transforming global foreign exchange markets

e-FOREX

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POST TRADE FX SERVICES
Overcoming the operational challenges

LATIN AMERICAN E-FX TRADING
A market ripe for further growth and expansion

FX RISK MANAGEMENT
Harnessing the benefits of digital transformation

THE POWER OF THE CLOUD
Why this technology is such a perfect fit for FX

COVER INTERVIEW

ANDREW RALICH
CO-FOUNDER AND CEO OF ONEZERO

LIQUIDITY • RISK MANAGEMENT • STP • E-COMMERCE

Welcome to

e-FOREX

transforming global foreign exchange markets

September 2023

Our Special Report in this edition examines where some of the pain points still lie within post-trade FX operations and what can be done to help tackle the problems. There remains much unnecessary complexity in the post-trade space where pockets of manual processing activities are common and many firms are still using their own fragmented and siloed technology. Given that FX is predominantly traded OTC between two parties, and executed for multiple objectives in complex and bespoke ways, it's not surprising that a lack of genuine straight-through processing remains on much of the post trade side of things. A common set of standards would help the situation enormously and we can expect various regulatory, industry and new technology initiatives to help address the remaining issues. Positive change and solutions to streamline processing further are on the way but as in all things related to post trade FX this will continue to take time and remain evolutionary rather than revolutionary.

We have focused our regional perspective on Latin America this month. As we report, the strengthening of currencies in the main countries across the continent is an important driver in moving the local LatAm FX markets to electronic trading venues. Significant investments in electronic trading systems are being made by local banks who want to provide better client service and to compete with global FX dealers. As in other fast growing markets around the world the young and increasingly tech savvy populations across Latin America are receptive to new technologies which is having a tremendous impact on the digital transformation of the markets and use of electronic trading platforms. For other countries in the region outside the major economic centres, further enhancements to their technological infrastructures combined with improved macro-economic landscapes and more political stability will provide the necessary framework for the development of local FX markets and subsequent electronic trading services. So all in all, Latin America is a fascinating Digital FX growth story which we will watch closely over the next few years.

Finally, we have now launched the new FXAlgoNews website at www.fxalgonews.com and next month will publish the first edition of our new Institutional Digital Assets newsletter:IDAssets.

As usual I hope you enjoy reading this edition of the magazine.
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NEWS

FlexTrade extends Tradefeedr relationship

FlexTrade Systems and Tradefeedr have announced the integration of Tradefeedr's FX pre-trade forecast data within FlexTrade's multi-asset platform, FlexTRADER EMS. The move comes as FX traders demand access to unique big data sets to improve transparency, seamlessly embed it to operationalize workflows to optimize trade decision-making and guide the overall trading process. Tradefeedr's unified data analytics API offers a seamless connection to a global FX data set, which increases transparency in pre- and post-trade and enables buy-side FX desks to make informed trading decisions. The new solution brings standardized, aggregated trading data into one place to be analysed, whether executed by algo or risk transfer (RFQ or RFS). Andy Mahoney, Managing Director, EMEA at FlexTrade Systems, stated: "We're delighted to extend our partnership with Tradefeedr to incorporate its newly launched API within FlexTRADER EMS. The move is in response to the increased demand for advanced, comprehensive FX analytics from our multi-asset client base to deliver innovative and actionable pre-trade data tightly integrated within their order blotter. Having the data available in this way can help optimize trading decision-making and enable traders to efficiently handle low-touch orders by applying automation via our FlexAlgoWheel solution."


Andy Mahoney

Goldman Sachs supports listed FX business at Eurex

Eurex, the leading European derivatives exchange and part of Deutsche Börse Group, has welcomed Goldman Sachs as a new member of its listed FX Futures business. Goldman Sachs is joining the FX business at Eurex both as a trading and clearing member and by offering liquidity for off-book transactions. The ability to maintain a bilateral trading relationship to access OTC liquidity whilst benefiting from a fully cleared FX contract is increasingly identified as a key instrument. This allows market participants to swap OTC trades into exchange-traded and centrally cleared contracts, thus removing uncleared exposure, and optimising capital allocation. Jens Quiram, Global Head of FIC Derivatives & Repo Sales, Eurex: "We are delighted to see Goldman Sachs offering their global client base access to our listed FX derivatives suite. Goldman Sachs' engagement both as clearing member and liquidity provider will enable even more clients to benefit from listed FX liquidity at Eurex. This is another major milestone on our way to expand Europe's leading listed FX liquidity hub."


