

july 2008

# e-FOREX

transforming global foreign exchange markets

visit us at [www.e-forex.net](http://www.e-forex.net)

## **Outside the comfort zone**

- FX e-commerce operates in a new era of risk

## **News driven algorithms**

- integration into FX trading strategies

## **Trading through banks**

- the value proposition for Retail FX investors

## **FOCUS on Best Execution**

- transparency and analytics bring clarity

...liquidity...risk management...STP...e-Commerce..



By Nicholas Pratt

The technology behind machine readable news has become more mature allowing providers to refine their offerings and for high frequency trading firms to use them as a greater part of their quantitative trading strategies. Nicholas Pratt examines what factors a firm must consider when looking to implement machine readable news within their own trading desks and what help may be at hand

Last year this magazine featured an article on machine readable news (MRN). The piece was designed to serve as an introductory guide to this new technology and to highlight how it could be applied to FX trading strategies. In terms of the providers, there were not many to choose from with Dow Jones and a pre-merger Reuters the highest profile content providers with an MRN product, while Apama was one of the few vendors active in the market.

In the subsequent months, more providers have emerged on both the content and technology side, while the existing firms have expanded their offerings and explored the more complex side of

# Integrating news driven algorithms into FX trading strategies

the MRN market, such as valuing sentiment rather than merely tagging and categorising news.

There has also been more interest from potential customers – high frequency hedge funds, sell-side prop desks and even the odd mainstream buy-side firm. The majority of these participants are looking to use MRN to augment their quantitative trading strategies. They are convinced that the leading developers have refined their offerings enough to be of practical benefit to customers and they are now seeking advice on how these can be integrated into their trading desks.

## Event driven algorithms

As Bob Prinsky, executive director and senior editor of Dow Jones Newswires, says: “Many people feel that price-driven algorithms have come about as far as they can, so those traders that are looking for alpha are starting to make their algos more event-driven and are bringing news feeds into this,” says Prinsky. “However we are still in the very early days of this and news-based algos are not being used to the same extent as the more traditional price-based algos.”

Dow Jones’ elementised news feed service now has 175 economic indicators in the G7 countries, the Eurozone and, more recently, Australia and New Zealand with Sweden, Switzerland and Norway set to be added imminently bringing the number of economic indicators close to 200.



Bob Prinsky

*“We are still in the very early days of this and news-based algos are not being used to the same extent as the more traditional price-based algos.”*

Dow Jones has also been developing its corporate news feeds, suggesting that the whole MRN area is generating more interest from equity traders as well as FX traders. “We developed the economic indicators first because we were concerned with that was easiest to bring to market,” says



Prinsky. “But we’ve known from the beginning that the potential on the corporate side is much bigger because there are so many more players.”

The other main area of focus for Dow Jones, and of more interest to the FX market, is on reducing latency, says Prinsky. “Customers

are talking in microseconds now and not milliseconds and they are talking about zero latency,” says Prinsky. Consequently Dow Jones has set up a dedicated latency team whose job it is to eliminate any lags.

“The high frequency traders are the ones that appreciate this service

the most. They are looking to generate alpha by being the first to place their orders and if they can do this based on an algo news feed then they will make more money than those that are following the news first and then doing something about it after.” This is the first of two classes of customers that Prinsky has

identified in the MRN market. For these high frequency clients there is no real need to offer any advice on how to use the service. “They are very sophisticated and would not even ask for my advice. We give them the feed, the XML schema and we wish them good luck.”

For those firms dealing at a lesser frequency or without a large staff or IT budget, Dow Jones has entered into a series of partnerships with vendors such as Apama and RavenPack which enable firms to conduct analytics and what-if scenarios using ready supplied tools.

**Risk Management benefits**

Reuters was the other dominant content provider this time last year. As with Dow Jones much of Reuters focus since last year has been developing the corporate news indicators as the interest level for MRN has developed beyond the FX market to a wide range of buy-side trading firms. Additionally, the economic events caused by the collapse of the sub-prime market has led quantitative trading firms to realise that MRN feeds hold a



**Richard Brown**  
*“News can help explain why some of the pricing algorithms have faltered on occasion or can be used to form trading strategies of their own”*

number of risk management benefits alongside their alpha-generating attributes. “These firms are looking at how they can put a quantitative risk measure on events described through qualitative means and then use that measure to manage their event risk and help detect when and where the next crisis is going to occur,” says Richard Brown, Global Business Manager, Machine Readable News at Thomson Reuters – the new name for the company since the merger with Thomson Corporation.

Brown envisages a much broader use of news-based data in the future with traders seeing the most value in the complementary interaction of externally supplied news-based and pricing data with its own proprietary sources of data. “News can help explain why some of the pricing algorithms have faltered on occasion or can be used to form trading strategies of their own. If you find a predictable market reaction, you can refine your algorithms to exploit the opportunity the next time it occurs.”

