

# Inside Market Data

May 2008

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# STANDARDS

SPECIAL REPORT



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## Raising the Standard

Every great structure is made up of a complex arrangement of smaller, more basic building blocks that together create a greater whole. The world of market data is no exception: It is neither luck nor miracles that ensure data gets to the right consumer in the right format, in time for the right purpose, but a sophisticated combination of underlying protocols that govern the message formats used for specific purposes and data types.

Traditionally fragmented along the lines of vendors' proprietary communication protocols, the financial industry has in recent years stepped into the driving seat with a series of initiatives intended to develop undisputed standards for different parts of the pre- and post-trade process.

Yet not all of these—such as the FISD's Market Data Definition Language (MDDL)—immediately took off, while others like the FIX Protocol proved so successful that firms were soon creating their own "flavors" of FIX. So much so that when the market tried playing fast and loose with the FAST Protocol, a derivative of FIX for streaming data, FPL took steps to ensure that the standard remained intact and that its value was not diminished by non-standard implementations that undermine its effectiveness.

Now, disparate standards bodies are working together on a "unified" framework to enable firms to map between each other at different points in the trade process, to improve interoperability and data flow between different market participants and different systems. As Deirdre Sullivan of Telekurs explains in our roundtable, between the multiple systems through which data must flow, "there are a myriad of possible break points in the data flow, but as transaction data and transport protocol are standardized, the possibility of breaks is reduced, and the whole chain functions more efficiently."

However, making the case for implementing a standard may come down to two things—industry momentum and potential return on investment. Standardization saves on the cost of data transport and reduces the number of interfaces to which one must develop, while a standard like FAST not only reduces costly bandwidth usage, but also has potential to be used in other areas as well.

And given the current economic challenges facing the industry, the benefits of standardization have never been more relevant.



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## Industry Bodies Collaborate on Messaging Standards

Four industry bodies—FIX Protocol Ltd. (FPL), the International Securities Association for Institutional Trade Communication (ISITC), payments messaging utility Swift and the International Swaps and Derivatives Association (ISDA), which administers Financial Products Markup Language (FpML)—have created a joint

roadmap for developing common financial messaging standards.

The roadmap is designed to establish the International Organization for Standardization's (ISO) ISO 20022 message standard as a common framework to which other protocols can be mapped, while maintaining the existing protocols, and consists of a matrix that allocates the FIX, FpML, Swift MT messaging protocols and various ISO standards (ISO 15022, ISO 20022) to specific business functions for pre-trade, trade and post-trade messaging; clearing and pre-settlement; asset servicing; settlement; and pricing, risk and reporting across multiple asset classes. The roadmap also provides further details on messaging use for the processes within each business function.

By outlining the transition points during the trading process at which users should shift from one standard to another, the groups say the roadmap will improve interoperability between the standards.

Swift already uses the ISO 20022 XML format as the basis for its MX messages, some of which are already available, while a proposal is underway to expand ISO 20022 to provide support for alternative syntaxes, including FIX, FIXML and FpML, says Jim Northey, co-chair of the FPL Americas regional committee and a partner with consultancy LaSalle Technology Group.

Although "nothing is enforceable," the aim of the roadmap is to show participants where they should be investing in technology, Northey says. "The reason we call it an 'investment roadmap' is to let people know that if they spend their money in these areas, there is higher probability they would not have to make future changes or end up with redundant messaging protocols," he says.

"There seems to be an emerging understanding that one message syntax is not necessarily in the industry's best interests, while a common data model is," Northey adds. ■

### FPL Warns of Non-Standard Code as FAST Use Grows

In the wake of more exchanges implementing the FAST (FIX Adapted for Streaming data) protocol to reduce the bandwidth required for market data delivery, the standard's governing body is stepping up efforts to ensure that FAST implementations remain consistent with the technical specification.

To address inconsistencies between implementations, the market data optimization working group of FIX Protocol Limited created an online interoperability portal at the end of last year.

"Firms can use the portal to verify implementations of FAST," to avoid developers inadvertently introducing different versions of the protocol when writing code that utilizes FAST, says Richard Shriver, co-chair of the working group and managing director at consultancy Jordan & Jordan, which runs FPL.

"If there are 'flavors' of FAST, that will increase the cost of the technology for the industry... and defeat the purpose of providing a definitive standard. That is why it is important that the standard is adopted as written," Schriver says.

The portal currently supports FAST 1.1, and allows users to upload templates and files onto the site to validate code, or to deploy a session-control protocol over a TCP/IP sockets connection to test their applications. ■

## Edgar Online Mulls XBRL Tags for Funds

Company filings and data provider Edgar Online is working on a project to apply XBRL (Extensible Business Reporting Language) tags to mutual fund information, to enable investors and asset managers to more easily compare information across multiple funds.

Assigning tags to specific information in fund prospectuses using XBRL—an XML-based protocol used to tag specific data fields and values within financial statements to aid extraction and comparison of like-for-like data between companies—could make it easier to track stock holdings across funds and to make side-by-side comparisons of funds' risk/return summaries, including details of investment objectives and strategies, risks, costs and historical performance, says Edgar Online chief executive Philip Moyer.

Moyer says the project is a response to demand from clients—most of whom currently have to manually parse data from fund prospectuses to determine their stock holdings and compare investment terms—

for XBRL-tagged mutual fund information, and to last July's launch of a voluntary program by the Securities and Exchange Commission for mutual funds to submit risk/return summary information tagged in XBRL.