Jens Quiram

FX Connect collaborates with LoopFX

State Street Corporation has announced that FX Connect, part of the GlobalLink suite of e-trading platforms, technology and workflow solution that provide capabilities that simplify and automate the entire FX trading process, has entered into a collaboration with LoopFX, to make the LoopFX functionality available through FX Connect. "For more than 20 years, FX Connect has shown its willingness to adopt new approaches and work with distinctive new services we are confident will benefit our customers," said Kate Lowe, head of GlobalLink FX for State Street. "LoopFX fits well with our philosophy and we look forward to begin seamlessly integrating the Loop FX platform into existing FX Connect workflows later this year."

LoopFX is creating a new liquidity venue for large spot FX trades by centralizing peer-to-peer matching with bank interest. This will enable traders to identify, in real-time, matches of large trades in excess of $10 million with other buyside institutions, while providing banks a new secure channel to show their market axes.


Kate Lowe

Reactive Markets adds algos

Reactive Markets, the cutting-edge multi-asset trading and price streaming network, has announced the addition of Algos, Fixings & Orders supported by liquidity providers on the service. The full range of strategies are available across liquidity providers through a single connection, and made available to clients via API, UI and Mobile. "With FX Algo execution becoming more prominent across the full range of client segments, we are seeing increased demand for a single point of connectivity to access these Algos across both manual and systematic trading workflows" said Brendon Bigelli, Head of Institutional Sales at Reactive Markets. "We've observed significant growth in clients looking to implement Algo execution alongside their existing risk transfer liquidity setup, with the requirement being the flexibility to access multiple Algo providers without any of the technical overhead of building, managing and maintaining connectivity to each one, all without sacrificing any performance or user experience."


Brendon Bigelli

CLS adds three clients to its cross currency swaps service

Three settlement members, including Barclays Bank and Danske Bank, have enrolled in CLS's cross currency swaps (CCS) settlement service.They are joining a growing community of settlement members on the service, including some of the world's largest banks. The service has witnessed continued growth in recent months, with a 38% year-on-year increase in the values of CCS submitted to CLSSettlement (H1 2023).The CCS service is an extension of CLS's unique payment-versus-payment (PvP) settlement service, CLSSettlement. It allows settlement members to send their CCS into CLSSettlement for settlement. "We are delighted to welcome the latest additions to our CCS service," said Lisa Danino-Lewis, Chief Growth Officer, CLS. "Their decision to join our platform is a testament to the risk mitigation and liquidity and operational efficiencies provided by the service, and it underscores our clients' continued commitment to further mitigate settlement risk."


Lisa Danino-Lewis

smartTrade unveils smart Copilot

smartTrade has announced the launch of smart Copilot which leverages the unique integration of several Large Language Models (LLMs) and leading technologies like OpenAI ChatGPT. This synergy provides tailored sales assistance, unique client insights, and actionable AI and Machine Learning analytics to optimize trading and client management. The smartTrade community is actively exploring a myriad of potential applications and integrations. From the development of voice-activated trading algorithms to leveraging LLMs for advanced market forecasting, David Vincent, CEO of smartTrade, said: "smart Copilot represents the next generation of innovation in the payments and trading arena. It's our answer to the evolving demands of the market, ensuring every interaction is both insightful and personalized." Building on this sentiment, Alex Culiniac, CTO, remarked: "The smart Copilot, developed in the smartTrade R&D labs, is truly innovative. It not only enhances our ongoing efforts to introduce innovative solutions but also prioritizes data intelligence in driving decision-making for front office payments and trading." smartTrade remains dedicated to the responsible and ethical development of AI, ensuring transparency, security, and data integrity.