The latest development at Thomson Reuters has been the beta release of its NewsScope Event Indices, an integrated framework of event analysis, across a number of robust index categories. The event indices include adjustments for seasonality and indicators for predicting FX volatility. “Our macro-economic indicators can drive currencies but some of the more subtle indices – like the livestock index and the bearish index – can drive volatility as well as potential direction,” says Brown. “We have found significant statistical support for this and we offer a white paper and sample data for clients to study these relationships.”



**Ryan Terpstra**  
*“... the telecom carriers can significantly impact the performance of the overall system both in ingesting content and then directing trades to an execution venue.”*

Prior to the companies coming together, Thomson had been developing its own MRN offering as part of its Quantitative News service. According to Ryan Terpstra, Global Business Manager, Quantitative News for Thomson Reuters, the eventual plan is to combine the Thomson and Reuters services, an offering that Brown and Terpstra believe will be very compelling. “We’ll be leveraging the new ultra-low latency distribution platform to deliver the powerful content sets from the combined company. When you bring together these two leading capabilities, I think you have the best of both worlds and a must-have solution for clients operating in this space,” says Brown.

**Integrating News feeds**

For those firms that are using MRN feeds for the first time and are looking to integrate them into their trading desks, Brown stresses the importance of testing the data thoroughly. “News should not be treated as a single absolute signal generator but as one of many variables that you would program

into your models. No solution is the be all and end all; it is about putting it all together and making the right decision.”

Terpstra believes there are three major considerations for buy-side firms approaching MRN for the first time. The first of these is the ability to work with telecom carriers. “These major carriers control a lot of the transmission speeds so if you are a high frequency hedge fund looking to execute an ultra low latency, event-driven trading strategy using FX news, then working with the carriers to ensure those lines are optimised can actually be a competitive advantage. And conversely if you don’t know how to work with these carriers then it can actually hinder your performance. From my experience some firms are good at this and others are not but it is an important aspect because the telecom carriers can significantly impact the performance of the overall system both in ingesting content and then directing trades to an execution venue.”

The second consideration, says Terpstra, is the ability to find top talent in specific coding languages, especially those languages that are not as commonplace in today’s IT environment. “A lot of the IT schools and colleges are now teaching Java-type languages but in a low latency environment, C++ is the dominant code, even though it is a rarer skill.”

The final consideration relates to the supporting technology for MRN feeds. “It is an extremely competitive environment in terms of the related technology,” says Terpstra. Unsurprisingly, given this level of competition, most MRN

providers are developing a series of supporting services that they can add on to their core services.

Thomson, for example, has its MarketQA service – a time series manipulation platform that is part of Thomson Quantitative Analytics. “This enables traders to back-test specific data types that may affect the FX market and we are currently in the process of putting all our news archives on this platform which will enable traders to track news items against security prices and see if there is any kind of correlation.”

### Interoperability

When a new technology is in its formative stages, interoperability and standardisation are rarely prominent. What many current and prospective users want to know is whether it is possible to use a number of different MRN feeds from different providers and have them all work easily together or is it more practical to take the services on offer from one provider.

“I think this comes back to the technology issue,” says Terpstra. “Data feeds are inherently complex and the resources have to be dedicated to coding that feed, recognising what that feed looks like, optimising the ingestion mechanism. There are the complex event processing (CEP) providers such as Apama that are trying to make this job easier but there is still a big effort needed on the integration side, it is not a case of having plug and play feeds.

“I think this will change over time, particularly when you look at the advances CEP has made in terms of market data but for the

high frequency trading firms where ultra low latency is the main criteria, they will not want added middleware that might increase latency. For those firms that are using MRN for risk management and are not driven by low latency, there may be some value in the CEP platforms that connect multiple feeds, which have been developed for market data feeds but not yet for MRN feeds.”

### Challenges of implementing an MRN service

According to CEO and founder Armando Gonzalez, RavenPack is a provider of an “end-to-end service that captures, analyses and transforms standard news into a machine readable format for algorithmic and quantitative trading. It has entered into a partnership with Dow Jones, providing the technology for the news content provider’s news analytics service. RavenPack also has its own content-independent service that combines multiple news feeds.

The service is plug-and-play in terms of the content, says Gonzalez. “Our model is based on software as a service and is hosted by us. The typical clients are prop desks and hedge funds that do not want to take any more hardware or maintain infrastructure so they subscribe to our service to not only receive access to the underlying analytics but also the necessary tools to incorporate this time-series data into their system.”

As far as Gonzalez is concerned there are five major challenges facing an FX trading firm that wants to implement an MRN service on its trading desk. The

first of these concerns getting the news in the right format. “There are many ways to get MRN and some newswires will have added metadata which makes it better searching but not necessarily for trading purposes or for computer interpretation,” say Gonzalez.

“The scope of the metadata is important, what attributes does it stress. The other important aspect is whether the news is being elementised. This is different from merely metadata because it involves trying to find categories and values for news but in a simple enough format to be understood and acted on by computers. So are you merely adding metadata or are you properly elementising the underlying information?”



