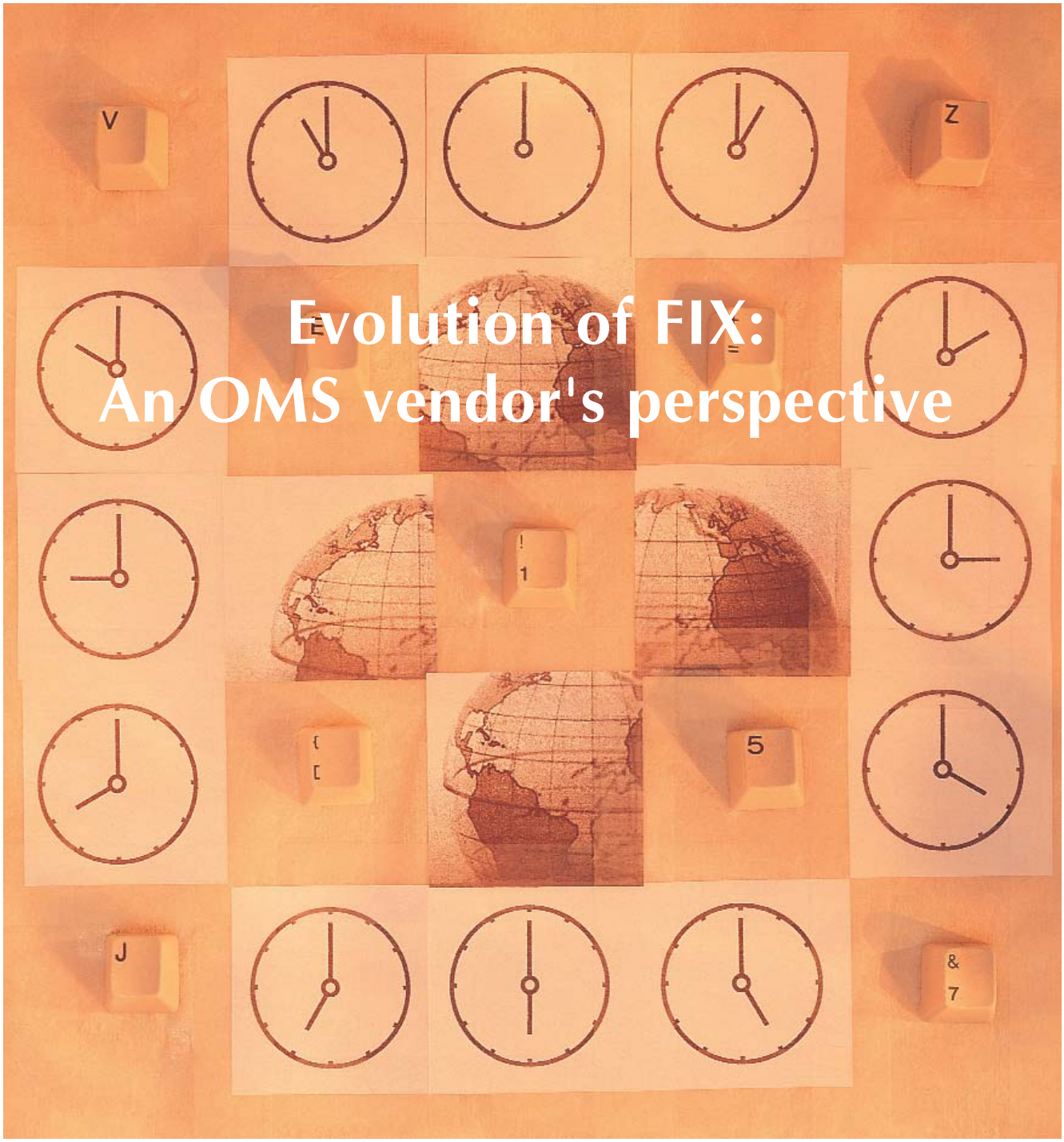

Evolution of FIX: An OMS vendor's perspective

By Gregg Drumma, Director of STP Development, Linedata Services

As FIX celebrates a remarkable 10 years of progress, the opportunity arises to review how far the FIX community has evolved and to explore the possibilities of the near and far future, from an Order Management System (OMS) perspective.