David Vincent

NEWS

360T's SUN executes Mid-Match FX Swap via API

Streaming mid liquidity via APIs is now available on 360T's Swaps User Network (SUN), with Deutsche Bank and ING executing the initial trade. This is the first time that two banks have been able to trade FX Swaps via API and match at the market midpoint, marking a paradigm shift for the industry. 360T SUN is also currently the only platform which offers a continuous streaming mid-price for FX Swap instruments.

"Establishing a marketplace that facilitates risk offset at the mid—market level signifies the next phase in the advancement of FX swaps trading. This development finally delivers for the industry opportunities that have long been present in smaller markets, and empowers us to better cater to the rising client demand for access to these product," said Shuo Wu Global Head of Forward eTrading at Deutsche Bank.


Shuo Wu

Bloomberg's FXGO expands pricing quality analytics

Bloomberg has announced the addition of a new suite of FX Pricing Quality tools, available to FXGO clients through Bloomberg's multi-asset reporting tool for electronic trading (MISX). Users can now quickly analyze and dissect pricing quality and performance for any RFQ pricing requests, including batch trades, sent over FXGO, Bloomberg's premier multi-bank FX trading solution.

Price makers can now utilize MISX Pricing Quality Analytics to more quickly identify where opportunities to price are being missed and why, such as due to internal counterparty setup, enablement issues, or internal credit rejects. By identifying instruments and currency pairs where they are missing flow because of pricing quality issues, price makers can better understand how and where to improve their setup and pricing quality to win more business over FXGO. "Transparency and the availability of real-time information is a vital part of successful trading operations for our clients, and we are always working to enhance FXGO capabilities to meet this need," said Tod Van Name, Global Head of Foreign Exchange Electronic Trading at Bloomberg. "These new Pricing Quality Analytics in MISX provide both buy and sell-side market participants with unparalleled breadth and depth of analysis and output, that can help them make more informed trading decisions and achieve better outcomes."


Tod Van Name

FXCM Pro partners with Tools for Brokers

FXCM Pro, the institutional arm of FXCM has announced a liquidity bridging partnership with Tools for Brokers (TFB), an international technology provider for retail brokers, prop trading companies, and hedge funds. FXCM Pro will be streaming its institutional liquidity directly to TFB clients, enabling them to connect pricing and trading to their MT4 and MT5 platforms using TFB's FIX API server. With this new partnership, FXCM Pro's clients will benefit from having an additional option when selecting a technology/bridge provider. TFB's Trade Processor bridge works with the MT4 and MT5, cTrader, Match-Trader, and other platforms and supports third-party integrations via external FIX API. Additionally, it provides brokers with data analysis and enhanced risk management, all through a simple, user-friendly interface. Mario Sanchez, Managing Director and Global Head of FXCM Pro Sales, commented: "At FXCM Pro, we are committed to providing our clients with the technology they need to succeed, and this is demonstrated in our partnership with Tools for Brokers. This collaboration gives our clients additional choice when it comes to selecting a bridging provider and by selecting TFB, they will benefit from fast execution, automation and improved market access."


Mario Sanchez

IPC celebrates 50 years and counting...

We asked Tim Carmody, CTO at IPC Systems, to tell us more about how the firm has maintained its market leading position over the past 50 years.


Tim Carmody

> **"Maintaining service quality is front and centre of our business strategy and product development."**

How has IPC managed to remain at the forefront of trading connectivity and communications innovation over such a long period of time?

A critical factor in our early - and continuing - success is that when considering new products, we look beyond the technology to see how it might benefit our customers' businesses. It's easily stated (and often claimed) but we really are a customer-first business.

From the development of our first trading tools and turrets back in the 70s to today, we remain focused on empowering our diverse and widespread user community to work smarter, not harder. As working patterns change - for example, the huge increase in demand for remote access to trading environments - we have to be able to adapt to deliver the right tools to interact, transact, and react to fast-changing global financial markets.

Maintaining service quality is front and centre of our business strategy and product development, and in identifying synergies with complementary solutions that add value to our customer-first value proposition. Our partnership with Newsquawk is a great example of collaboration with other service providers to deliver fast-to-market solutions to benefit a common target market.

