

## FPL Founders

Here we are in 2004, celebrating the FIX Protocol's tenth anniversary. There are now thousands of people in trading, IT, operations, compliance and other areas using FIX on a daily basis as an integral and vital part of their workflow. I would wager that some are unaware that they are even using FIX, but while the vast majority know what FIX is, they are probably unaware of where it came from. The genesis of the FIX Protocol truly is a remarkable story. Initially a pilot between two firms, ten years on FIX is now the global standard for equities trading and is quickly establishing itself in other product areas.

Interviews and introduction by Ross Hutcheon, UBS Investment Bank and Bill Hebert, Fidelity Capital Markets

**This article will give you a short insight into each of the four ‘founding fathers’ of FIX, who they are, how they became involved and what their expectations were when they set out to pioneer this idea. I think this information is both interesting and useful. Looking back helps to emphasize how successful FIX really has been, helping the financial marketplace evolve and adapt to a dramatic pace of change over the last decade.**



## Bob Lamoureux

### WHAT FIRM WERE YOU WITH TEN YEARS AGO AND WHAT WERE YOU DOING THERE?

I was Director of Trading Technology at Fidelity Management & Research Company. I was responsible for developing and delivering the next generation equity trading floor, which was being based on Sun workstations for each trader (three monitors) and SUN servers in the back room running Sybase database software. As part of this project, integration with a wide variety of systems, including the existing trading system based on IBM AS/400 technology, were key components. Electronic broker connectivity was also a vital part of this project.

### HOW AND WHY DID YOU GET INVOLVED?

During this time ten years ago, Fidelity was experiencing a dramatic increase in the number of trades being executed each day, as well as the number of shares being traded each day. This increase in the volume of activity forced the traders to limit the amount of intraday communication they would accept from the sell-side. As a consequence, final execution reports would not come in until after the market closed. Unfortunately, there were an increasing number of trading errors that were not caught until after the closing bell and this had real and deep financial impact on the company to correct.

In parallel with that issue, many buy-side firms felt that another key tool, Autex Indications, were of poor quality. In fact, there was even a suspicion that the system was being abused and Fidelity's trading strategies for any particular day were being compromised. We began to discuss a new system that would provide much higher quality, 'actionable' indications that would help eliminate most of this problem.

It was with these two goals in mind that Jacques Perold and I began discussion with Chris Morstatt and Jim Leman at Salomon Brothers. That work actually started in late 1992 and in 1993, a prototype version of the protocol, called TIX (Trading Information Exchange) was created. We immediately began to see the value of this approach and also the benefit of using it in more venues than just trading, so we changed the name in late 1993 to FIX.

One of the main drivers for creating a standard, open protocol was the fact that Fidelity had numerous electronic connections to the sell-side, but they were each running proprietary software. Software and hardware maintenance of these systems was a significant cost for us and we wanted to reduce that down to a common software 'engine' and eliminate all the costly leased lines dedicated to each sell-side partner. The Internet was becoming a viable communication medium at that time and we felt we could reliably and securely carry this traffic over that network.

### WHAT DID YOU THINK THE BENEFITS OF FIX WOULD BE WHEN IT ALL STARTED?

The major benefits we were expecting out of the protocol were:

- We wanted a system that would allow us to confirm orders electronically with our trading partners and to highlight potential trading errors as soon as possible (preferably before market open). We wanted that system to not require any human intervention unless an exception was generated.

- We wanted an actionable, high-quality indications system that would not put our traders at a disadvantage. Too many times, our traders would hear 'Sorry, just traded away ...' when they reacted to an Autex Indication. They then felt that the sell-side firm had an advantage in knowing that Fidelity was interested in a particular stock.
- We wanted this to be built on a platform that could scale to the 300+ brokers that Fidelity was dealing with at the time. We did not want to have hundreds of leased lines running various protocols to our trading partners.

In summary, we expected the benefits to help us reduce trading errors, increase the quality of the liquidity indicators and to lower development and operational costs.

#### **DID THOSE BENEFITS MATERIALIZE AND WERE THERE ANY BENEFITS THAT YOU DIDN'T EXPECT?**

All of those benefits materialized in spades! Trading errors with our co-founder, Salomon Brothers went to almost zero within a few weeks of production. Within months, we eliminated dozens of leased lines and proprietary systems and replaced them with systems riding on top of the protocol. One of the surprising benefits was that in discussing the protocol with many of the subsequent firms, we discovered other firm's procedures and technology angles that helped us work with them much more easily. All of the early participants were very open with what worked and didn't work within their own firms and it was very gratifying to see how the community rallied together to help everyone get the maximum bang for the buck in implementing the protocol.

