happened at what time, and are able to look back for root causes or events that led up to another. "Optimizing your decisions where you can act on them in real time is something that didn't exist until this technology from Truviso," says Pearce.

With its real-time SQL query and its visualization engine, Truviso users can put data back on message buses, route orders and use algorithms as they wish, according to Pearce. "You can watch the market move, see where orders are placed, see how your algorithm is trading, look at the volatility and volume in the market, and bring all that into your trading decision in that application, or in your optimization where you're looking at what's going on now to do something that's better than what you would if you only had yesterday's data," he says. ❑