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Financial technology continues to evolve at a significant pace. How does IPC anticipate and accommodate new technological trends?

It's not just a question of identifying the newest, coolest tech. It really doesn't matter how fantastic a particular technology or application is if it doesn't 'fit' with the current tech stack. Before leaping onto a new technology bandwagon, we consider how it might be integrated: "How does it work? How does it fit? How quickly could it be surpassed, technologically?"

In a fast-paced, high-tech operating environment keen to embrace technological innovation - for example, new cloud models and digital infrastructures – an increasing aspect of our role is assessing potential risks and developing risk management strategies that ensure technology solutions meet both our, and our customers', high service standards and compliance obligations.

Our 'API-first' strategic direction is also a reflection of a conscious decision by business stakeholders across technology, product development and sales/marketing teams to simplify customer adoption and integration for all new services and solutions.

What do you see as the major trends in financial markets technology evolution in the coming years?

With all of the myriad 'next best things' in financial technology, there is a touch of "Dragon's Den" needed to curate and separate what is real and ready from what might be a great concept, but is still a long way from being ready as a customer value proposition.

As a technology leader, continued innovation is needed to stay ahead of ever-evolving customer requirements. It's pivotal to our continuing growth and success, whether in respect of embracing cloud connectivity and integration, or delivering institutional-grade market access and intelligence.

Looking into the IPC crystal ball, what does the trading technology landscape look like in 2073?

There is no doubt that new digital technologies will become more mainstream. Post-trade processing will likely be transformed through blockchain-like technologies that attach a raft of transaction processes to a 'static' immutable record (golden ticket) of a transaction, with enhanced compliance and oversight.

It also seems likely that AI will feature more largely across pre and post trade services. AI is used already to synthesise data from multiple sources; combined with real time data analysis, historical pattern recognition and algorithmic order execution it could become a very powerful force indeed.

It's hard to predict exactly how the trading landscape might look in another 50 years, but we're confident that financial technology with a customer focus will lead the way.

Pathways to success:
What steps are being taken to further optimise FX Post Trade Services?


Vivek Shankar

Market participants typically view the FX market as technologically advanced compared to other asset classes. While this view fits the front end, back-office processes and workflows present a very different picture. The degree of fragmentation in FX poses operational challenges to back offices, particularly post-FX trade processing. Vivek Shankar investigates.

Image by Shutterstock

Institutions have long been aware of the financial and operational advantages of improving post-trade processes. While technological innovations are bringing more efficiency, challenges remain. Many of these challenges rise from the structure of the FX market.

"FX has a long-standing history and broad use by a wide-ranging set of market participants," says Kah Yang (KY) Chong, Acting Head of GlobalLink Post Trade, TradeNexus. "This led to the development of multiple post-trade processes and workflows catered to meet specific requirements, or based on technology available at that time. These processes are embedded in complex ways with many firms, which has made change more difficult to implement."

Meanwhile Melissa Stevenson, Product Director FX at ION, points to existing infrastructure challenges within firms. "A lot of banks still have multiple disparate and legacy applications to manage post trade workflows whereby manual intervention is still required," she says. "Manual intervention introduces human error and potential for points of failure; this, in turn, increases operational risk. Investments to replace these applications are costly and less of a priority than the investments made in the front office applications."

So how are firms using technology to handle this complexity, and what are solution providers offering? But first, it is worth examining where pain points lie and the nature of complexity within post-trade processes.

POST-TRADE PAIN POINTS

Andy Coyne, CEO of CobaltFX, is well-positioned to speak about the origins of complexity post-trade. A lack of common standards is to blame, he says. "The FX industry is paying a heavy price for the unnecessary complexity in the post-trade space. There are currently limited standards and everyone uses their own fragmented siloed technology requiring end-less reconciliations." "Just like a modern Tower of Babel, we speak our language and employ armies of translators to solve these problems. To solve this we need to set common standards and allow primary regulated market operators to take control of those standards."