#### **WHAT ARE YOU DOING NOW?**

Currently, I am the CTO and CIO of an investment bank, Americas Growth Capital, with main offices here in Boston, MA. My focus is multi-dimensional. My primary focus is to find or create compelling technology to help our firm in the three major areas of focus for us, banking, research and trading. I oversee the internal technology efforts for all three parts of the business. Concurrent with that, I also participate with the banking team and the research team in helping them understand some of the details and nuances of the projects they are working on. This dual role helps me maintain a handle on what is evolving out in the commercial space to help drive some of those ideas and technologies into our own business practices. **FIX**



## **Chris Morstatt**

#### **WHAT FIRM WERE YOU WITH TEN YEARS AGO AND WHAT WERE YOU DOING THERE?**

I really have to answer that in the context of 12 years ago when the FIX effort began as proof-of-concept effort between two firms. At that time, I was a Project Manager at Salomon Brothers, Inc. in East Rutherford, NJ. I was managing a project to stabilize and increase the throughput of Salomon's program trading system, Portfolio Trading and Management System (PTMS), which was better known in those days as Pain, Torture and More Suffering. In fairness, PTMS was the first distributed trading application built on the Unix/Sun/Sybase platform and, as with any new technology effort, the first try always needs some tweaking after it has been rolled out. As that effort was drawing to a close, another manager, Mark Greenberg, (who later also served on the FIX committee) was named manager to continue with the expansion and maintenance of that system.

#### **HOW AND WHY DID YOU GET INVOLVED?**

I was asked! At the tail end of the PTMS effort, Fidelity approached Salomon and asked if we would be interested in working with them on finding a way to link their proposed new order management system with our recently deployed Equity Desk Trading System (EDTS). I had managed the first iteration of EDTS, known at that point as Eagle, and was very familiar with the technology. Remembering back to 1993, Salomon was going through a pretty rough time; they had just been through the Treasury bidding scandal and were looking for ways to re-establish their client relationships. They had also just dropped major money into this new technology platform across the firm and were looking for ways to leverage it to increase their business flow. I like to think that when Fidelity approached us, we had to respond in our most positive fashion by getting me involved, but it is more likely

that I was the only manager at the time who was available for a project.

The initial effort took about three months or so. After exchanging about a dozen drafts of message formats and protocol approaches between the firms, Dan Friedman (who worked with us) and Bob Lamoureux independently wrote software to implement the spec. Finally on one sunny morning in Boston, Bob came to our office with a Zip drive containing his version of the implementation, we loaded it on one of our workstations, started it, and were surprised when it worked. That was when the firms decided that it was a worthwhile effort and formed the initial FIX committee.

#### **WHAT DID YOU THINK THE BENEFITS OF FIX WOULD BE WHEN IT ALL STARTED?**

Honestly, when it first began, I was thinking in a very selfish way about how it would benefit Salomon. I argued that it was a way to leverage the technical investment we had made over the last few years to more tightly bind our success to that of our clients. I thought by that making it an open protocol we could showcase our technical and trading acumen to the detriment of other firms who had not yet started the process but were far ahead of us in equity trading revenues. To some extent, I think that proved out.

#### **DID THOSE BENEFITS MATERIALIZE AND WERE THERE ANY BENEFITS THAT YOU DIDN'T EXPECT?**

Yes, I think that for a number of years Salomon was considered the leading firm in terms of technical trading capabilities. I certainly did not envision that FIX would grow to the extent it has –who would have guessed that profitable companies could be formed off this simple idea? Although it is probably my inflated sense of self that likes to think this way, but could the ECN's or electronic trading companies grown as they have without an industry-endorsed standard for message exchange?

