Eurex cements use of FIX and FIXML

Hanno Klein, Senior Vice President Deutsche Börse IT, and Co-Chair of the "FIX Protocol Global Technical Committee", discusses Eurex Group's commitment to supporting the global industry standards in its newest interface portfolio.

Like a growing number of market participants, Eurex Group recognises that using the industry standard FIX and FIXML protocols delivers a number of innovative business benefits for exchange and clearing house users as well as for their operators. This includes increased customisation, hardware independence and flexibility. As the FIX and FIXML protocols continue to increase in relevance throughout the financial industry, their utilisation by Eurex Group for several of its interfaces allows exchange and clearing house users, and software vendors who already utilise FIX and FIXML, to integrate changes and upgrades more rapidly. Additionally, the utilisation reduces complexity and thus leads to increased resource efficiencies.

As a universal language for the financial industry, FIX is not merely a technology and can be used for many different interface types in combination with the appropriate transport. The Transport Independence Framework was introduced by FIX Protocol Limited (FPL) as a key concept of FIX 5.0 to allow any transport technology in addition to the FIX Session Protocol. Eurex Group achieves the highest levels of performance and standardisation by combining the FIX Application Protocol with a proprietary binary transport. FIX Protocol's High Performance Working Group currently develops multiple standard binary transports that will make proprietary implementations obsolete.

> "As a universal language for the financial industry, FIX is not merely a technology."

FIX Utilisation

Eurex Exchange
- FIX 5.0 SP2 over binary for trading and Market-Making
- FIX 5.0 SP2 over FAST 1.2 for reference and (netted) market data
- FIX 4.2, FIX4.4 over FIX session for order routing

International Securities Exchange (ISE)
- FIX 5.0 SP2 over binary for trading and Market-Making
- FIX 5.0 SP2 over FAST 1.2 for reference and market data
- FIX 4.2, 4.3, 4.4 over FIX session for order routing

Eurex Clearing
- FIXML 5.0 SP2 over AMQP for real-time risk management
- FIXML 5.0 SP2 over AMQP for clearing and OTC trade entry

Eurex Group has been an avid supporter of interfaces that utilise FIX. As an early adopter of FIX and the first clearing house to utilise AMQP, the Group features FIX or FIX-based interfaces in a variety of Group companies' architectures i.e., Eurex Exchange, Eurex Clearing and the International Securities Exchange (ISE) all feature interfaces using FIX or FIXML.

Committed to FIX

With the introduction of its new trading architecture, Eurex Group demonstrates its dedication to supporting global standards and has continued its commitment to offering best-in-class FIX interfaces, among others in its interface portfolio, to its customers. Many of the proprietary design principles of Eurex Group's new trading architecture have been introduced to the FIX Protocol's High Performance Working Group and we are confident that these can become part of a standard approach for FIX interfaces.

New trading architecture

Eurex Exchange's new trading architecture, set to go live in December 2012, will enhance

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Hanno Klein,
Senior Vice President, Deutsche Börse

performance across the board. It promises to reduce latency and increase throughput as well as deliver enhanced system flexibility. Connecting to the new trading architecture is possible via a variety of new interfaces. All interfaces have the usage of FIX semantics in common while offering the optimal transport for each interface to fulfill its specific technical requirements related to performance, reliability and ease of access.

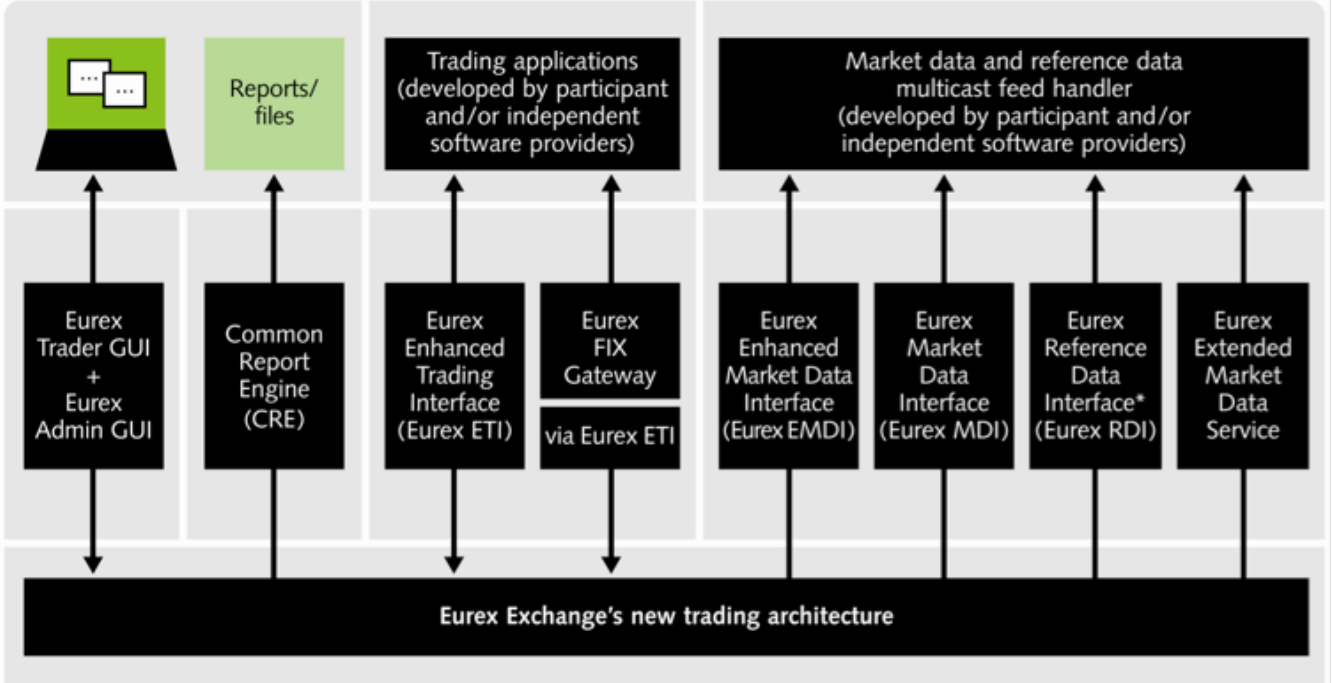
The new trading architecture features a high-performance messaging architecture and reliable database systems and is a Linux-based platform. Eurex Exchange will no longer specify hardware or software requirements, leaving trading participants free to choose the technology that best fits their business requirements. Additionally, the exchange will implement a new partition concept to improve scalability, throughput and separation of failure domains, while a direct messaging concept will drive enhanced throughput.