While the vendor has not set a firm timeline for incorporating mutual fund information into its I-Metrix suite of financial data products, Moyer says Edgar Online will make XBRL-tagged mutual fund information available in advance of any regulatory mandate.

Since most investors have diversified fund holdings, they may find it hard to manually sort information to determine whether multiple funds hold the same stock, and thus may struggle to measure their exposure to certain stocks, Moyer warns. An XBRL-tagged system like I-Metrix would provide a low-cost alternative for smaller investment managers and investors without millions of dollars to invest in building proprietary systems to compare information across mutual funds, he says. ■



## Tradeweb Readies FASB-Compliant Trade Data

Electronic fixed-income market Tradeweb will next month begin disseminating transaction prices to subscribers of its Tradeweb Composite Marks service to help firms comply with the Financial Accounting Standards Board's Statement No. 157.

FAS 157 requires any company that reports financial statements in the GAAP accounting standard to determine and report the fair value of their assets, categorized according to a three-level hierarchy that distinguishes the level of difficulty involved in valuing the assets. Tradeweb believes that since its clients transact \$300 billion daily on average across 18 markets, the transaction prices from Composite Marks qualify as Level 1 inputs, which are defined as quoted prices from markets sufficiently

active to provide pricing information on an ongoing basis, says Ben Fortunato, director of market data at Tradeweb.

The trade prices will be disseminated at 8:05am, 3:00pm, 4:00pm and 4:45 pm, as part of all Tradeweb Marks subscriptions. Tradeweb Marks are available for US Treasury and Agency bonds, European government bonds, TBA-mortgage backed-securities, Pfandbriefe, and supranational bonds.

According to FAS 157, Level 2 inputs, also known as market-corroborated inputs, refer to securities that trade less frequently and derive fair value from the characteristics of similar securities. Level 3 inputs are derived when no market information exists and the reporting company must rely on proprietary models. ■

## FIF Readies Symbology Groups

Industry body the Financial Information Forum is creating two new sub-committees focusing on options identifiers for internal and retail investor communication.

The decision to create the two new groups stems from a meeting of FIF and Securities Industry and Financial Markets Association members in April discussing the Options Clearing Corp.'s Options Symbology Initiative, which proposes 21-character option symbols for clearing and settlement. At the meeting, it emerged that firms use internal option identifiers that in most cases contain fewer than 21 characters, and that the proposed new 21-character code would not be used internally or for retail investor communication.

As a result, market participants agreed on the need to discuss the creation of an industry-standard option identifier for internal use—also referred to as an internal CUSIP—and for communication to retail investors.

FIF will focus initially on the internal identifier, to establish whether a standard identifier will be helpful for the overall community.

“There is interest in a common identifier, but we are a ways off getting to a standard that would be adopted industry-wide,” says Thomas Jordan, advisory committee chair at the FIF. “As we have seen with other industry standards, the challenge is achieving critical mass in terms of adoption.”

The sub-committee for retail investor communication will aim to find a consistent way of identifying options in communications between firms and retail investors, such as confirmation messages or statements, and in client education initiatives.

The symbology change, originally conceived to eliminate reliance on the five-letter codes and fractional strike prices used by the Options Price Reporting Authority, “will ensure that the characters used to identify over 95 percent of listed option contracts will be common within the underlying security and familiar to the average investor,” according to the OCC.

The new symbology will be implemented and tested by exchanges and trading firms during 2008 and 2009, before becoming mandatory in February 2010. ■

## OMX Readies FIX Data Recovery

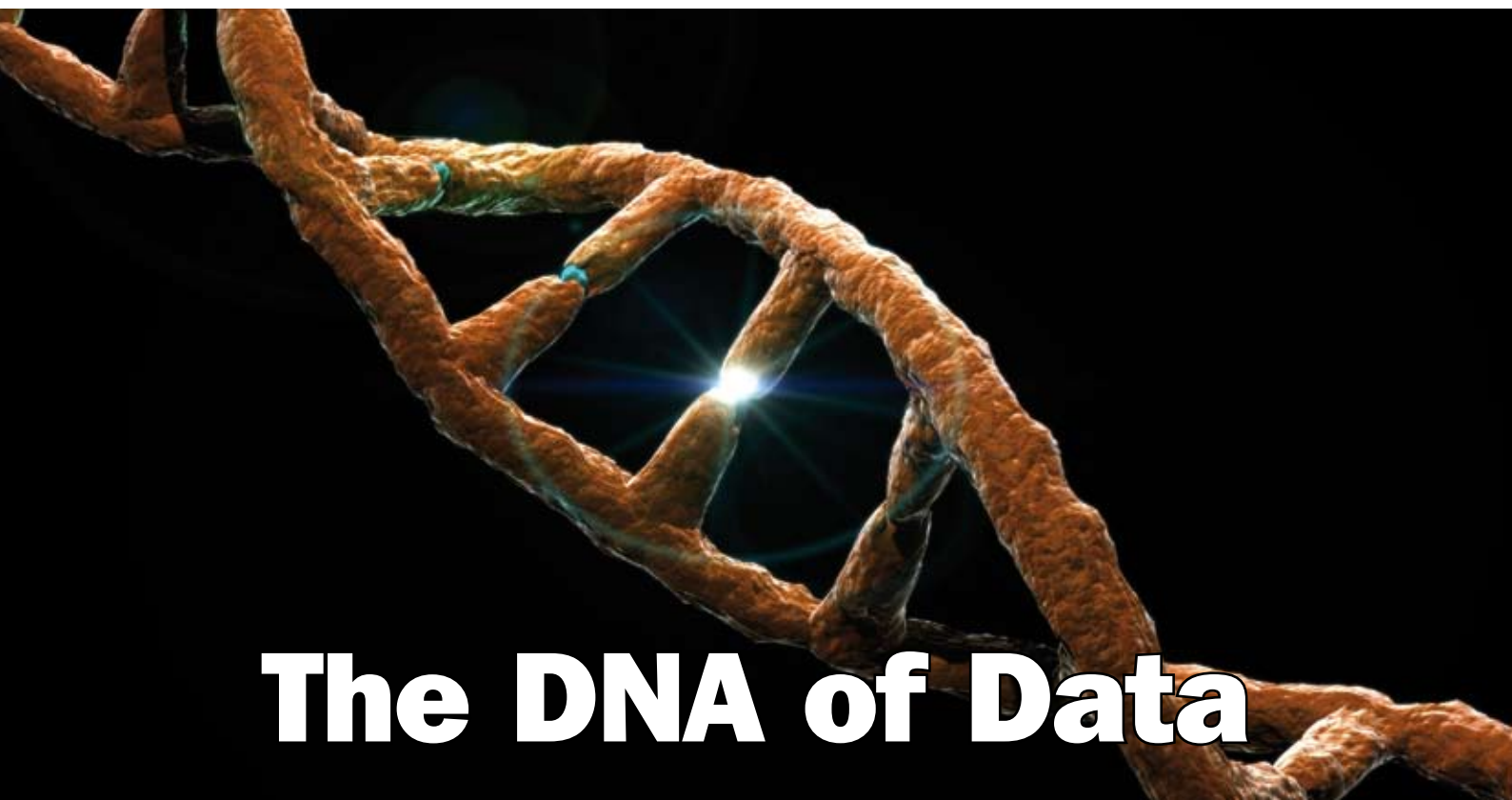
The Nasdaq OMX Nordic Exchange will next year roll out market data recovery capabilities based on the application sequencing feature in the latest specification of the FIX protocol, in a suite of new Genium data products to be released during 2009.