**Armando Gonzalez**

*“The MRN is just the format; you then have to figure what to do with it and how to apply it in a profitable way and find alpha in the analytics.”*

The next consideration is to minimise latency, says Gonzalez. “Although this is a pretty new area in trading, the demand for low latency is pretty stringent. They want the information in the right format at the quickest speed. The technology issue concerns the processing and transformation of

the news data and having this done as quickly as possible.”

Access to historical news data in a format that enables you to conduct some back-testing is also critical, says Gonzalez. “Without years of historical data in the right format there is really no way to build quantitative models.” You also need the right infrastructure with the ability to collect data from multiple sources so there is less dependency on single providers, to maintain archives and to have a proper storage strategy, says Gonzalez in reference to the fourth challenge. “You need a proper solution for storing the massive amounts of data and a strategy from retrieving this data so that you can extract specific data for building models and to quickly respond to market changes.”

The final and most important challenge is the ability to derive valuable analytics from the MRN, says Gonzalez. “The MRN is just the format; you then have to figure what to do with it and how to apply it in a profitable way and find alpha in the analytics. But you have to address the first four points before you get to the fifth and most important part.”

### Gaining competitive advantage

To help with this final challenge RavenPack supplies some analytics along with its MRN service. This does raise the issue of how users will be able to gain any competitive advantage if they are all working off the same set of analytics but Gonzalez adds that it is only a framework they are providing, the idea being that customers can then use this framework to develop their own analysis to form the basis of their trading strategies.

“We’ve tried to provide them with interface tools that enable them to change the entire spectrum of the analysis. To get them started we provide them with a transparent structure and schemas of the analytic itself. If we derive sentiment from a story we show them the techniques that we used and provide them with the tools to tweak the various inputs used. Many other providers would simply provide a black-box solution where users would simply have to accept the analytics and sentiment scores that are provided so we feel we have a more flexible solution.”

### What type of news to use

Another new player in the MRN space is Need To Know News, a self-dubbed “niche player” in this market according to Clint Rhea, the company’s chief operating officer. “Our focus is to be the first on major economic events along with offering direct access to our development team,” says Rhea. The service currently offers all the major US economic releases and plans to add the major events in the UK, Germany and Canada.

The service is offered in two ways – one for the high frequency traders motivated by ultra high-speed and another for those trading firms not so fixated on microsecond-based delivery. “Our Lightning Bolt data feed provides economic data as fast as we can get it to our clients. Our goal is to be the first on major economic events. The management team at Need To Know News has come out of successful high frequency prop shops and we understand that microseconds count.”

The second product, Essential, is a desktop product that displays economic data and news stories. The economic indicators are displayed in a table which includes their previous and consensus values, enabling users to add their own value in addition to those provided, says Rhea. “When the indicator data is released, Essential will not only show the data but also the difference between the consensus and the actual value and will colour code this data so that manual users can tell, without reading the numbers, if the actual data came in above or below the consensus.”

According to Rhea, firms need to ask themselves a series of questions when first integrating an MRN feed directly into their trading systems. “The first question is what type of news do they want. Understanding the content of news stories is a difficult problem and it is much easier to deal with simple economic data,” says Rhea. “Another critical issue is what a firm’s software is able to handle. Is the feed integrated into their trading desktop or trading engine? If not, how difficult is it to incorporate? What type of connectivity can they afford?”

The high frequency prop shops and hedge funds will no doubt have their trading engines at collocation facilities and can install cross-connections to MRN providers to optimise the speed of their MRN feeds. For those less fixated on low latency, the internet offers a much more economical connection, albeit considerably slower, says Rhea –

although this will be of little concern if the firm is using the service for risk management, initiating positions as well as hedging any long term positions.

### Future developments

So what next in terms of future developments? For Thomson’s Terpstra, aside from the continuing integration efforts that will result from the merger with Reuters, there will be two key service innovations – the faster delivery of scheduled events that

move markets and, more importantly, the deeper tagging and enhanced delivery of unscheduled news events that move markets. “Our goal is to tag these events in a way that algorithms can react to them without requiring too much human intervention,” says Terpstra. The final innovation is to be able to integrate the news feeds with the quantitative back-testing platforms, says Terpstra. “This will

really give quants the ability to statistically validate how these things are moving the market and track this in real-time.”

Such developments may be all well and good for FX traders but, far more importantly, what are the implications for people like me – financial journalists? Will news stories be reduced to a list of machine readable and elementised tags? Will there be any room for linguistic colour? Are journalists about to undergo the same experience as the former pit-traders of the open outcry era before the securities markets went electronic?

“Everyone realises that computers will have to aid the traditional journalist more and more,” says Terpstra. “For some areas where the news is wholly data-driven, like payrolls, that can really be done with templates and specific publishing tools. But there are also news stories that require an intelligent human being that understands the industry to structure the news story, for example M&A, which is a great deal more nuanced – is this an announced deal, is this a terminated deal? So I think you will have both sides. It will not be a case of machines ruling the world by making and trading the news. And you will still need skilled journalists to structure the less data-centric news in a machine-readable format.”

Let us hope so.

