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Watchful Eyes

There's a popular statistic that's usually trotted out in any story about surveillance from the UK media, which claims that British citizens are caught on camera around 300 times per day. It's not hard to believe, given that this small, soggy island has over 4 million CCTV cameras in operation, by conservative estimates, at any one time—roughly one for every 16 people. If the average person feels like they're being watched, then they're not alone: Incoming regulations around market surveillance and communications recording for the financial services industry are definitely designed to make workers at banks know that everything they're doing is being monitored.

In an ideal world, this should make the job of market-surveillance analysts and compliance officers much easier. After all, with modern technology, voice records can be searched and correlated with market data around a particular trade, while complex-event processing (CEP) technology even offers the possibility of commingling unstructured data and spinning it through analytics engines to flag up causes for concern. Entire decision-making and action-reaction sequences can be reconstructed to provide a definitive look at not only how something took place during the course of the trading day, but why. As ITG's Michael Sparkes says in this report's virtual roundtable on page 4, when it comes to taking in vast quantities of data, it can sometimes feel like you can't see the wood for the trees. Knowing how to analyze data, and what you want to learn from it, is just as important as being able to do it in the first place.

This, more than anything else, is perhaps the greatest challenge for the function of market surveillance. Not only is it being forced to still perform its role in the midst of enormous changes in both market structure and practice, with the Balkanization of trading venues and the emergence of high-speed, high-frequency trading, but it also has to adapt and run with new technologies in the process. Maintaining a watchful eye across pre-trade, at-trade and post-trade cycles, in this context, becomes an enormous challenge. It's a necessary one, though, and it demands serious attention from all institutions. After all, the penalties for not monitoring trading activities to the very best of one's ability can be extreme, if the cautionary tales of the past few years are anything to go by. ■

James Rundle
Deputy Editor, Sell Side

Inside Market Data Inside Reference Data



waterstechnology

New Equities ATS to Use Verdande for Surveillance

IEX, a US equities alternative trading system (ATS) that launched on October 25, is using the VTEdge case-based reasoning (CBR) platform from Norway-based Verdande Technology for operational surveillance of trading activities.

Verdande Technology's CBR-driven VTEdge platform identifies, captures, and analyzes unstructured data patterns in real time, using past events to predict future problems and manage unexpected situations by modeling "normal" behavior and running complex systems analysis and anomaly detection against that model to identify and prevent abnormal behavior. IEX will use Verdande Analytics as an early warning system across critical trading platforms to predict and prevent infrastruc-

ture glitches related to switches, routers, and network links, as well as monitor orders, fill data, and market data.

"Given the complexity in today's systems, we need to know how to recover from system failures," says Zoran Perkov, head of technology operations at IEX. "Verdande has brought to market a disruptive idea that has never truly been executed well: signal processing via complex-event processing (CEP) to understand patterns and deviations from the norm. Cause and effect is no longer a simple linear equation. Verdande allows for a proactive, real-time analytics approach that can help inform a human of what possible decisions they can make to reduce the length of an outage."

ASIC Implements First Derivatives Surveillance System

The Australian Securities and Investments Commission (ASIC) has gone live with a market-surveillance system from First Derivatives. Based on its DeltaStream algorithmic trading technology, the custom build gives ASIC the ability to monitor trade flows across futures and equities on a real-time basis. High-performance components also allow analysis timeframes to be reduced drastically, with times of less than one minute cited.

"We made the decision to upgrade our systems in response to new developments in the trading environment," says Greg Yanco, executive leader of market and participant supervision at ASIC. "Given the dynamism of the market environment, we wanted a system capable of capturing and analyzing data from all our participants on all markets in real time. With this implementation we can identify questionable activity straight away and act upon it much quicker."

Nice Actimize Partners Ullink for Trade Data



Amir Orad, Nice Actimize

Nice Actimize has announced a partnership with Ullink, whereby data from the latter's global routing network will be used to inform market surveillance practices for the vendor's customers.