Application sequencing enables data consumers to identify gaps in a sequence of market data messages and request retransmission of a subset of messages, thereby allowing users “to recover the most important market data first, or entirely skip certain categories of data,” says Johan Toll, connectivity product manager for Nasdaq OMX in Stockholm.

Recovering market data is important for exchange members because the accuracy of their analytical tools depends on receiving the full set of data messages, he says.

OMX will deploy application sequencing for market data across all asset classes traded on its Nordic markets, as well as for securities masterfile reference data. Member testing of application sequencing is scheduled to begin this fall.

OMX currently uses a query-subscribe mechanism for recovering market data, which is generally less efficient and more costly than application sequencing, particularly in the context of streaming market data, Toll says, since streaming market data does not enable users to request retransmission of specific subsets of data within a stream. In contrast, application sequencing allows users to differentiate subsets of data according to the originating application or message type, and eliminates the requirement for the exchange to store large sets of redundant data to support data recovery for each stream of data because application sequencing sources data directly from its originating application, he says. ■



# The DNA of Data

The industry-standard terminologies and protocols that underlie every market data message are the nuts and bolts that hold together today's trading markets and act as the foundations on which firms rely to build complex strategies. But with industry take-up remaining an issue for all but those standards that offer immediate return on investment, authorities are taking steps to increase adoption.

**IMD:** Why are standards important for the market data industry? How are they used to improve efficiency or add value, and which standards are useful for different parts of the data lifecycle or trading/investment process?

**Courtney Doyle, operations director for FIX Protocol Limited, Jordan & Jordan:** The skyrocketing trading volumes that have emerged from the growing popularity of automated and algorithmic trading are placing ever-growing demands on the industry's technical infrastructure to deliver constantly ballooning volumes of market data in a quick and effective manner. The management of these volumes presents a challenge for even the very best technical solutions available. The broader use of standards has created a "quick and easy" way to connect to the financial markets. This has allowed market participants around the world to make the critical decisions needed on real-time information, because without timely market data, a trader is at an extreme disadvantage.

Technology based on standards creates open markets and helps to reduce barriers to entry to our market which in-turn attracts participation and generates liquidity. Liquidity is the firing mechanism for the rapid proliferation of market data.

**Genevieve Dimitrion, vice president of product and technology solutions, State Street, and chair, the International Securities Association for Institutional Trade Communication (ISITC):** Standards are important for any industry, including the market data industry. Standards enable interoperability between counterparties as well as to facilitate data flow between internal systems. However, where different standards exist for different parts of a data lifecycle, by definition there is no standard.

In the front-office, FIX is the standard for communicating trade details between counterparties. ISO 15022 is the current standard for communicating post-trade information such as securities settlements, reconciliations and payments for the back office, and FpML fills in the gaps for over-the-counter derivatives trade information. The future of standards lies in ISO 20022 UNIFI, which aims to provide a unified framework for all of these processes using a common XML syntax. It remains to be seen how long the co-existence period will last between the old and the new.

**Deirdre Sullivan, vice president, Telekurs USA:** The International Organization for Standardization (ISO) says that the business benefits of the widespread adoption of standards



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“means that suppliers can develop and offer products and services meeting specifications that have wide international acceptance in their sectors. Therefore, businesses using International Standards can compete on many more markets around the world.”

For the market data industry in particular, the benefits of standardization can be huge in several key areas:

- Bandwidth conservation and latency reduction;
- Best execution;
- Automation and STP.

