

## MEFF realizes the potential of FIX 4.4

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**In 2001, the MEFF, the Spanish Official Exchange for Financial Futures and Options, decided to adopt the implementation of standards as a policy for its production systems by implementing a FIX interface. In late 2001, Francesc Prats, now the FIX protocol Projects Manager at MEFF, became a member of the FIX Futures and Options Working Group as an initial step in the effort.**

The MEFF not only adopted FIX for order routing, but its implementation of FIX also extends into post-trade processing and represents one of the most comprehensive FIX-enabled systems in production for listed derivatives trading, in terms of functionality. The MEFF implementation rivals the Chicago Board Options Exchange's (CBOE) FIX offering in terms of the number of message types and business processes supported. The MEFFGate FIX interface also provides an unprecedented level of compliance in using the FIX standard for derivatives markets. "We were able to provide a complete FIX solution, including pre-trade, market data, order routing, and back office, while only using five custom fields", said Andrés Rodríguez, MEFF IT Director.

The MEFF introduced the MEFFGate ISV gateway in 1999. This original version of MEFFGate used an in-house developed, proprietary, fixed record length protocol. Teresa Casterà, Director of Projects and Services at MEFF said "Although MEFFGate was a successful product offering, we did not want to maintain our own proprietary protocol, and the fixed length record format was difficult to maintain." Moving the MEFFGate gateway to FIX has resolved these issues for the MEFF.

One of the benefits of choosing FIX for the MEFF was the immediate positive response received from Independent Software Vendors (ISVs). The FIX interface provided by the

MEFF enabled ISVs to more easily connect using MEFFGate. As a result, the MEFF was able to expand their marketplace reach through increased ISV support. In a recent interview Francesc shared his thoughts on choosing FIX stating, "FIX is the best way to simplify the connection to our market for the ISVs and is more efficient for both sides." This expansion of ISV support is seen as a critical business strategy for the growth of MEFF markets and systems.

### The MEFF markets

MEFF is the Spanish Official Exchange for Financial Futures and Options. It started its activity in November 1989. Its main activity is the trading, clearing and settling of futures and options contracts on Spanish 10 year Notional Bond, on equity index IBEX 35 and on S&P Europe 350 and sector indices. The MEFF also trades both stock options and stock futures. MEFF acts as both the market and as the Clearing House. MEFF has been recognized by Swiss and British Supervisory Authorities as an authorized exchange for trading with entities under their respective jurisdictions. Likewise, offering bond and equity futures as well as options contracts in the US has been authorized by the CFTC, which has granted the "Part 30 Exemption" to all exchange members. MEFF is an Official exchange and therefore is fully regulated, controlled and supervised by the Spanish authorities ("Comisión Nacional del Mercado de Valores" y "Ministerio de Economía")

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The MEFF currently has approximately 100 members from Spain, Portugal, France, Switzerland, the United Kingdom, and the United States. About 40% of these members currently use the MEFFGate gateway to access the MEFF. So far in 2004, the MEFF is averaging a volume of over 2 million contracts monthly.

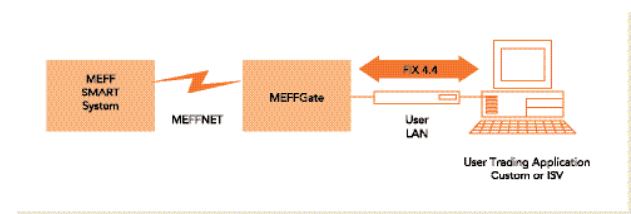
### MEFF systems

MEFF is a completely electronic market that integrates

trading, clearing and settlement into a single system. MEFF S/MART was designed to guarantee maximum security and reliability in trading, allowing supervision of the market in real time. Since 1995 MEFF has operated its own fiber-optic network (MEFFNET) and disaster recovery system that reproduces the market operations in real time. In the event of a catastrophe, trading can recommence from a back up location placed 600 Kilometers from the main site.

MEFF also developed a front office system (MEFFTop) to provide users with critical decision-making market information. In 1994, MEFF introduced a back office (MIBOS) system for its members that provides direct access to the position of house and client portfolios and allows these positions to be monitored and effectively managed. The characteristics and sophistication of MEFF's electronic trading system has attracted interest and resulted in export orders from other markets. The MEFF S/MART system is currently installed and running at the Warenterminbörse (WTB) in Hanover, Germany and at the MexDer, the Mercado Mexicano de Derivados, in Mexico City, Mexico.

### The MEFF electronic trading and clearing system



### The process

The FPL Futures and Options Working Group was originally conceived to add support for futures and options in FIX 4.1. The FPL Futures and Options Working Group resumed activity in 2001 to address enhanced requirements for futures and options usage for FIX 4.3. The major enhancement areas were multi-leg instrument order routing (for options strategies, spreads, covered-writes, etc.), improvements to the tradable and indicative quoting models, and expansion of the security request messages to provide increased query handling. Also, electronic order routing business practices were agreed upon in conjunction with the Futures Industry Association (FIA) Standards Working Group. The MEFF, via Francesc Prats,

participated in these weekly teleconference calls as a member of the Futures and Options Working Group. According to Francesc, active involvement in the standards development process was "extremely interesting. We found the answers to all the questions we had."