The partnership adds further data acquisition capabilities to Nice's cloud-based compliance and monitoring platforms, giving customers a centralized, single point of connection for aggregated and normalized data spanning equities and derivatives trading activity.

"By providing transparent data acquisition, we are enabling both our clients and those of Ullink to address trade surveillance in a streamlined and effective manner," says Amir Orad, president and CEO at Nice Actimize. "When delivered through cloud-based solutions, we expect that customers will see deployment times minimized and total cost of ownership reduced."

Javelin Taps Cinnober for SEF Market-Surveillance Tool

Javelin Capital Markets has added a market-surveillance system to its swap execution facility (SEF) trading platform as required by the Dodd-Frank Act. After it recently received provisional regulatory approval from the US Commodity Futures Trading Commission (CFTC) to operate as a SEF, Javelin has integrated

Scila Surveillance, a trading-surveillance product supplied by technology provider Cinnober, to strengthen its market integrity.

"Our priority is to implement a market-surveillance system that not only meets the monitoring requirements of the new SEF regulations,

but also exceeds Javelin's own internal expectations of high levels of trading integrity to protect its customers," says James Cawley, CEO of Javelin. "Because of new rules, the over-the-counter (OTC) derivatives marketplace has already begun to transition to transparent swap execution venues."

An Architectural **Rethink** for Risk and Compliance Monitoring

Risk and compliance, and the need to ensure capital markets are properly controlled, have been recurring themes for market participants, regulators and politicians for what now seems like an eternity. But the breaches—be they bypassed risk policies, money laundering, market manipulation, rogue trading, or indeed, rogue algorithms—tell us we still have some way to go to bring this industry under control. By Theo Hildyard

Breaches of control can come from anywhere, at any time, and on anyone's watch. From high-touch or low-touch flows, from clients or staff, pre-meditated or accidental, breach regulations or internal policies—they are all sent to risk or compliance teams for investigation. But a common feature of these issues is that they are all types of unwanted behavior where the evidence for that behavior is present in day-to-day operational data. That is to say, identifying behaviors from high-volume, fast-moving data has become central to this whole debate.

This is clearly not a new concept. One reason for the continued failures in control could be that firms have to monitor for so many unwanted behaviors across so many organizational silos that the sheer scale of the challenge is overwhelming. For example, a global sell-side firm might have multiple trade surveillance and anti-money laundering (AML) applications and be grappling with how to spot rogue traders and manage pre-trade risk on automated trade flows. They will also likely be trying to rationalize the cost and complexity of these applications. But if evidence of unwanted behavior is locked away within day-to-day operational data, we can consolidate that data, apply pattern matching to identify different behaviors, as well as kick off some kind of action, possibly even an automated action.

Not Trivial

However, applying an all-seeing behavior-monitoring platform across complex banks and brokers is not a trivial exercise. The sources of data are many and varied. The volume and velocity of the data is huge. The number of instruments and behaviors to be monitored is vast. Real-time action is

required by most regulators. The behaviors evolve over time and the logic could change quarterly, monthly, or even daily. It requires an architectural rethink with several key dimensions.

First, the debate over building versus buying has never been more relevant. Risk and compliance monitoring is defined by the enterprise it slots into. It needs to be flexible, customizable and quick to evolve—it cannot be bought. Equally, the scale of the architecture is such that it is simply not cost-effective to build from the ground up. A hybrid of building and buying is required where technology platforms lay the foundation for semi-bespoke and finely tuned solutions.

Second, the sources and types of data require that any data moves from any platform to any platform over a common messaging backbone—a many-to-one flow where data is transported to, and normalized for use by, the monitoring platform.

Third, there is often an enrichment challenge where unwanted behavior needs to be acted on in real time. If the evidence is not contained entirely within the operational data—or the events—the events need to be enriched with historical data, reference data, on-the-fly analytics, or other data. This call to external data sources, if disk-based, might introduce unacceptable delays, especially in pre-trade risk settings. Rather, in-memory data management is needed to store and access such large volumes of enriching data without compromising a near-real-time environment.