As a trade is initiated, executed and settled, several systems and applications are always directly employed, from the trading system to the order-routing system to the clearing and settlement systems, and dozens more related/ peripheral systems and applications are likely to be updated along the way—from customer records to portfolio and risk management systems and so on. With all this data flow and all these updates being written, there are a myriad of possible break points in the data flow, but as transaction data and transport protocol are standardized, the possibility of breaks is reduced, and the whole chain functions more efficiently.

We believe that the only way to turn data into information for efficient decision making, reporting and compliance is to strive for complete automation. And because standards are an important enabler for automation, Telekurs has a long history of encouraging standardization through active support of various associations, working groups and committees.

In addition, by completely encoding our own data services, we have positioned ourselves to support standards in a timely way as they are introduced, giving our customers early access to standard identifiers, formats and protocols.

**Bill Nichols, program director for securities processing automation, FISD:** Standards are required for leveraging prior learning and practices. As any engineer can tell you, they don't have to represent “best” practices or “best of breed” solutions—they just need to work well enough to solve the problem. “Good enough” generally reflects the right mix of functionality and costs. The end result of the standardization of a business area or process is to create a “stack” or “base competency platform” for an industry. This shifts the com-

petitive landscape to those areas that are not standardized, and provides room for creative solutions that yield competitive advantage built upon the newly updated stack. Typically, this solidifies the position of some firms while raising barriers to entry for those not that do not currently possess the expertise or resources required to build offerings on the standard platform.

This is a continual, ongoing process, with each level building on prior work. What is different today is that the explosive growth of the Internet has been accompanied by changes in the underlying technical, engineering, and business landscapes upon which they are built. The evolution of the “open source” as both an engineering and business model is not only changing the way software is designed and built but is fundamentally altering the business economics of any company that relies on software systems (Google alone has in excess of 400,000 servers running customized versions of Linux or BSD/Unix. Their sum total licensing costs for operating systems = \$0). This has also had a significant impact on the overall standards arena in general. The Internet historically has developed standards through a consultative, participatory process based on user input, with a strong bias against vendor influence. Over the past 10 to 15 years, we've seen the emergence of W3C, OASIS, OMG, and other standards bodies focused on the Web and related “horizontal” technologies. These bodies have their own agendas, and move at a rapid pace more in tune with changing technologies than traditional standards organizations such as ISO or UN CEFAC.

This impacts standards efforts for the Financial Services arena in a couple of major ways. First, if any part of your value chain utilizes the Internet, then, like it or not, at a minimum

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*Deirdre Sullivan, vice president, Telekurs USA*

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you have to pay attention to and plan around these technology standards. Secondly, it makes the more “stately” approach of standards bodies such as ISO appear that much slower and more awkward. While there is some truth to this perception, it's also probably not a bad idea to have someone “tapping on the brakes” a bit as your car is racing down a hill.

Market and reference data standards are in the middle of an interesting intersection of two different evolving technology streams—real-time data and data modeling. This intersection point, the conflicting business and technical requirements that derive from it, and the current evolution of the relevant technical approaches, are a separate discussion in their own right.

## ROUNDTABLE

IMD: The FAST (FIX Adapted for Streaming data) protocol is emerging as a standard for reducing the amount of bandwidth used to distribute market data. However, with exponential rates of traffic growth predicted to continue, for how long will FAST make an impact? Can a long-term solution to data rates be delivered by standards?

**Jim Northey, FPL Americas Regional Co-Chair, and partner, The LaSalle Technology Group:**

The FAST Protocol offers a data compaction methodology that optimizes communication in the electronic exchange of financial data. FAST eliminates the descriptive information from financial messages, by converting numeric ASCII data to binary and by sending repetitive data within a single network message only once. FAST works best with large quantities of data that share similarities in content and structure, presenting significant opportunities for the global capital markets. In proof of concept tests, FAST demonstrated the ability to radically reduce message size and bandwidth utilization, compressing FIX feeds by up to 90 percent without negatively impacting latency.

FAST has many uses. In addition to presenting a solution within the market data arena, it may also be applied to other areas demanding high compression and low-latency communication such as high frequency trading, Direct Market Access and exchange interfaces. With regards to its success, FAST has received significant support from the industry, and is now being explored further and/or implemented by leading market centers including NYSE Arca, the Chicago Mercantile Exchange, Deutsche Börse Group, the International Securities Exchange, NYSE TransactTools, Nasdaq OMX, PLUS Markets and SWX. The significant momentum behind FAST demonstrates its value and acceptance as an industry standard.

FAST is only now starting to have an impact, and I believe its full potential is yet to be realized. There is no reason why a standard cannot be the long-term solution for transmitting market data as opposed to a proprietary solution. The FIX Market Data Optimization Working Group, led by Richard Shriver of Jordan & Jordan and Rolf Andersson of Pantor Engineering, is very active and is serving as the forum where practitioners come to address problems and share best practices. Already, the next levels of optimization are being presented and planned. So I would argue that FAST has a better chance of meeting the industry needs for high-volume market data distribution than a proprietary solution, and this industry leading solution comes with the side benefit of being shared and reusable across multiple marketplaces.

But the issue with data volumes is not just technological; it is also a finance/ economic issue in the area of market microstructure. Are the option markets truly higher quality as measured by liquidity, bid-ask spread, volume sensitivity, with the quote to trade



**Jim Northey**  
LaSalle Technology Group,  
FIX Protocol Ltd.

ratio in the thousands? I don't know the answer, but it is one that needs to be researched. One should not naively assume that there is a positive correlation between the amount of market data and market efficiency and quality. In fact, a quote to trade ratio of thousands to one is a form of market inefficiency and creates a technological barrier for symmetric market participation. This is an area we are actively studying from an academic perspective, and is outside the technological realm.

