



BOLSA DE VALORES DE COLOMBIA (BVC) is the principal electronic stock exchange in Colombia

Industry: Financial Services
Geography: Latin America

Deployment Summary

- BVC is using TIBCO software to integrate key systems including derivatives and equities trading, internal back-office clearing and settlement, central counter party, information vendors, central security depository, and various back-office systems.
- New functionality supports direct market access, which permits the exchange to bring international liquidity to the local market.
- BVC has deployed 38 of 70 planned services.

Benefits

- Efficient internal and external process integration with common open standards
- Reduced time to market by eliminating multiple interface efforts for each application and by reusing services
- Standardized FIXML interface capability with external entities enables ease of integration with third parties



“We looked at several well-known vendors and chose a comprehensive industry-proven software solution that was flexible enough to support the integration of off-the-shelf and custom-built applications that are particular to our business, as well as create a foundation for an event-driven SOA environment.”

Jitendra Puri, CIO, Bolsa de Valores de Colombia



Enabling Real-Time Information Flow in Trading Operations

The Colombia Stock Exchange (Bolsa de Valores de Colombia) is using TIBCO software to power its messaging, integration, and service-oriented architecture (SOA). The initial goal was to integrate core exchange technologies with internal and external back-end legacy systems and to set the stage for efficient creation and re-use of services. After 18 months, the company had deployed 38 of 70 planned services.

Bolsa de Valores de Colombia (BVC) is the main electronic stock exchange in Colombia and the first exchange in Latin America to leverage a service-oriented architecture. Offerings include:

- Trading (electronic trading of fixed income, equities, and structured derivative instruments; electronic forex (dollar/peso) trading)
- Clearing and settlement operations for equities and fixed income trades
- Instrument valuation services
- Market data information

Business Challenge

BVC needed to reduce time to market by reducing integration complexity between internal and external entities including central securities depository (CSD), central counter party (CCP), brokers, the central bank, regulators, and information vendors.

“Speed is of great significance,” explains Jitendra Puri, CIO, Bolsa de Valores de Colombia. “Every millisecond counts. What we wanted was an environment where we could get things done very quickly. We were launching into the derivative market and it involved interaction with a new central counter party. If we had used a traditional point-to-point integration approach it would have created more spaghetti in the architecture, which we didn’t want for both strategic and efficiency reasons. This was the motivation for embarking on a more strategic approach to integration.”

Specific integration needs included:

- Ultra high speed routing of orders from brokers to the trading platform
- Ultra high speed market data information transmission to customers
- Near real time transmission of trades to internal and external systems for clearing and settlement

“For this to happen, we needed high speed data transformation and messaging transport capabilities,” says Puri. “We also wanted to reduce the average time to market by leveraging existing services through an SOA infrastructure.”

Business Benefits

By moving to an SOA infrastructure, BVC has been able to reduce time to market and development cost by eliminating multiple interface efforts for each application. With 38 of 70 planned services already in place, BVC has streamlined some of its key business processes and can offer existing and future process integration services to as many subscribers as necessary using industry standard protocols such as FIX, SWIFT, etc. Other benefits include efficiencies in service development, testing, and future maintenance.

"There was a bit of skepticism at the beginning," says Puri. "The executive team didn't perceive the full benefits of adopting SOA until we went live with automatic order routing and seamless integration of the processes in the first phase. After a year and a half, the organization now appreciates the flexibility and simplicity inherent in SOA. We are now more prepared to enable business capabilities that will help us differentiate and more easily introduce new services to the market."

Using TIBCO software, BVC has integrated the following systems:

- Derivatives and equities trading
- Internal back-office clearing and settlement
- Central counter party
- Other back-office systems including guarantees
- Information vendors

In the new set-up, once an order is executed at the exchange, order execution information flows in real time from internal systems to the clearing house via the integration bus. Using FIX protocol, BVC can receive orders directly from the

brokers and stream market data to external entities.

BVC has not yet quantified the return on investment, but is seeing improved response time and flexibility. "With our previous infrastructure if you planned to integrate five applications and later discovered you had to integrate a sixth with the same requirements, you were in a big stew," says Puri. "With our new infrastructure, we can use the same services to quickly integrate the sixth application rather than spending three months trying to integrate the additional application."

TIBCO software has enabled BVC to deploy the following new functionality:

- Provide real-time market data feed through standard FIXML access
- Direct market access for brokers to send orders to the trading system
- Ease and speed of integration between all existing and new processes (internal and external)

For example, one of the largest brokers in Colombia offers an online platform similar to eTrade that is connected directly to BVC's TIBCO-based platform via the enterprise service bus using FIX protocol. This type of connectivity can easily be extended to other broker platforms.

SOA implementation requires a 180-degree change in mindset. "We are beginning to see that sound technical decisions and sound business decisions are the foundation of everything we do," says Puri.

An unexpected outcome of the SOA initiative was greater involvement from the business side in building solutions.

"I'd say 99% of the people in the company know what an ESB is," says

Puri. "They initially thought of this as an infrastructure project, where we would be integrating certain processes from application to application. But as a result of providing FIXML access to external brokers, whereby they can send orders onto a trading platform, the business is beginning to understand the strategic importance. If we need to open our markets and go to direct market access to bring international liquidity to the market, we would need the SOA in place."

BVC expects to deliver all trades in a few milliseconds when its business grows and large volumes are traded in its electronic derivatives exchange.

Why TIBCO

BVC chose TIBCO based on a proof of concept that reduced an initial field of nine qualified vendors to three. "We were looking for a vendor who could help us develop what we needed very quickly and provide adequate technical and industry support all the way."

"The final three had great products, but a technically superior product is not the only consideration," says Puri. "During the proof of concept, TIBCO's top management demonstrated their commitment to BVC and their product required less effort than the competition. We were very impressed with TIBCO."



TIBCO Software Inc. (NASDAQ: TIBX) technology digitized Wall Street in the '80s with its event-driven "Information Bus" software, which helped make real-time business a strategic differentiator in the '90s. Today, TIBCO's infrastructure software gives customers the ability to constantly innovate by connecting applications and data in a service-oriented architecture, streamlining activities through business process management, and giving people the information and intelligence tools they need to make faster and smarter decisions, what we call The Power of Now®. TIBCO serves more than 3,000 customers around the world with offices in more than 20 countries and an ecosystem of over 200 partners. Learn more at www.tibco.com.

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