The origins

During the mid 1990's, as demand for improved integration between OMSs and trading venues increased, it became clear that a widely adopted language was needed to communicate relatively standardized trade information reliably in real-time. At the time, OMS vendors had to develop custom interfaces for each trading destination. The cost of development was high, and the rate of development, testing, and final readiness for clients to begin trading was a long process. This methodology could not sustain client demand or changes in the trading arena.

With the publication of the first versions of FIX, such as 3.0, developers from across the industry began to implement systems with the goal of creating a standardized interface to assist in quicker integration. This was not achieved immediately, as small dialects of the FIX language were created based on interpretation of the specification. Certification efforts in the early days were far more involved on the technical level, than with the actual trade information. Still, progress on standardization was a huge step forward as electronic trade volumes were increasing.

The emergence of FIX 4.0 greatly improved the efficiency and reliability of the underlying communication layer. It helped vendors to stabilize the technical aspect of the language, and allowed an increased focus on the business and application layer processing. Once the technology side of the protocol was stabilized, it opened more opportunities regarding what to communicate, and provided less focus on how. At the same time, a new industry was formed around FIX engine vendors to provide firms with packaged FIX engines, testing, and certification tools, thereby removing development needs of their own around the engine itself.

As technical specifications of the protocol stabilized, the door opened to extend the reach of the protocol itself. Internationalization of the trading capabilities improved, allowing the protocol to support a global market.

Today

Ten years ago, when selecting an Order Management System, a FIX interface was considered an optional part of the OMS. Today, it is a required and integral part of a trading system for most buy-side institutions. Many buy-side clients process all of their equity trading via FIX, and with market regulation changes around the globe, such as decimalization in the US, trade and execution report volumes have increased dramatically.

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It is no longer an equity-only world in FIX. Built on the success of the equity side, the addition of foreign exchange, derivatives, and fixed income support in the protocol has seen a steady uptake by OMSs and trading venues.

IOIs, advertisements, news, quotes, market data

Indications of interest (IOIs) have long been utilized in the pre-trade world of FIX, since the inception of the protocol itself. Many OMSs support FIX IOIs, allowing traders to view the data and information to make trading decisions. Likewise, advertisements and news messages can be published via FIX for research purposes.

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Request for Quotes (RFQs)/Quotes, and Market Data continue to evolve in their efficiency and integration directly with OMSs. Traditionally much of this data has come from customized interfaces but increased support for FIX based publish-and-subscribe systems are becoming a reality.

Trading destinations

Today, many FIX sessions are not just from a buy-side to a sell-side institution, either through a routing hub or a direct connection. The success and flexibility of the protocol has allowed access to other venues, such as Execution Management Systems (EMSs), Direct Market Accesses (DMAs), and Concentrators/Portals for various instruments.

In the case of EMSs, trades can easily be exported from an OMS into other systems. These systems are designed to provide increased support for finding the best execution with tools that are not necessarily available in an OMS. From the OMS perspective, as long as proper adherence to the protocol is provided, the trade management is transparent.

The same can be said of DMA platforms. Most DMA providers offer a FIX interface that allows an OMS to connect with them. Trades can be sent from the OMS to the DMA, and the trader has a choice of execution venue.

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EMSs and Concentrators/Portals introduced a type of "Just in Time" notification of who the executing partner was for the trade. Previously, the decision as to who was to execute the trade was made from the OMS side. Trades would be sent to a broker/dealer and executed by them. In the case where the system consolidates multiple broker/dealers in a competitive environment, the winning bid or offer is communicated back to the OMS by the executing broker. The OMS can then use this information to create the necessary settlement tickets, commissions, fees, etc. associated with the winning firm.

Algorithms

The last couple of years saw the emergence of algorithmic trading offerings by sell-side institutions to buy-side clients. OMS providers and brokerages were inevitably involved in creating solutions that could be deployed to common clients. Since the interfaces are built on the FIX Protocol with minor, custom development, this new functionality was able to become a reliable tool in rapid time.

Since there is a proprietary element to algorithmic trading, it was understood from the beginning that some custom tags were to be employed. Depending on the algorithms offered, different sets of required/optional tags were needed to be part of the FIX Order messages. Since these were additional parameters, certification efforts and testing on the messaging layer usually took a matter of days if not hours. Many OMS vendors now support dozens of algorithm destinations.