**Sullivan:** Given the rise in volumes from both traditional and emerging sources, we've seen an increase in co-location of specialized human and algo trading resources near the data sources that are their livelihood, in an effort to maximize transaction opportunities as well as save time and money on data transport.

It seems to be generally accepted that compression is a way to reduce bandwidth, and FAST seems to be an accepted specification, with effective rates upwards of 40 percent—and some estimates as high as 70 to 80 percent. In addition to requiring less bandwidth on the network, compressed messages have the added benefit of getting onto the network faster, but at the cost of some computing power and time to compress at the sending end and decompress at the receiving end.

Other measures are also helping. Multicast delivery as an intelligent routing technique can reduce bandwidth utilization of MDDL, which seeks to create a standard method of describing securities. This can reduce the overall amount of data required to precisely identify a security.

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*Jim Northey, FPL Americas regional co-chair, and partner, LaSalle Technology Group*

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So, yes, standards can help reduce the need to continually increase bandwidth to accommodate growing volumes. And in this sense, I use “standards” in the ISO sense of the word—best practices, homogenized data and intelligent bandwidth utilization through compression/ compaction and/ or other techniques.

But none of this will address the fact that message rates are growing exponentially—data from the Options Price Reporting Authority alone is projected to grow to 1,387,000 messages per second by July 2008 from less than one-sixth of that rate just two years ago. Message volumes from the traditional trading venues are also growing rapidly, plus we're witnessing an explosion in liquidity venues arising from Europe's Markets in Financial Instruments Directive and other regulations. All of this indicates that other measures will be needed to keep traffic rates under control if the industry is to keep up with this data onslaught.

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**Nichols:** For the pre-trade messaging environment, the “standards battle” is pretty much long over: FIX wins, next topic. Given the logical structure of pre-trade market data and the state-of-the-art in data compression theory, FAST is the logical extension to deal with that part of latency issues than can be addressed at the message structure level. The bigger question is one that we’re just starting to define the parameters of: at what point does the noise-to-signal ratio within the volume of quote traffic contain too much noise to be useful for a given range of trading strategies? Historically, the feeling has always been that “more data, faster, is better.” We’re not there yet, but we’re going to get to the point fairly soon where some or most of the analytic/ algorithmic trading strategies don’t give better results when the number of data points (especially quotes) increases. There will always be outliers, confined to a specialized subset of traders who will continue to push the limits in every way they can. But at this point, it looks to me like the search for latency-related alpha is going to be pointing in some other directions (hardware, networking protocols) down the road. For the majority of market data players, FAST or its successor should be the implementation to concentrate on. The nice thing about FIX-FAST is that while it is a standard, it’s also extensible, which is becoming increasingly important for all standards.



**Bill Nichols**  
FISD

**IMD:** Does Market Data Definition Language (MDDL) have a future as a standard for market data? To what extent has standards adoption been hampered by firms wanting to retain proprietary complexities—and advantages? What would greater standards adoption mean for feed handler and consolidated feed providers?

**Sullivan:** MDDL is intended to provide market participants with a language and structure that allows them to clearly and precisely identify a security and its price, thus facilitating communication about these securities.

As such, and in an ideal world, MDDL should have a bright future as a market data standard, and in my personal opinion, should be making more headway. But slow uptake can be explained in a number of ways. It might be true that vendors are slow to offer MDDL services in a deliberate attempt to protect proprietary advantages, or it might be true that institutions are focused on other mission-critical IT initiatives, and as such, aren’t focused on facilitating the interchange of information. It could also be that industry participants are hesitant to adopt a standard before it becomes widely adopted. The “not me first” approach could in fact be the biggest damper on adoption of MDDL or any other proposed or approved industry standard. A colleague of mine always says, “the early bird may get

the worm, but the second mouse gets the cheese,” which is a shame, because standardization of data and communication to specified norms would increase control, lower costs and allow more time to focus on business development instead of fighting fires at the data level. But as an industry, we’ve got a long way to go.

One reason for this is the complexity of integrating new data structures into an existing infrastructure. With an absence of universal standards in the past, firms and vendors alike have relied upon their best judgment and best efforts to ensure the compatibility of market data with their downstream processing systems. These systems, now considered “legacy applications,” are the engines that keep the industry humming, and in most cases it simply isn’t practical to raze that infrastructure and replace it with an ideal, flexible and standards-based architecture.

Uptake of all standards is slow, not because of the complexity of the standards themselves, but because of the complexity of integration with downstream systems that are integral to the business. At Telekurs, our data is fully encoded, and we’ve designed our database for extensibility. The result of this is that we can easily (and often do) add codes (such as IBFI company

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**“Whether or not MDDL becomes the standard (if only by virtue of the fact that it is free and relatively comprehensive) or is part of whatever standard(s) that do evolve, it seems clear to me that while vendors in general will always be more interested in maintaining proprietary interfaces, datafeeds is one area where most have either moved on or aren’t actively resisting change.”**

*Bill Nichols, program director for securities processing automation, FISD*

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identifiers) or flags (such as MiFID reportability) that address very specific customer or regulatory requirements.

The fact that Telekurs data is completely structured and encoded also means that we can organize it in logical ways and even translate it into other formats such as MDDL. The point here is that we’ve built our systems in such a way as to support current standards and anticipate future standards so that we can focus on creating a quality information service rather than on creating an infrastructure in which to host it.