Core Principles

Lastly, the behavioral monitoring itself needs to be built upon three core principles:

- Open and flexible—Firms need to rapidly evolve and respond to change and



can no longer depend on generic black-box monitoring.

- Monitor for all unwanted behavior from a single platform—Firms can make significant total-cost-of-ownership savings as well as increase software quality through the reuse of multi-purpose, platform-based monitoring.

- Ensure consistently high-performance monitoring at extreme scale—Firms often need to monitor for hundreds of behaviors by thousands of clients and employees across millions of instruments, all in parallel.

In conclusion, the age of multiple and heavily siloed monitoring applications across risk and compliance has passed. The scale and pace of change requires flexibility, agility, and rapid evolution. The financial gains of reusing proven software across multiple domains is simply too great to ignore.

But to fulfil the potential of multi-purpose platform-based monitoring that can simultaneously spot any and all unwanted behavior, a unique combination of capabilities is required. Common messaging is needed pull all the data into one place. Rapid in-memory access to big data is needed to enrich the behavioral analysis with reference data, trends, and analytics. And lastly, high-performance, real-time analytics is required to identify behavior where the business logic to describe behavior is open, customizable, and is owned by the business it serves. ■

Theo Hildyard is product marketing manager at Software AG, a Darmstadt, Germany-based provider of enterprise software.

Painting the Picture

As markets become more complex and sophisticated, the need for enhanced market-surveillance techniques rises along with it. A more analytical approach to oversight is now possible, given the availability of big-data tools, complex-event processing engines, and the ability to reconstruct an entire trade from start to finish. *Waters* investigates the role technology plays in firms' surveillance strategies through this virtual panel discussion.

Q Given the increasingly electronic nature of trading, how has the role of market surveillance changed over the past few years?

John Edge, managing director, capital markets strategy, NICE Actimize: I think it's fair to say that "increasingly electronic" is a phrase that's long past due—the world of listed liquid markets is automated, full stop. What we therefore have is a two-tier environment where it comes down to the ability to trade and the ability to monitor trading. The ability to trade is uncomfortably far ahead of the ability to monitor.

Trade surveillance performs the role of the police officer of the trading floor, ensuring everyone knows there is someone watching and that breaches of regulatory rules are detected and pursued. In this role, being a deterrent is as powerful as being a detective. With trade surveillance having been traditionally a post-trade function, usually a day or two after the trading took place, there is a mismatch in terms of culture. If a trader knows they are being watched during the day, or in real time, it causes significantly more concern and acts as a larger deterrent than after-the-fact investigation. Real time is a phrase that is used too often and with the latency wars going on, "milliseconds, etc." are not relevant to a compliance officer. What is relevant is being able to detect in seconds, act in minutes, and strike

fear—as traders are driven by fear and greed—into the trader's mind as to the consequences of breaking regulatory rules.

As 21st century trading has become more electronic, faster, and more complex, surveillance must keep pace. In fact, this is already occurring: Among broker-dealers, and now among regulators as well—in the Securities and Exchange Commission's (SEC's) Midas platform, for example—trade surveillance is being run in real time with sophisticated analytics, in some cases using the very same analytics developed by the traders themselves.

Michael Sparkes, director, ITG: The complexity of market structure and the emergence of electronic trading activities such as high-frequency trading, make it more challenging. Surveillance has to become more sophisticated and has had to adapt as market structure changes. The Markets in Financial Instruments Directive (Mifid) was brought in with the objective of introducing competition to the primary exchanges, and it has achieved that. But, of course, there are unintended consequences, and market data is a challenge for all participants at the moment. We don't have a consolidated tape in Europe like the US does, and surveillance relies on data. It's an ongoing challenge, one which isn't going to change any time soon, I suspect.