"The FX Global Code is extremely clear on the relevance of post-trade risks.."


Kah Yang (KY) Chong

Vincenzo Dimase, Global Director, Sales Strategy & Execution, FX & Post Trade, London Stock Exchange Group (LSEG), points out that technology hasn't penetrated every area of post-trade processing due to a few critical issues. "While financial markets have accelerated the automation and adoption of machine learning and artificial intelligence, the speed of this change varies across regions and markets," he says. "We continue to see pockets of manual post-trade processing activities, a lack of genuine straight-through processing, and several workflows solved by physical printing or wet signature. Further, the fragmentation of liquidity across several pools and venues has led to increased complexities across the front, middle, and back office."

Chong notes that existing industry initiatives go some way towards reducing this complexity and fragmentation. "More recently, significant efforts through regulatory, industry initiatives and availability of new technologies have made progress in streamlining these processes," he says.

When asked, he cites examples such as through FMIs like CLS, increased automation through APIs, and voluntary agreements such as the FX Global Code.

"However," he continues, "challenges to improve will remain. Given that FX is predominantly traded OTC between two parties, and executed for multiple objectives in complex and bespoke ways, changing post-trade across participants of different sizes, types, and sophistication will continue to take time and remain evolutionary, rather than revolutionary."

"The Bank of England's The Future of Post Trade report in 2020 highlighted quite a few pain points we still see across our client base," Stevenson says. "Data collection as part of the client on-boarding process is not standardised, margin calculations, communications and dispute resolution processes differ across firms, information beyond material economic trade data not exchanged early enough in the trade life cycle and may be inaccurate, incomplete, or not standardised, automated interfaces for data exchange are underdeveloped, and the lack of standardised mechanisms for the collective sharing of data on suspicious activity in real time."

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“Manual intervention introduces human error and potential for points of failure; this, in turn, increases operational risk.”


Melissa Stevenson

Coyne points out that some pain points are credit-related, a major focus for CobaltFX. "Some of the pain points in the market lie in the over-allocation of credit," he says. "Among other things, we handle this by addressing the inaccuracy and the systemic risk of over-allocation of credit. We start by putting credit providers back in control of this precious and undervalued asset. We are making the administration of credit far easier and less expensive. We can also address some of the serious flaws with designation notices."

Exorbitant prices for silo-like infrastructure is another pain point that Coyne zeroes in on. "These systems are not designed to be multi-tenanted with logical separation and there is a charging advantage to this," he notes. "Any operational friction leads to more fees which are in the incumbent provider's interest to maintain. That same friction also leads to costly errors."

Echoing Coyne’s earlier view about a lack of uniform standards, Chong notes that some of these complexities are deep-rooted, making fast-paced changes impractical. "For example," he says, "asset managers managing a large number of funds have built complex workflows to meet requirements across multiple parties such as their technology providers, counterparties, custodians, asset owners, and regulators in all the jurisdictions where they operate." "The flow from order management to execution and post-trade allocations, and settlements work in a closely coordinated fashion which means any improvements to post-trade require a firm’s time and effort to analyse and implement."

Chong also points out that data quality issues arise from siloed infrastructure, a significant problem given the volume of internal and external interactions systems have. Typically, a firm's front office platform directs data to a different database from its post-trade system.

"Within post-trade, this can lead to delays in resolving issues such as trade discrepancies, settlement delays, or assist in decision-making processes where data is involved," he says. "To make sense of data accurately, this may require manual intervention by the user which leads to inefficiencies in the process, and increase financial costs since issues are resolved late." "Clients rely on our solutions to provide front-to-back workflows from execution to post-trade, with minimal manual touch on the client’s end," he adds. "This includes innovations within the data space, where an increasing number of clients are looking to automate their data feeds that will allow them to gain insights across the trade lifecycle."

The costs of common post-trade solutions are out of line with the issues they cause

Stevenson, Chong, and Coyne agree that the costs of common post-trade solutions are out of line with the issues they cause. Coyne lists issues like credit risk charges through balance sheet usage for derivatives, operational reconciliation, the unnecessary duplication of allocations, and the continual movement of cash as reasons for high costs. “We see excessive costs in the maintenance of these fragmented post-trade solutions,” says Stevenson. “Banks must spend on implementing and maintaining custom or bespoke integrations for client on-boarding and connections to various confirmation, settlement, reporting or ERP channels.

