



The new regulatory environment - its impact on FIX and electronic trading

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For many good reasons, a number of regulatory changes are in the works today that will directly impact the way securities trading is done in the United States. Some of this new regulation springs from a heightened sensitivity to compliance- and business practice-related behavior, while other has more to do with maintaining a level playing field for all participants as business gets more electronic and complex.

While any regulatory change affecting the way trading is done will certainly have implications for the systems used to manage trades, the degree to which systems are impacted varies widely.

Two of the regulatory issues getting a lot of attention on the front-office side of the business where FIX is used most widely are SHO, which deals with short sale borrowing, and

NMS, dealing with access to markets and price information. Both of these raise some immediate considerations for the FIX protocol and the software that handles trades. In the case of SHO, specific changes have already been recommended for some versions of FIX to accommodate new information, which presumably will be supported by the order management products that support short sale transactions. In the case of NMS, the immediate impact will

be less direct but depending on the industry's reaction there may be significant long-term implications.

Both of these regulations, along with any specific implications for FIX, are discussed in greater detail in a separate article in this issue. This article is concerned not with the immediate implications of these two specific regulatory changes, but rather the longer-term trend they point toward. The securities trading business is evolving and changing rapidly, for regulatory and competitive reasons both, and it will be necessary for underlying technologies to evolve also to a point where dynamic change - in messaging, transactions, reporting - is easily accommodated.

Reg SHO: Greater Flexibility in Messaging Software

Regulation SHO tightens requirements that have always existed for ensuring that stock can be borrowed to cover a short sale. Where historically brokers and customers relied on pre-agreed "service level" contracts (sometimes called SLAs) as documentation of obligations and process for borrowing stock, SHO introduces a requirement for "affirmative determination" of when and how loaned stock was located. This places ultimate responsibility for the loan on the executing broker if he cannot be sure that his customer located the stock then he needs to locate it himself prior to executing the trade.

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In cases where short sale orders are communicated electronically using FIX, it is perfectly reasonable to expect that sufficient information be carried along with the customer's order to let the broker know whether and where stock has been located. Not only is this the most efficient way to handle the communication of this information, it also provides a permanent, auditable record for compliance purposes.

For the purposes of SHO, the logical thing to do is attach actual location information to the order message itself - minimally specifying the broker lending the stock, but ideally including some type of reference ID for tracing the loan.

While more recent versions of FIX (4.3 and above) provide enough flexibility to carry this additional information, earlier versions must be extended through the use of custom fields. The FPL Americas Business Practices Subcommittee has met to explore ways that all versions of FIX can be used to carry this information and have arrived at some recommendations for encouraging consistency in implementation. But the key concern is that we can never expect total consistency, since there are many versions of FIX in production today and several options for carrying this type of data.

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This regulation, SHO, is typical of the type of new reporting and accountability requirements we can expect to see much more of in the future. The burden it places on underlying technology is simply that it be flexible enough to extend and adapt to meet these new requirements. FIX is certainly extensible enough, but the messaging software managing the FIX connection, as well as the order management system on top of it, must also be able to accommodate change easily. SHO introduces new business requirements, and therefore new validations and system-level checks to ensure those requirements are met.

Reg NMS: Lower Latency and Greater Sophistication in Messaging Software

Regulation NMS has several parts, but they all boil down to providing better transparency and more consistent access to securities across multiple markets. NMS is about creating a more level playing field for investors. Unlike SHO, this one is not about compliance or reporting per se and

therefore doesn't have any immediately obvious structural implications for a transactional communication protocol like FIX. However, there will likely be some interesting secondary effects as the regulation promises to radically change both the volume and kind of information that must be moved between market centers and among customers and brokers.

In our fragmented marketplace the requirements introduced by NMS put a lot of responsibility on executing brokers for understanding and accessing liquidity, and on exchanges and ECNs for pushing price information out to customers. To achieve this objective will require that much more information be moved among systems in a more highly choreographed way than it is today.

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FIX to date has not really taken off as a market data protocol, so it is conceivable that speed and latency issues around moving these volumes of information may end up being addressed by one or more other protocols away from FIX. Perhaps another standard will emerge, or better yet, maybe these new requirements will be a catalyst for evolving FIX to become a viable transport for high-volume, low-latency distribution of market data. Regardless, broader access to liquidity will lower the bar for direct market access

(DMA) trading, which will lead to the development of more and more sophisticated algorithmic trading strategies as brokers strive to win customer flow by giving institutions greater control over their trading activity.

Because of its inherent flexibility, FIX is an ideal interface for direct electronic access to customized algorithms that require special parameters for execution. But as the industry has already begun to focus increasingly on speed, latency, and time to market, it is limitations not of the protocol itself but of the software managing the communication, and the order management software on top of that, that have become the bottleneck.

All the way up the stack, from the network to the business applications, the component technologies will have to find ways to adapt as easily and quickly as the market dynamics require. Increasingly this will mean finding a way to more dynamically support increasingly complex and proprietary interfaces. This is the real challenge, since much of today's production software was designed at a time when the FIX protocol was fairly static, XML was not yet an accepted way to describe dynamic interfaces, and web services had not yet arrived on the scene.

Looking Ahead

How will the existing electronic trading environment adapt to support the two new regulations mentioned here? There are really three main areas where the FIX protocol and electronic trading technology might be affected:

1. identifying and tracking borrowed stock to cover short sales
2. independent linkages among exchanges for

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- market data access (new ITS)
3. best-execution rules impacting block trading and creating more momentum behind algorithms and order-slicing

To simply accommodate the new requirements, many existing component technologies - FIX engines and order management software products - will need modifications to support delivering information and navigating consolidated market data, and the physical communication infrastructure across which all this data flows may need some increased capacity. For some pieces the changes will be straightforward, for others more challenging, and a handful of products will be too slow to adapt and miss the market window.

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The more interesting questions, however, are the more general ones:

What changes need to take place in today's electronic trading software architectures to support what is certain to be an increasingly dynamic regulatory and business environment?

Do we need to rethink industry-driven initiatives such as certification for FIX messaging, which seeks to normalize message structures and transaction flows, given that the way forward may be towards increasingly divergent and creative order types and execution options?

What is the role of the old-school client server OMS products, in an environment where order types and execution options are no longer standard or even consistent among execution destinations?

What is the role of FIX, if any, in connecting exchanges directly to one another for communicating price

information and routing trades - and if FIX does not play a role here, what are its limitations that prevent it from doing so?

We have reached a tipping point in securities trading where connectivity and electronic trading technology are the means by which we compete more effectively, do business more efficiently, and ensure regulatory compliance across the enterprise. Connectivity is no longer just about access, it is also about competitive advantage - and a key to competing effectively is being able to adapt to changing requirements and get new capabilities to market quickly. The web killed client-server in most industries. Protocols like FIX thrive because of their flexibility and openness. These new regulatory requirements are just the tip of the iceberg; the platforms and products that thrive over the next few years will be the ones that can support increasingly rapid innovation and adapt easily to new business requirements. FIX is an enabler in this new dynamic. It is the software that implements FIX, and the business applications on top of it, that are in danger of becoming the bottleneck. **FIX**

Any thoughts on this or other articles?

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