Richard Carleton, CEO, CNSX Markets: The overall direction and thought process hasn't changed that much from the Investment Industry Regulatory Organization of Canada (IIROC) or exchange perspective. The real difference is on the dealer side, where the compliance groups now have very sophisticated capabilities. There's been a tremendous amount of research and development and new products available to support compliance teams in-house. I think that's due to the increasing liabilities that dealers are taking on to demonstrate best execution for the regulators, or to properly demonstrate that they're fulfilling their fiduciary obligations for their clients. That's been the biggest single area of investment in the industry and is far and away the biggest trend.

Theo Hildyard, product marketing manager, Software AG:

The growth of electronic trading prompts different considerations, from the increasing number of execution venues, to the rise of aggregation platforms and the growing availability and use of high-frequency trading (HFT) as well as increased appetite for cross-asset trading.

The impacts are clear: increased order, quote and trade volumes, decreased average trade size, greater speed in the trading process, and increased volatility. The changes have been most pronounced in recent years in derivatives and now in foreign exchange (FX).

There are probably two types of surveillance to consider. The first is a regulatory insistence on improved levels of monitoring. Since 2007, this has been a consistent and growing tide of legislation, guidelines and expectations. The general thrust has been to extend the requirement to monitor across more asset classes and extend the conditions and actions to be identified. The European Securities and Markets Authority (ESMA) guidelines on automated trading are a perfect example, where they spell out the expectation that both the operators of electronic regulated markets/multilateral trading facilities (MTFs) and investment firms should have real-time surveillance applied to their trading. The second type of surveillance is less well discussed. It is, irrespective of legislation, the monitoring that a venue or firm itself wants to have in place to ensure it has proper controls over trading behaviors and risk management. Many recently publicized cases from rogue traders to benchmark manipulations are underling the need for this.

Michael O'Brien, head of global sales, SMARTS Broker:

The increase in electronic trading has really coincided with the increased prevalence of order-book manipulation. Prior to electronic trading, market manipulation revolved around trade-based manipulation—marking the close, window dressing, churning, and so on. It was limited by the number of orders that a person could physically enter into a trading platform within a time period. Now, electronic trading platforms have made the number of order messages that can be entered limitless. Due to this ability, regulators are focused on trading devices that can enter and delete a substantial number of orders within a short time period.



Aside from this shift, electronic trading has affected market surveillance in a few other key ways:

- **Data Management**—Surveillance has become much more than trading analysis and has morphed into a data management concern. Surges in order message volumes have generated a substantial increase in the size of the data files that need to be managed by compliance departments. Additionally, the sheer scope and size of the data sets within those files that need to be interrogated in a trading investigation has become ever more challenging. Today, sophisticated visualization tools and data analytic, business-intelligence modules are not just nice to have—they are both essential and critical to the success of the compliance team.

- **Market Quality**—Outside of data management, electronic trading has made it necessary for compliance teams to monitor both market quality-type issues as well as market manipulation. It's imperative that compliance reviews issues involving disorderly markets, which may be generated by unusually high levels of order flow, and overall a risk management concern for the firm.

- **Increased Regulatory Pressure**—The prominence of electronic trading platforms has brought more attention from political and regulatory organizations on market integrity issues. Those interest groups are focused on more stringent, more expensive fines and penalties for market abuse, and are increasing pressure on the compliance and trade-surveillance function. On a positive note, compliance, which was previously a poorly resourced and low-profile cost center within the business, has become an integral function, essential to all decisions and critical strategic initiatives, like market expansion.

Q On the part of both trading firms and venues, how realistic is real-time surveillance, particularly when it comes to markets that have high levels of high-speed or high-frequency trading?

Sparkes: We have a variety of services, some of which are very much pre-trade, during-the-trade and post-trade, but specifically, the data that clients tend to ask us to help them with for some of their compliance-monitoring tends to be after the event. Typically, that's on a trade date plus one day (T+1) basis, or less frequently than daily.