The new trading architecture will feature the new high-performance Eurex Enhanced Trading Interface (Eurex ETI), which uses FIX semantics over a proprietary binary transport and is designed to suit the needs of our latency-sensitive participants. Eurex ETI is complemented by the new high performance Eurex Enhanced Market Data Interface (Eurex EMDI) which uses FIX semantics over FAST. A standard FIX engine connection over the FIX Session Protocol is available to participants whose primary focus is ease of access.

Interface Landscape

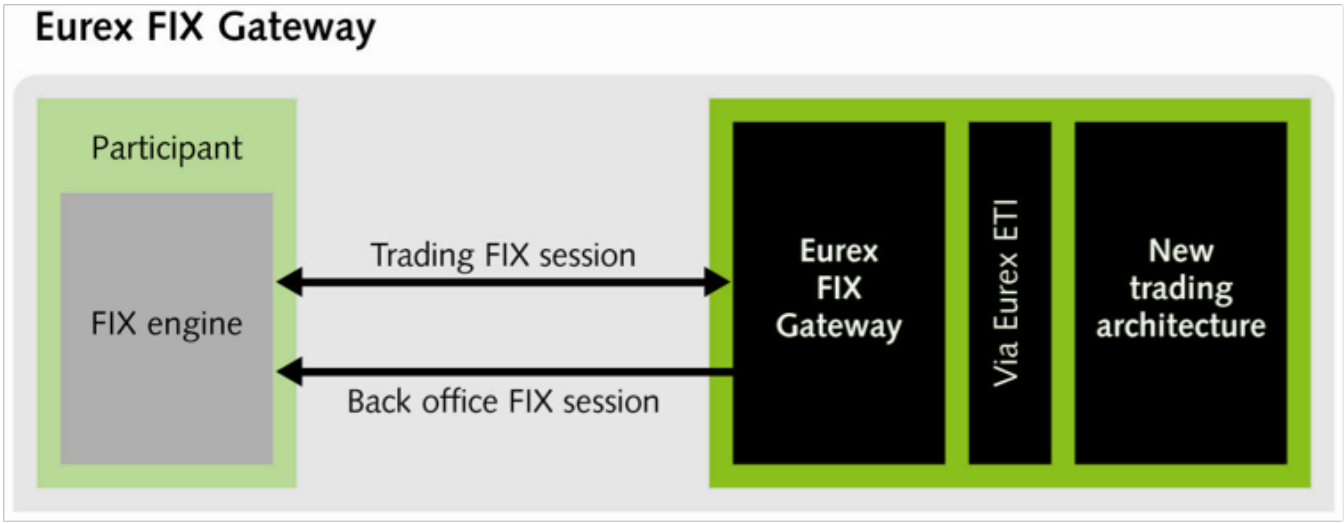
Eurex Exchange's new trading architecture features three new order entry interfaces, the Eurex Trader GUI, the Eurex FIX Gateway and Eurex Enhanced Trading Interface (Eurex ETI). The Eurex FIX Gateway only supports order maintenance, trade notifications and strategy creations while Eurex ETI additionally supports quote maintenance as well as mass actions to delete orders and quotes or to (de)activate quotes. The Eurex Trader GUI does not

New trading architecture interface landscape



* In addition to the multicast based solution there will also be a file based solution for reference data.

FPL GLOBAL TECHNICAL COMMITTEE



support the entry or modification of quotes but offers mass actions, for example when the user has problems with Eurex ETI and wants to get out of the market. The entry of bilateral and multilateral OTC trades via EurexOTC Trade Entry services is supported by the Eurex Trader GUI which forwards these directly to Eurex Clearing.

FIXML Utilisation

In addition to Eurex Exchange's trading interfaces, Eurex Clearing offers a FIXML interface that provides Clearing Members with a highly flexible, standards-compliant and cost-effective way to enter, access and modify their clearing data.

The Eurex Clearing FIXML interface reduces the costs associated with accessing Eurex Clearing, while simultaneously offering Clearing Members greater flexibility and standardisation in terms of technology. Since the interface uses the industry standard FIXML, it is easy to integrate into users' existing IT infrastructures and requires no special programming efforts.

Also in line with Eurex Group's Technology Roadmap, Eurex Clearing will take considerable steps by introducing a completely new clearing system, the new clearing architecture, for derivatives clearing in 2013. Member firms will be able to use the existing Eurex Clearing FIXML interface, which will be enhanced to support improvements to be introduced with the new clearing architecture, for accessing the clearing environment.

Going Forward

By comprehensively featuring FIX in its new trading architecture and FIXML in its new clearing architecture, Eurex Group has signaled its plans to support these well-established industry standards in the long-term. The Group firmly believes that the adoption of FIX and FIXML as the industry standards has been positive for the financial industry as a whole. As increasing numbers of market participants use those standards, Eurex Group will continue to provide innovate solutions that harness FIX and FIXML.

Open For Discussion

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