The best possible solution for a given institution’s particular financial information requirements is most often some combination of directly-sourced and third-party consolidator data. Some providers probably do rely on proprietary codes or systems to prevent customer defection, and these providers might view greater standards adoption as a threat, because their customers could “defect” more easily. At Telekurs, we’ve got a different view. We know that customers will continue to re-

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quire more than one type of data source (exchange or other liquidity pool and/ or third party consolidator), and we believe that broader adoption of standards will level the playing field, forcing all providers to make quality their number one focus. And we think that would be good for the entire industry.

**Northey:** I think there are a couple of dynamics working against MDDL. First is that firms traditionally are loath to spend money in this vital area of the business, so this area has been dominated by vendor solutions, each with their own proprietary formats and issues. On the messaging level, the XTC component of MDDL solution was quite elegant and rigorously thought out, but it was ahead of its time. FAST was introduced to provide a simpler mechanism for compressing and transmitting market data. It is unlikely that XTC will compete or replace FAST. At the MDDL layer which models financial instruments, there is still a certain amount of complexity and verbosity. However, my impression is that FISD has the right organization in place now that is focused on pragmatic solutions, so I don't think we've heard the end of MDDL in reference data. Nor would the demise of MDDL be a good thing for the industry. I see the industry working together towards creating common modeling constructs for reference data, using MDDL, FIX, FpML, and ISO 19312 as a basis for a common industry model. At the least MDDL now serves as an off-consulted reference model for the industry, and its influence is felt indirectly in the financial markets—much as the ISO Open Systems Interconnect model, although no longer an implementation, serves as the basis for all discussions involving network architecture. We as an industry underestimate and tend to devalue reference models, and that is a shame. Reference models serve as an ideal, a benchmark, and a repository for knowledge that can be shared and accessed as opposed to reinvented. Reference models allow us to stand on the shoulders of giants, as opposed to the alternative of standing on each other's feet.

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**“I see the industry working together toward common modeling constructs for reference data, using MDDL, FIX, FpML, and ISO 19312 as a basis for a common industry model!”**

Jim Northey, FPL Americas regional co-chair, and partner,  
LaSalle Technology Group

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**Nichols:** Okay, clearly I'm not a completely impartial observer on this one. Clearly, MDDL was both (a) ahead of its time with regard to the willingness of vendors to move towards a standard format and (b) was, to some extent, caught up in the “XML will change the world” hype that was prevalent for a few years. That said, MDDL represents a significant investment on the part of the market data industry, and is the work product of a lot of smart people working hard for several years. The ISO 19312 Data Model, which is now going to be incorporated into the ISO 20022 repository, is a subset of MDDL. Tony Coates, one

of the authors of MDDL, took the method used within MDDL to handle lookup tables, and shepherded it through the OASIS standards process; it was finalized in February of this year (see <http://xml.coverpages.org/newsletter/news2008-02-15.html>).

Unfortunately, much of the value in MDDL has been locked inside an overly complex, somewhat convoluted standard of its own (XML schema). We're starting to unlock some of that value and make it accessible to practitioners who don't have time to master the more arcane XML schema tricks. The FISD wiki (<http://wiki.fisd.net>, provided as a service to the FISD member community, requires only a user name and email address for registration to post, and does not require registration to download information) has the data dictionary elements from MDDL along with those from other dictionaries, including the DTCC NUWS and ISO 19312—and we're adding more. Additionally, we've posted SQL schema based on MDDL and the list of database lookup tables from MDDL. This should make it significantly easier for developers to implement reference data systems based on either the entire MDDL data model or a selected subset.

Whether or not MDDL becomes the standard (if only by virtue of the fact that it is free and relatively comprehensive) or is part of whatever standard(s) that do evolve, it seems clear to me that while vendors in general will always be more interested in maintaining proprietary interfaces, datafeeds is one area where most have either moved on or aren't actively resisting change. Almost all the [datafeed] products I'm aware of are available in some type of an XML-based exchange format. It may not be a standardized, structured XML dialect like MDDL, but this just doesn't seem to be an area where vendors are fighting to maintain “lock in.” For the most part, change in this area—moving relatively large amounts of complex data between sophisticated organizations—is slow. It may be a mundane part of our daily business, but it's actually really hard to get it consistently done well. When you add in the fact that we're talking about data that represents moving other people's money around, it seems hard to argue that the primary reason we're not seeing faster standardization is because the vendors are dragging their feet.

The flip side of this coin is that, as noted above, you either move up the value chain, finding new ways to add value, or you're in big trouble. One way that vendors are trying to move up the chain is by creating customized datasets—which include some proprietary/ complex organizations of data. They'll stop it when customers stop buying. As sales slow, standards will emerge, and we'll start the process over, building on top of the “stack.”

**IMD:** Companies are being encouraged to file financial statements using Extensible Business Reporting Language (XBRL), to make it easier for analysts to extract and compare like-for-like information. Thus far, take-up has been limited in the US. How can this be improved, and what are the potential benefits for end users?

**Doyle:** To date, take up for adoption of the XBRL standard has been limited in the US, primarily due to the lack of a firm mandate by the Securities and Exchange Commission to



adopt it. However adoption is likely to change because on May 14th, the SEC issued an actual mandate for the adoption and use of XBRL tagging for financial filings. The proposed rule will require the 500 largest companies to provide financial information using XBRL at the beginning of next year and within three years for all public companies. (A detailed SEC Press release, including timelines and benefits can be found here: <http://www.sec.gov/news/press/2008/2008-85.htm>.)