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That's because it's more to do with patterns of behavior, and ways in which the securities were traded, when they were traded, and what the outcomes were. So it's looking at trading, for instance, in windows at the open, or the close, and especially where it entails large sizes. There we'll be looking at the price movement during and after the trade. Or it could be things such as where a portfolio manager is trading a security, on both the buy and sell sides, within a short period of time, flagging up events like that. Some of those things are very simple to observe, while some require calculations in terms of percentage movement of price, how large it was compared to relative daily volumes, things like that.

Carleton: Dating back into the early 1990s, the Toronto Stock Exchange addressed real-time surveillance with fairly sophisticated alert generation and various tools to support the human analysts working in the surveillance group. That continued once they became an independent self-regulatory organization (SRO) in their own right.

Other benefits that came about as a result of that evolution is that, effectively, we have a consolidated audit trail at this point in Canada, combined with real-time alert generation for unusual trading patterns and manipulative behavior.

So, on an intra-day basis, IIROC has the ability to investigate trading issues and have a complete repository of data right there to the account IDs and who's behind those IDs for doing a detailed investigation as a follow-up.

Hildyard: This question is raised on a regular basis and yet, hasn't finally been resolved. To my mind there are three parts to the question. First, can it be done? Second, should it be done? And third, will it be done?

The unequivocal answer to the first part is yes, it can be done. The technology and solutions, often similar to ones that enable HFT and other electronic trading, already exist. Real-time surveillance already exists on most significant trading venues.

Should it be done? As mentioned earlier, the ESMA guidelines gave a clear steer on the subject. However, many of those responsible for monitoring point out that in reality, they cannot conceive of

acknowledging and acting on alerts in a matter of seconds or even minutes. The established practice is still very much a T+1 investigation culture. For the majority of examples, this is probably still true. A significant part of monitoring is not just about reacting to a single event but understanding a pattern of historic behavior as well. However, as any police officer will tell you, rapid response is a highly effective deterrent and successful investigation can also be linked to the speed with which the incident is first detected and looked at, and the same is true of trade surveillance. In a nutshell, most firms are now realizing that they would prefer to know first, not second or third, when things are beginning to go awry.

Edge: On some level, real-time trade surveillance has been in place for several years in the electronic trading environment, especially with respect to broker-dealer risk management. In fact, it is a requirement of the SEC's market-access rule. For example, brokers receiving electronic orders that breach pre-set risk limits are rejected back to the client before they can be routed to an exchange. Even with respect to high-frequency trading, there are technical methods to apply surveillance in near real time without introducing extra latency to the order flow.

The real-time or near-real-time surveillance of communication is both a new and powerful insight into trading transactions that many compliance teams have not yet been able to fully utilize. In examples such as the recent rate-setting news, communications surveillance offers real and valuable insight that highlights or identifies activity that could suggest incorrect behavior or even malpractice. Communication surveillance offers new detection methods to either question or confirm activities within minutes of conversations happening. Combining this ability with trade-activity surveillance, compliance teams for the first time have huge insight around situations in moments.

O'Brien: Technologically, real-time surveillance is not a challenge and capabilities are already available to venues and trading firms, including real-time consolidated views of trading across multiple venues. From a surveillance angle, the question is what types of market abuse can realistically be monitored and identified in real-time? Many forms of market abuse and market manipulation involve patterns of activity across multiple trading days, and involve complex and sophisticated trading devices. These complexities may take a significant period of analysis to determine whether trading is indeed abusive, and thus most forms of market abuse are best analyzed from a T+1 perspective.

For trading activity that may cause disorderly markets or breach a firm's risk/position limits, it is imperative to implement checks on a pre-, at-, and post-trade basis. These checks include pre-trade risk and limit checks and price volatility checks, aimed at preventing orders from being transmitted externally in the event of a breach. The real-time, at-trade monitoring would focus on patterns of order

flow and order entry and deletion at or around the best bid, looking for layering and spoofing-type issues where significant volume is periodically exposed on one side of the market, while the firm/trader executes on the other. It is also essential to be able to generate alerts that identify unusual levels of order flow against the historical average in that instrument and by that trader, and also as compared to defined order-to-trade ratios.