#### **WHAT ARE YOU DOING NOW?**

I hold a position at Thomas Weisel Partners as a Principal in the Trading Systems group, but in reality I have been on sabbatical since January 2003. TWP calls on me occasionally to bounce ideas off and to look at potential private investment opportunities in the financial technology field. Mostly I have been concentrating spending time with my wife and two daughters. I've managed to get involved in their school, their sports and to do some volunteer work – things

that people working in our profession know is difficult to find time to do. **FIX**



## **James T. Leman**

#### **WHAT FIRM WERE YOU WITH TEN YEARS AGO AND WHAT WERE YOU DOING THERE?**

In 1994, I was responsible for the Salomon Brothers Inc program trading desk, the middle office sales and trading assistants and was the designated co-ordinating user for the build-out of our paperless OMS and program trading system. I was also at that time establishing the concept and implementation of an electronic trading and customer connectivity unit for the equity department.

#### **HOW AND WHY DID YOU GET INVOLVED?**

As part of my role, we were involved in industry initiatives like Thomson's Oasys and Oasys Global products with strong buy-side/sell-side co-operation as a key ingredient for success. Those relationships then bled over into Salomon's relationship with Fidelity Management & Research's management team. Switching from T+5 to T+3 settlement was on the immediate horizon and more effective communication for both pre- and post-trade interaction was essential, given the growing trading activity levels. Salomon had moved into its new premises at 7 World Trade Center in 1992 and was deploying its paperless trading system and showing it to visiting customers. Fidelity, among other customers, received a preview of its capabilities and saw that Salomon and Fidelity were implementing similar paperless trading initiatives and were at a mutual state where co-operation and getting more efficient ways to exchange data would be productive to both parties. Jacques Perold and several other managers from Fidelity raised the idea of developing a common way to communicate certain classes of

messages to aid the paperless handling of trading activity. We agreed that it was a concept worth pursuing and felt other customers needed to be in the mix as Fidelity felt other brokers needed to be part of the process as well. This initial set of meetings were carried out in 1992 and 1993 saw us holding meetings to develop the ideas and prototype concepts of how to carry out the initiative and how we could relate it to our order management system, which was being further refined and rolled out to all of our desks in the US and linked to our program trading system. After the proof of concept was accomplished, regular meetings of the participating firms were held generally in New York and Boston with the concept of a formal committee emerging along the way with the technology initiatives. After a period of development and testing and agreement on message handling issues, the decision to declare the protocol production ready needed to be made. The committee decided that to declare the protocol production ready we needed to have two brokers and one customer prepared to use the protocol in live trading. The customer was Fidelity and the two brokers were Salomon Brothers Inc. and Fidelity Capital Markets. A coming-out meeting and announcement event was held at Salomon's offices at 7 World Trade Center in January 1995 where buy-side firms, brokers, the vendor community, the press and others were invited to attend the public unveiling of the protocol. After that successful meeting we were off and running. Other international regions saw a similar introduction of the protocol and the associated formation of regional committees for Europe in London in 1996, for Japan in Tokyo in 1998 and for Asia Pacific in Hong Kong in 2000.

Meeting the needs of customers and fostering greater and richer exchange of trading and other information was always the prime motivator for adopting the protocol to assist in solving business challenges.

#### **WHAT DID YOU THINK THE BENEFITS OF FIX WOULD BE WHEN IT ALL STARTED?**

At the time we created FIX, brokers were continuing to deploy one-off DOT capabilities to institutional customers, and the community of buy-side order management systems was just beginning to grow and expand. We believed that as brokers we needed to adapt to customers' desires to handle smaller or more easily accommodated trades in a more efficient fashion to reduce clerical burdens on both the buy- and sell-side and to speed up delivery and reaction times for

action with things like IOIs. Customers were interested in more integrated solutions, error elimination and reduced clerical activity in the face of growing activity levels. We saw connectivity in conjunction with the implementation of our OMS which included touch screen technology on the NYSE floor as a way to handle more volume more effectively with a stable headcount and with the benefits of fewer errors and higher customer satisfaction for those pursuing complimentary technology.

#### **DID THOSE BENEFITS MATERIALIZE AND WERE THERE ANY BENEFITS THAT YOU DIDN'T EXPECT?**

The benefits did come as customers adopted more order management systems and trading volumes rose. To benefit, both sides needed to have their systems prepared to make the best use of the new connections and several versions later FIX was pretty broadly adopted. The open nature of FIX and our committees' willingness to adopt new fields or needs of things like ECNs or order types expanded beyond what I think what some saw as our primary mission. The acceleration I think was gratifying and its spread was strong but still held challenges for vendors and early adopters since varieties of implementations abounded. The community continued to grow around the world and its adoption and growing ubiquity has justified our investments in it and its utility to the market place participants.