**Courtney Doyle**  
FIX Protocol Ltd.

As for potential benefits, today companies file their financials in the old ASCII format, as “flat” files with static numbers. XBRL tagging enables the financials to be filed using unique and electronic tags that are extensible and live—therefore time to market vastly improves with regards to financial reporting, a great deal of labor is taken out of the process for error checking, etc., and data that is extensible, once filed, can automatically populate other products—i.e. research analysts’ earnings models and reports.

**Dimitrion:** Regarding XBRL and slow takeup, one area that hopes to leverage the work that has already been done by XBRL is the ISO Total Portfolio Valuation message. The TPV automates and standardizes communication of accounting data, including a lot of the data that XBRL has already defined around general ledger accounts.

The goal of the TPV message is to replace the multiple-inch thick paper accounting statements with a standard format in XML. The message is still in the development stage but should provide relief to clients such as plan sponsors or asset managers that need to communicate and reconcile data that has not been standardized or communicated electronically in a standard way.

**Sullivan:** The intent of XBRL is simple—to leverage the emerging XML standard for the purpose of streamlining consolidation and communication of business information. The benefits of widespread adoption might be seen at many levels: companies preparing financial statements could consolidate their internal information more quickly, analysts reviewing such statements could compare apples to apples more effectively, and vendors aggregating such data could do so more efficiently. Improvements in productivity and reductions in errors and costs could be realized at each level.

Because change—even positive change—is expensive and time consuming, the benefits of that change need to outweigh the costs in order to encourage broader adoption. One way this might happen is if the cost of the status quo increases—for example, through regulation.

**Nichols:** In the US, the SEC is going to essentially mandate XBRL reporting for listed companies. There are multiple vendors offering toolsets to ease the process for filers. There are multiple dialects for non-US reporting available, though their maturity and completeness varies. XBRL, as an XML dialect, is about as mature as these things get at this point. Continuing evolution toward international accounting standards and regulatory cooperation should be sufficient to ensure the spread of XBRL. This will lead to new products and tools for analytics that depend on corporate accounting information—the resources required for obtaining and rationalizing the raw data can be better utilized in creating new groupings, analytics, etc.

**IMD:** Some standards bodies have begun efforts to ensure their standards are properly implemented. What are the potential dangers of “adopting” a standard but failing to implement it correctly?

**Northey:** There are a couple of issues here: the first is failing to adopt the standard correctly; second is adopting the standard but doing so in a customized, non-standard way. The former is a “crime” of omission, while the latter is one of commission—proactively being nonstandard.

This is a major point of discussion within the FIX community now. As most *IMD* readers are aware, FIX is a voluntary standards organization, and FIX supports customization. This has both positive and negative consequences. On the positive side, people can pragmatically solve their problems and can create custom solutions where needed. I doubt FIX would be successful if it were not so flexible and extensible. However, that

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*Courtney Doyle, operations director, FIX Protocol Ltd.*

flexibility creates different dialects. Also, the FIX organization, FPL, does not have any form of regulatory governance over the use of the standard, so FPL can’t come along and say, “Okay, version 5.0 of FIX is available and everyone needs to upgrade.” And again, this has both positive and negative connotations. Forcing upgrades and changes that do not provide business benefits and a very near-term return on investment are difficult to sell, and from my personal viewpoint counterproductive. Organizations are faced with long lists of mandatory IT

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projects—the last thing these organizations need to consider is upgrading just for the sake of upgrading. Introducing a new business automation or access to a new asset class, such as fixed income or foreign exchange, as motivation to adopt a new version of the standard is much more sensible from an IT invest-

**“The main danger is within the interpretation of the standard. This is the reason for industry bodies like ISITC to define recommendations and market practices around the correct use of a standard.”**

*Genevy Dimitrion, vice president of product and technology solutions, State Street, and chair, ISITC*

ment perspective. We separated the transport layer from the application layer in FIX 5.0 to lay the groundwork for application version independence to mitigate this issue and provide an environment where multiple versions of FIX can operate over the same transport.

Back to the point regarding implementing a standard incorrectly, this is an area where peer pressure within the FIX community has served itself well. We have within the past couple of years seen peer pressure force marketplaces to change their implementations. However, we still face this in certain areas, especially in the US equity markets, where we have more education and work to do to demonstrate the value of compliance.

**Sullivan:** The ISO standard 15022 for corporate actions messages is a good example of a standard that has been accepted, but that has been changed along the way. We’ve been asked “Which version of ISO 15022 has Telekurs implemented?” Now, as far as we know, there is just the one ISO 15022, and that’s the one we implemented. But others in the industry have added their own spin, perhaps making the corporate action information more complete, but at the same time causing confusion and mismatched expectations when one party means the ISO standard and the other party means the “value-added” proprietary version.

The point here is that failure to implement a standard correctly does nothing to streamline processing or communication, and the result can be apathy or even antipathy toward future standards. Market participants might not be inclined to make the effort to adopt new standards if this kind of slippage means that the benefit won’t be realized.

**Nichols:** In general, either attempts to “enforce” adherence by a standards organization, or a vendor “hijacking” a standard by insisting upon a customized implementation should be viewed with a somewhat jaundiced eye. Standards evolve due

to changes in the business environment and/ or requirements. Trying to control this to “protect” a standard is typically an exercise in futility. Reference implementations are generally a good thing, but absent an overt financial interest, I’m not sure what a standards organization would think to gain by running around stamping things as “non-compliant.”