Q On the fraud side, how can technologies such as complex-event processing and big-data analytics help to divine patterns in market data and unstructured data that can assist a firm in identifying potential problems early on?

Hildyard: As mentioned, monitoring is not just about reacting to a single event, but understanding a pattern of historic behavior as well. This applies whether one is looking for signals of market manipulation or other types of fraud.

In that sense, it is not just a single symptom that you focus on, but one or more of those symptoms in comparison to wider contexts. A key concept is the comparison to what is “normal.” Is it normal for this party to act in a given way at a given time? Is it normal when compared to a representative peer group? Establishing what is normal and abnormal requires digesting a lot more data and events that may be required simply to identify a single suspicious event. To be able to achieve that efficiently and in a timely way, producing meaningful results, you need technology that is designed to handle much greater amounts of data very quickly—that’s why CEP and big-data analytics have become so relevant today.

Unstructured data represents the leading edge of this problem in the inherently structured world of monitoring and analytics. There is a lot of it and with examples like social media and voice, the variability of language presents a key challenge. Practically, while reference to unstructured data can be usefully made as part of an investigation, it is difficult to use this type of monitoring as the initial catalyst, since it is not yet accurate enough to give consistently efficient results. However, progress in fields like sentiment analysis will continue to be made, so we should not ignore it.

Sparkes: Where we work with large asset management companies, is in analyzing their data, the trading patterns behind that data, and looking at the motives for why certain things were done or not done—for example, why an order was traded very quickly or very slowly. But also, and this a good example of how Mifid and market structure changes have evolved the way in which people think about these things, venue analysis is becoming more important. This means looking at which brokers are using which venues; how much is being transacted in the lit market versus the dark markets; how an algorithm is behaving in different situations; the way in which the smart-order router is prioritizing different venues; as well as how much is being internalized at a broker in their own liquidity pool. Those sorts of questions are



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becoming part of the trading analysis, but also compliance teams are starting to ask those questions as well, to monitor the way in which these things are undertaken.

Historically, the majority of our clients had systems that would put together all the pieces of a trade, and you might have an order broken into a number of trades, but it would be a single event. Now, you can have multiple fills by an algorithm, where you can have hundreds—or even thousands—of rows for an order. The order is fragmented, not just across the venues, but into tiny pieces too.

Edge: Complex-event processing is heavily utilized in automated trading, and especially in algorithmic trading. It is a method by which automated orders are generated in response to dynamic market signals. The same technology can be used, and in fact, is being used by the most advanced trade surveillance platforms to monitor automated trading flows within the context of fast-moving market data and news, for manipulative and other prohibited practices.

Communications within a trading environment are rapid and varied, as these conversations flow through a business big-data analytics solution, like NICE’s Communication Surveillance, to review and analyze each and every discussion providing real-time insight and alerts to compliance teams. The ability to process and analyze vast numbers of varied communication types in real time highlights the power of big-data analytics solutions and the huge benefits they can offer.

Q How does the increasing popularity of cross-asset trading affect the role of market surveillance, and can recent regulations pertaining to communications records and data governance assist market surveillance officers in performing their roles?