In addition to finding answers, Francesc was also able to provide input to the Futures & Options Working Group regarding support for Exercise notices. While at the time, there was not significant interest in using FIX for listed derivatives back office processing, later the Futures Industry Association and the Chicago Mercantile Exchange began to look at where to expand efforts for listed derivative's back office support. Francesc's previous query helped to reinforce international interest in standardizing the trade reporting, position reporting and maintenance for listed derivatives using the FIX protocol.

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The Global Derivatives Committee (GDC) was established in early 2003 as part of an FPL reorganization. MEFF continued to participate with questions and input during the development of the FIX 4.4 specification. FIX 4.4 saw the addition of the Positions Maintenance message category, the expansion of Trade Capture Reporting, Allocation Messages, and Collateral Management Messages.

By December 2003, MEFF published the first FIX MEFFGate specification based on FIX 4.4. As mentioned earlier, with the inclusion of only five custom fields, MEFF was able to address all of its connectivity needs using the FIX 4.4 specification. Members and ISVs were given access to a simulation environment to test their implementation in January 2004. The simulation environment supported the same contracts as their production system and allowed firms to generate orders automatically in order to simulate a production trading environment. While MEFF does not

certify applications, they do provide a list of recommended test scenarios (e.g. mass cancel order, orders on behalf of, etc.). Having successfully tested MEFFGate with 17 firms including members and ISVs, the FIX based MEFFGate was released for production in March 2004.

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#### **Using FIX market data messages**

One of the more interesting choices made by the MEFF was the use of the FIX market data messages for the delivery of real time market information. For many real time derivatives applications (such as US equity option markets), the FIX protocol's tag=value syntax introduces too much overhead in terms of network bandwidth consumption. The MEFF was able to use the FIX market data messages by providing the implementation of FIX at its gateway, instead of trying to communicate these high volume FIX messages across a wide area network. The MEFF uses an internal optimized format to distribute market data to MEFFGate. The market data is then fed over the FIX session to user trading applications using standard FIX market data messages.

#### **FIX instead of FIXML for post-trade processing**

The MEFF implemented its post-trade processing using the FIX tag=value format. This is consistent with its goal of a fully integrated electronic trading platform – one interface to one integrated system for pre-trade, trade, and post-trade transactions. For the US derivatives markets, the back office interface and the demands for post-trade processing to support open outcry and hybrid markets lend themselves

to a separate interface for back office applications. The choice was made to use FIXML (the XML syntax of FIX) within the US for post-trade messages for listed clearing derivatives. Using FIXML made sense for this because the back office is completely separate from the front office, there was no current FIX tag=value implementations for post-trade processing, and the complex hierarchical nature of post-trade messages lent themselves well to FIXML. The adoption of FIXML was further supported when a significant majority of firms wanted to continue to use IBM MQ Series as the middleware for post-trade messaging instead of the FIX session layer. The need for a separate post-trade interface is not an issue facing MEFF. MEFF feels confident that should enough firms require FIXML support for post-trades that this could be readily addressed within the MEFFGate interface as an add-on offering.

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### The result

The FIX version of MEFFGate represents arguably the most comprehensive implementation of FIX 4.4 for derivatives trade processing. The scope of its functionality includes the following:

- market data (contracts, status, prices)
- indications of interest
- order management
- exercise instructions
- news from market supervisor
- position tracking
- clearing house trade reporting
- allocation of daily account
- cross trades
- transfer entries

The new FIX interface offers more functionality than MEFF's proprietary protocol including support for trade reporting, position tracking, daily account allocation, transfers and cross trades. The most significant

enhancements include taking advantage of the FIX protocol's lack of length restrictions which allowed the MEFF to increase the contract code length from 8 to 18 characters, the ability to include up to 4 decimal figures in trade prices for average price allocations, and extending the volume field in trades up to 99,999,999 contracts, which will be especially useful for cross trades, exercises and expiries.

**The goal of providing electronic connectivity is to enable efficient and cost-effective access to liquidity.**

### Next steps

In addition to continuing the deployment of its FIX-enabled MEFFGate gateway, the MEFF is already planning its next set of enhancements, which are likely to include:

- Multi-leg contract trading
- News between traders
- Give-ups
- Average price allocations

### The bottom line

Fundamentally, the goal of providing electronic connectivity is to enable efficient and cost-effective access to liquidity. By implementing FIX 4.4, the MEFF not only offers members robust functionality to support evolving trading needs but also provides market participants with the ability to leverage their investment in FIX as it extends to support the global derivatives marketplace. **FIX**



*This picture was taken during an FPL visit to the MEFF Madrid offices for an update on MEFF's FIX implementation. Pictured from left to right are Teresa Casterà, Director of Projects and Services, Andrés Rodriguez, IT Director, and Francesc Prats, FIX protocol Projects Manager.*