That said, adherence to a particular standard can be a matter of interpretation. The more specific a standard is, the more likely it is that exceptions and variations will occur over time. If a standards body is trying to control the spread of dialects, they should explain their rationale—for example “Okay, it’s clear that this area is undergoing a lot of change, we’ll update the standard as fast as we can (any volunteers?), but until then please try to keep thing within the following parameters....” (This is a completely different issue, of course, than someone claiming that a custom implementation is conforming and trying to pass it off as “standard.”)

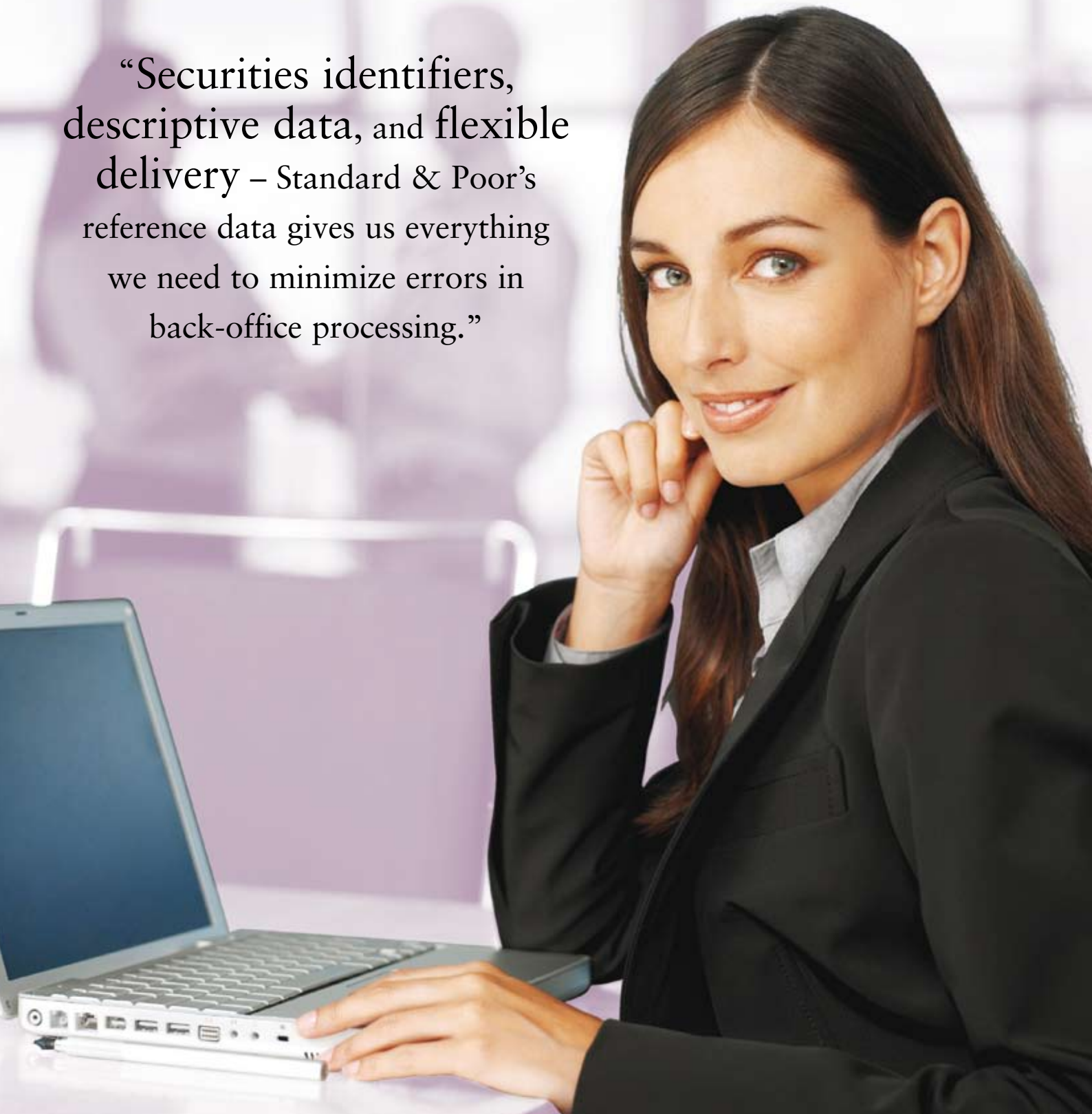
FIX-FAST, which I believe you’re referring to here, is in a bit of a tough spot that isn’t directly analogous to other standards backed by more formal organizations. FPL has a standard designed to be extensible—which means a proliferation of dialects. This means that each time they want to “freeze” a version in order to add additional functionality on top of the existing standard, they’ve got to reach at least a general consensus among the users on exactly what the core of the release is. In this case, I tend to view efforts by members of the FIX community to “police” implementations as a normal part of the evolutionary process. As usual, “working code wins”—eventually, the things that solve people’s problems will be incorporated into the standard, either as core or as sanctioned dialects, and the process will repeat as the industry moves on to the new problem sets that are addressable due to the fact that “the standard” is implemented.

**Dimitrion:** The main danger is within the interpretation of the standard. This is the reason for industry bodies like ISITC to define recommendations and market practices around the correct use of a standard. We have seen a lot of success in the past 10-plus years in the work done by ISITC, and the industry support and implementation of these recommendations. In addition, ISITC has worked very closely with the SMPG (Securities Market Practice Group) to establish global standards. These market practices have been defined at the global level and provide direction for the global securities industry on how to successfully implement standards and ensure they are defining the information correctly. ■



**Genevy Dimitrion**  
State Street

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