O’Brien: It is increasingly necessary for surveillance to have a view of trading across tradeable instrument and all of their associated derivatives, and all other related instruments that in some way derive a part of their value from the price/volatility/value of the tradeable instrument. In the past, an analyst may have been reviewing a single equities market in one region. Now they review trading across all

the market centers where their firm conducts business, and need to ensure compliance with rules and regulations across these various jurisdictions—a challenge as more firms are expanding their trading presence and more regulators place emphasis on cross-market trading and abuse. Recent rules, like Finra Rule 5270, make it clear that regulators expect surveillance to review trading across all related instruments when searching for market abuse. For example, in a case of front running or insider trading, a surveillance analyst should look at trading in related bonds or over-the-counter (OTC) swaps or spread-betting instruments. Other areas of focus are instruments or contracts that mirror attributes of a similar contract trading on another trading venue, and derive their settlement price from the pricing of that contract—like oil futures contracts that trade on Nymex and IntercontinentalExchange (ICE). In this situation, an analyst needs to be mindful of potential pricing and settlement manipulation between the two trading venues. While this view of trading across related instruments is an increasing focus, the task of mapping and maintaining details of all possibly associated tradeable instruments is a significant technical challenge. Regardless of challenges associated with cross-market monitoring, regulators across jurisdictions have implied focus and firms need to take a critical look into their surveillance procedures and at their tools to ensure they have the proper solutions in place.

Hildyard: It sounds obvious to say it but cross-asset trading demands the ability to carry out cross-asset-class monitoring. The complexity comes because, for many firms, their trading systems are siloed, most often by asset class. Cross-asset-class trading and monitoring creates twin problems. First, the data is in different places. Second, the data is very often not of compatible format—e.g., there are no common client identifiers. In themselves, these are difficult, time-consuming and sometimes costly problems to overcome.

More problematic can be the fact that a firm's existing monitoring systems mirror those silos and may not have any ready capability to extend their scope to other asset classes. Very often they were bought with the best intentions as a “point” solution, but current trends are beginning to highlight the limitations of this a strategy to provide fit-for-purpose monitoring going forward.

Similarly, regulations are now pushing for a wider scope of monitoring, including many forms of communication from email to voice. All of these developments point toward the need to take a more holistic and strategic view of monitoring architectures that can viably overarch the whole of the firm's activities and not just a point-by-point view.

Edge: The ability to review, investigate, and alert communications covered by a number of the new regulations offers compliance teams new data and detail that historically have been both difficult and time-consuming to manage. The new communication-management process required by current regulations has transformed

the way communication records are viewed and utilized within an organization. This momentum has made a number of organizations realize that the communication they have been capturing for years actually holds vast amounts of detailed information that can help protect the business, as well as potentially enhance its operation. As newer communication surveillance solutions improve the way these communications are addressed and utilized, companies for the first time can realize the benefits of this data.



Michael Sparkes
ITG

Sparkes: I think there is, frankly, always a danger of not being able to see the wood for the trees. More data is neither helpful nor unhelpful—it could be either. The key is to identify what the questions are that you need to ask, and then identify the relevant data to address them. These days, there is far too much data to make sense of, unless you have an analytical approach to it in terms of identifying what you're trying to get out of it. Similarly, market surveillance is not just a question of what happened, but why. Finding systematic ways of recording the question of why is part of this challenge.

Carleton: This is clearly an appropriate direction. There have been instances of people playing games in the derivatives markets in order to profit by virtue of an open cash-equity position. Clearly, if you're intent on manipulating the market, you're going to use as many tools as you have at your disposal. If you're able to spread your behavior across a number of different trading venues—you know that the regulators don't necessarily have the ability to pull all the data together—you have a better chance to pull off whatever it is that you're trying to do.

It's going to be a big challenge pulling all of that together because the regulators are fragmented in that space. From the Canadian perspective, IIROC is not doing the surveillance on the listed options and futures and there are opportunities on the debt side, as well. Increasingly, you see company debt, or debt instruments, traded over the counter among the dealers. That can, in some cases, be tricky data to get.

Having centralized the cash-equities regulator some time ago, we do have a consolidated audit trail. The regulator itself has a complete, detailed repository of every order action in the cash-equities markets. That means that they can do not only the specific surveillance and oversight, but they're also able to tap that data to do some interesting research as well. One example is some of the work that they've done around high-frequency trading and market quality. You know that when they issue a study or report findings, they have all the data and they're not being selective. ■

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