

How FpML Mediator Made Order Out of Chaos

FpML**MEDIATOR**

An Investment Bank Addresses Internal Reconciliation Challenges

In 2004, a major investment bank and derivatives dealer contracted Global Electronic Markets LLC to provide a licensed version of FpML Mediator to help resolve data inconsistencies between internal systems that maintain positions of OTC Derivatives.

The bank had evaluated solutions from large software firms, specialized firms, and its own internal resources, but selected FpML Mediator - the only FpML-based product designed to reconcile these types of instruments. Most importantly, FpML Mediator met all of the bank's performance requirements and had the ability not only to support current internal reconciliation needs, but also to address future external reconciliation applications.

This Case study provides insight into how one bank decided to make internal reconciliation its first goal, then found a product that met its requirements and experienced immediate benefits.

Internal Mismatches Created Operational Risks

The bank featured in this paper is a leading financial services group with operations in Europe, North America, and Asia. Their global trading business centralized its front office system and back office operation systems in two different cities. Ever wary of operational risks, the firm had implemented a Straight Through Process (STP) to capture and deliver trade details to each system.

According to research from the International Swaps and Derivatives Association (ISDA), this bank was ahead of the industry by implementing STP between its front office and operations: In the 2003 ISDA Survey, 58% of respondents said they planned to increase this type of operation, but the actual change from 2003 to 2004 was only 4.3%.

In a perfect and less complex financial world, STP would have eliminated all internal mismatches for these types of trades, and the firm would have been able to confidently grow its trade volume without fears of operational risks. However, as participants in this market recognize, the typical processes are less than perfect, and even a simple IRS trade can have hundreds of legal and economic terms that could be subject to errors. A 5-year Interest Rate Swap (IRS) with quarterly pay, for example, would have 20 payments, and would remain on the position systems for the life of the agreement.

After implementing STP solutions, the bank found that the two internal offices still could not consistently and systematically reconcile exposures, scheduled payment dates, and payment amounts. Operations and front office staff had the onerous tasks of identifying the mismatched trades from inventories consisting of more than 100,000 trades and determining which side had valid terms.

After identifying the root causes of data inconsistencies (see box to right), the bank decided to seek and implement an FpML-based solution for trade reconciliation, in part because they had prior success in using FpML for a swaptions STP project.

The bank selected internal consistency for IRS as their first goal, followed by trade-matching for Credit Default Swaps (CDS) and FX trades. Once the internal positions for these derivative classes became aligned, the next step would be reconciliation with external trading partners and service providers. Consequently, the bank wanted a solution that would work well in both internal and external scenarios.

Limited Alternatives

With a set of detailed requirements in hand, the bank performed a thorough analysis that included an evaluation of building internally versus licensing a solution from a vendor. As part of the evaluation process, the bank established risk and cost as key decision criteria and set an aggressive time schedule for completion. Given this constraint, the bank determined that it would be less risky to seek an existing solution from an outside party than develop a new custom solution.

As with many financial institutions, this bank had allocated many of its best technology resources to revenue generating projects that differentiate the bank, such as ones for pricing and risk management. Moreover, the bank was not confident that existing reconciliation solutions developed by its internal staff could be adapted for FpML reconciliation without substantial new development.

The bank estimated that an outside solution would have a comparable cost to that of an internal solution, but would introduce less risk if it was already available and could meet the bulk of the bank's requirements without any software programming changes. A post-project analysis of all-in costs might indicate that an internal solution would actually have cost more, but even without that knowledge the bank had decided to look externally.

The front office and operations staff prepared a detailed Request for Proposal that outlined requirements for functionality and performance, and required that the vendor immediately demonstrate the ability to fulfill the requirements. For example, the bank required that the software process 10 trade pairs per second. A number of well-known providers participated in the process, but only **FpML Mediator** adhered to all of the criteria, including the bank's stringent performance requirements.

Search Over - Begin Reconciling

FpML Mediator provides automated trade matching and rule-based trade validation of OTC derivatives and other financial instruments, enabling market participants to minimize mismatches and reduce processing time. The software supports any instrument that has an FpML protocol, such as IRS, Credit Default Swaps (CDS), FX Trades and Equity Swaps, but can work with any XML standard that is consistent with FpML standards.

One of the design advantages of **FpML Mediator** is the ability to customize a solution without new software development or programming changes, allowing Global Electronic Markets to efficiently accommodate clients' unique needs, including proprietary extensions to the FpML model. As such, **FpML Mediator** could be easily configured to address the internal consistency goals of this bank, and then be adapted for external reconciliation.

At the bank featured in this document, **FpML Mediator** provides live, intra-day reconciliation using mes-

Underlying Causes of Data Inconsistencies

- Manual errors in non-STP trades
- Trade enrichments (changes) with different results in the two systems
- Differences in cash flow generation logic or reference data,
- Differences in bulk data updates applied by systems administrators

sage processing and also provides daily bulk reconciliation of the complete inventory of trade pairs in the front and back office systems.

The validation component of **FpML Mediator** tests inputs of trade details to determine if the data meets FpML business rules. If not, the users are notified via a report and can investigate the problem at its source. If left unidentified, the problem could create operational risk by incorrectly extrapolating a value, thus hindering the bank's ability to manage risk correctly.

During the initial implementation, the bank featured in this paper immediately noticed problems of this type and experienced preliminary benefits from the solution before it was fully in place. The overall end benefits for the bank include a consistent view of positions, reduction in the risk of trade mismatches and improvements in settlement accuracy for counterparties.

Final Thoughts

Actions and decisions taken by this bank that lead to their success include the following:

1. An initial analysis of the root causes.
2. Requirement for a solution that addresses short and long term goals
3. Criteria for decision-making that included an objective assessment of the licensing of existing software versus the timelines, cost, and risk of internal development
4. Performance measurements and other specific business objectives

Global Electronic Markets and Systemwire jointly developed **FpML Mediator** to address two of the biggest business problems facing the derivatives market: Trade matching and Data Validation. The bank featured in this Case study identified this product as the only that met its needs, and was able to quickly begin experiencing the benefits.

About Global Electronic Markets (GEM)

GEM (www.global-emarkets.com) is a New York based firm that provides services and products for firms using FpML and related standards. GEM has demonstrated a long-standing commitment to industry-wide solutions for reconciliation and matching. CTO Brian Lynn has been the volunteer chair of the Pricing and Risk working group at ISDA. In addition, GEM provides strategic advice, training, and user's guides for ISDA and its members and has licensed its FpML viewer/editor to ISDA who in turn provide it free to their members.

About Systemwire

Systemwire Ltd. (www.systemwire.com) is a London-based software development company with a range of products that perform rule based validation of XML documents. Its goal is to help clients that are highly data driven and continually work with complex and rapidly changing data and processes. Systemwire helps these organizations minimize the risk associated with inconsistent data, and reduce time to market for data driven products and services. Systemwire was founded at University College London based on research carried out at the Department of Computer Science.

More Information

On the web, <http://www.fpml-mediator.com>, or e-mail sales@fpml-mediator.com