Allocations

Often overshadowed by some of the developments on the trading side, post-trade processing of allocations provides a standard means of communicating allocation details. In many markets, this has greatly increased efficiency by replacing the more manual process of faxing or e-mailing trade details in batches. FIX allocations begin the settlement process and reconciliation between the trading partners. This can be achieved through the same pipe, either immediately after trade completion or at scheduled times. Depending on the market, this can occur pre-trade or post-trade, whatever the interface and/or market requires.

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The faster the trades can begin reconciliation, the quicker discrepancies can be discovered, preventing costlier trade breaks down the line. FIX allocations provide reliable delivery of this data in an automated way.

The future of FIX and the order management system

As FIX enters its second decade, its evolution follows that of the securities industry itself.

From a technical perspective, the FIX Global Steering Committee continues to adapt the protocol to meet the needs of all markets, as well as the increased volume and efficiency needed for each area. This includes adapting

the tag=value spec to XML, template formats, or whatever makes sense for the intended goal. The specification has been proven to be a highly reliable guaranteed delivery of financial data, involving the cooperation of all players in the industry.

The specification is growing to support more complex trade instruments. The various FIX working groups allow input from all sides to help shape future functionality.

Pre-Trade

In the near future, the increased standardization of market data around FIX will allow seamless access to pre-trade information that can be incorporated into the OMS. While the way in which this data is displayed and utilized will be dependent on the OMS's implementation, the choice of where that data is obtained will be up to the end user. If providers of Market Data offer standardized FIX interfaces, the choice of integration by buy-side firms relies less on the ability of the OMS to build a specialized communication interface, and more on the quality and cost of the feeds.

The non-equity trading world is accepting FIX as a means of communicating trade data

Trading

The non-equity trading world is accepting FIX as a means of communicating trade data. Instruments traditionally handled in a manual way will continue to be defined in FIX. Perhaps an OMS already incorporates some of these instruments in a manual entry way. The future of the OMS and electronic trading is to allow every financial asset that is available on a trading blotter to be executed electronically via FIX, through a large choice of destinations.

Post-Trade

The implementation of FIX Allocations was the first step of standardizing post-trade communication. Transmission of FIX allocation information is relatively common, but expansion into FIX 4.4 Confirmations and Settlement Instructions has yet to fully take hold.

One of the challenges facing the OMS world is how far the OMS will dip into functionality traditionally handled further in the back office. Should the OMS store and manage all settlement information, provide matching support, etc. via FIX? Should the OMS build, buy, or partner for such functionality? What does the collaboration of FIX and other protocols, such as SWIFT, mean?

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Support for FIX 4.4 and its post-trade messages will provide an OMS customer with a variety of choices. Integration with Virtual Matching Utilities (VMU), that maintain settlement data outside of the OMS and provide clearing services support via FIX, would provide a standard way to access trade data from many firms. Alternatively, if

settlement data is stored within or accessible by an OMS, it can be communicated directly with all parties involved. The choice of the methodology would be based more on the benefits and cost associated with each choice, and not on how it's implemented and the development price.

Whatever the workflow may be, the common language of FIX will accelerate the product development cycle. Algorithmic trading built on the FIX Protocol showed how the addition of custom tags for proprietary information prevented "reinventing the wheel" in terms of trade messaging. With 90% of the FIX message the same, product development focused on the algorithmic strategies and their associated parameters. This same methodology can be applied to the post-trade world. Any data elements that might be applicable to the industry as a whole can then be submitted for future releases of the protocol.

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The OMS

The OMS business has matured along with the FIX Protocol. The FIX Protocol has a number of application messages (86 in 4.4), however, not all messages and functionality are actually available in all systems - not the actual parsing of the FIX strings themselves, but the business logic behind those messages. Some of the key differentiators of the OMS platforms are now the types of application messages that are supported and how they are implemented. For example, it is one thing to support drop copies of FIX execution reports from other systems, and another as to how they are handled and the types of exception processing and notification that lie within the OMS itself.

As the consolidation of major investment firms continues, as well as a push to have a centralized OMS across a firm and across multiple physical locations, the OMS has to scale to support hundreds, if not thousands, of Portfolio Managers, Compliance Officers, and Traders. These users are spread throughout the world, working in many markets. The electronic trading capabilities within the OMS must be robust enough to support the variances in global markets and asset types.

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Looking to the future, at Linedata Services we believe that the continued evolution of the FIX Protocol, especially as an integral part of OMSs, will provide all players in the financial markets with the cornerstone for the sustained growth of their business. **FIX**

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