#### **WHAT ARE YOU DOING NOW?**

I recently joined SunGard Trading Systems/Brass as President after 22 years with Salomon Brothers: Salomon Smith Barney and finally Citigroup Global Markets. I remain active in the FIX space, serving as one of the Co-chairpersons of The Americas Committee's Business Practices Sub Committee. Having taken on my new position at SunGard in April, I will be focusing on the challenges of that role substantially but will stay involved with FIX. [FIX](#)

## Jacques Perold

#### **WHAT FIRM WERE YOU WITH TEN YEARS AGO & WHAT WERE YOU DOING THERE?**

Ten years ago, I was head of the Structured Trading group at Fidelity Management & Research Co. My charter was primarily to utilize and channel technology to make Fidelity's equity traders as nimble and efficient as possible in trading



significant volumes of stock. The efficiency we were targeting was from both operational and trading cost points of view.

### HOW & WHY DID YOU GET INVOLVED?

While Fidelity already had an excellent Order Management System (OMS) in place, it was focused on order-creation/booking and compliance, and was not geared towards real-time decision support. We recognized that it was critical for us to combine the OMS with newer workstation technology that would provide a platform on which we could integrate data from ticker plants, news feeds and data from brokerage firms. We had already had much success with Unix-based technology and Teknekron's (TIBCO) data distribution platform on our fixed income trading desks, and therefore had a good handle on how to process real-time data from vendors. However, it became clear that a key component of our goal of handling trading data from the brokerage firms was going to require a quantum leap forward in terms of data gathering and processing. The development of FIX was that leap forward.

### WHAT DID YOU THINK THE BENEFITS OF FIX WOULD BE WHEN IT ALL STARTED?

At the time, there was no way for us to systematically process the 'indications of interest' that brokers would send to us via fax in non-standard formats. Likewise, there was no mechanism by which brokers could send us updates on the progress of existing orders they were being worked. (The NYSE's Super-Dot CMS protocol was the closest to allow for submission of orders and receipt of fills; however, all trades had to be initiated electronically, and unsolicited messages were not possible.) From a business perspective, the lack of streamlined electronic 'indication of interest' messages meant that opportunities to cross large blocks of trades between buy- and sell-side firms were relatively small. Likewise, the lack of electronic updates from 'upstairs' brokers meant that, with the exception of traders keeping manual (verbal) track of the progress, the desk as a whole was not as well informed as

they could or should have been. From an operational perspective, it was also clear that more real-time feedback from brokers would facilitate straight-through processing and reduce potentially costly trade errors.

### DID THOSE BENEFITS MATERIALIZE & WERE THERE ANY BENEFITS THAT YOU DIDN'T EXPECT?

The technology wizards in the form of Fidelity's Bob Lamoureux and Salomon's Chris Morstatt made it easy for us, early on, to see the tangible benefits that the protocol would deliver: the trading desk became more efficient in its information and order management; order flow was better matched with natural liquidity, and trade errors were discovered earlier and their impact minimized. The biggest problem that we still faced was that the benefits would not be realized without wide-spread participation. I credit the decision that we made early on – that the FIX protocol would be an open non-proprietary standard to be shared by all – as the key to capitalizing the obvious benefits that standardized communication would offer.

To jump-start the adoption of the protocol, we assisted our counterparties with technology and advice. While this was helpful, it was clearly going to take some time for universal adoption. We developed a tool – called 'Fidelity Direct' – and made it available to sales traders that covered Fidelity traders to allow them to enter information into a terminal; in so doing, simulating FIX messages to Fidelity. This worked well to get many firms (especially the smaller firms) up and running.

What surprised me is how fast the larger firms committed technology and business resources to develop towards the FIX Protocol. I found the FIX Committee worked extremely well together at expanding the protocol itself, as well as welcoming new firms and vendors into the process. It was great to witness the strong spirit of co-operation amongst Wall Street firms, and to see how that power could be harnessed to common benefit.

### WHAT ARE YOU DOING NOW?

I am President of Geode Capital Management – an investment firm that was spun out of Fidelity last year. Geode manages multi-strategy alternative investment strategies, and also serves as a sub-advisor to Fidelity for its equity index products. I remain involved with FIX from an end-user perspective, as we have integrated FIX messaging into our proprietary Order Management System. **FIX**