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Pathways to success: What steps are being taken to further optimise FX Post Trade Services?

> **"The FX industry is paying a heavy price for the unnecessary complexity in the post-trade space"**


Andy Coyne

Management of all these custom/ bespoke integrations requires a lot of support overhead."

THE NEXT-GEN POST-TRADE SOLUTION PICTURE

"We are starting to see aggregation solutions aimed at solving liquidity fragmentation," LSEG's Dimase says. "A reduction in point-to-point venues connection and a move into one single aggregator for post-trade solves for operational risk as it reduces single point of failures and the number of single connections to risk management and position keeping solutions." Coyne believes eliminating silos is a critical step to removing post-trade processing inefficiencies. "The real game changers here are twofold," he says. "It is the on-ledger mutualisation of all trade life-cycle events and the move away from siloed infrastructure toward a shared middleware that creates credit, middle and back office efficiency."

"This gives banks the option of using middleware to make existing silos more efficient whilst simultaneously creating the option to increase efficiency and reduce carbon footprint. The ultimate decision is whether to reduce or eliminate the post-trade silo."

Stevenson believes banks must identify areas where automation can be introduced and leverage APIs. "New services deliver more automated workflows across all aspects of the post-trade process and provide a more consolidated view of complex Post Trade activities," she says. "At ION, our next generation back office solution provides truly automated "no-touch" post-trade processing from client on-boarding, trade registration through to settlement."

And is AI present in these workflows, given recent technological advances? "AI and machine learning are being leveraged to automate workflows and provide greater transparency, client analytics, and alternative methods of settlement," Stevenson says. Chong says partnerships and application interoperability are critical and cites a few examples of TradeNexus putting these into action. "We have partnered with CLS to deliver a solution that enables clients to view their trade instructions in CLSSettlement within our consolidated dashboard," he says. "Likewise, we have also partnered with LCH to deliver a clearing workflow whilst maintaining flexibility for our clients to choose between clearing or remaining bilateral."

And what about interoperability? "GlobalLink recently launched its GlobalLink Digital (GLD) platform to provide a single front-end for our clients who interact with multiple applications," Chong says. "GLD unifies the desktop environment so that market participants can create and operate easy-to-deploy and customizable trading and workflow solutions. This allows clients' trading systems to dynamically communicate with internal and external systems to optimise exception management, trade operations and risk management all based on tailored metrics and data."

"For example, a client can perform best execution/TCA analytics, execute trades and monitor post-trade metrics all within a single dashboard, where the data flows continuously and consistently through the lifecycle of the trade."


A big part of the post trade FX budget has been allocated to comply with industry, regulatory and trade repository guidelines

Pathways to success: What steps are being taken to further optimise FX Post Trade Services?

"We continue to see pockets of manual post-trade processing activities and a lack of genuine straight-through processing...."

Vincenzo Dimase

Notwithstanding these solutions, Coyne thinks more work needs to be done. "First, a common approach to nomenclature needs to be agreed," he says. "Although currently not widely used, we (Cobalt FX) have a requirement to use LEIs which all entities must have, so we use this. We have simply appended city and country codes to the LEI to add additional necessary detail."

He further explains that matching needs to be highly flexible for all matching requirement types. "We do this upfront as we believe that potential market exposure always exists before a full match is achieved. There's no need for confirmation matching to sit downstream."

Coyne also points out that despite CLS reducing settlement risks, Herstatt risk still exists for non-CLS currencies and counterparties. "The first question to be asked is 'Do I need to settle given my funding situation and the maturity profile of my portfolio with my counterparty?' The on-ledger settlement question is mutualised." Dimase chimes in and says that the availability of "... advanced analytics can enhance governance around post-trade processes and allows for the detection, escalation and remediation of issues, and the ability to better manage reputational risk."

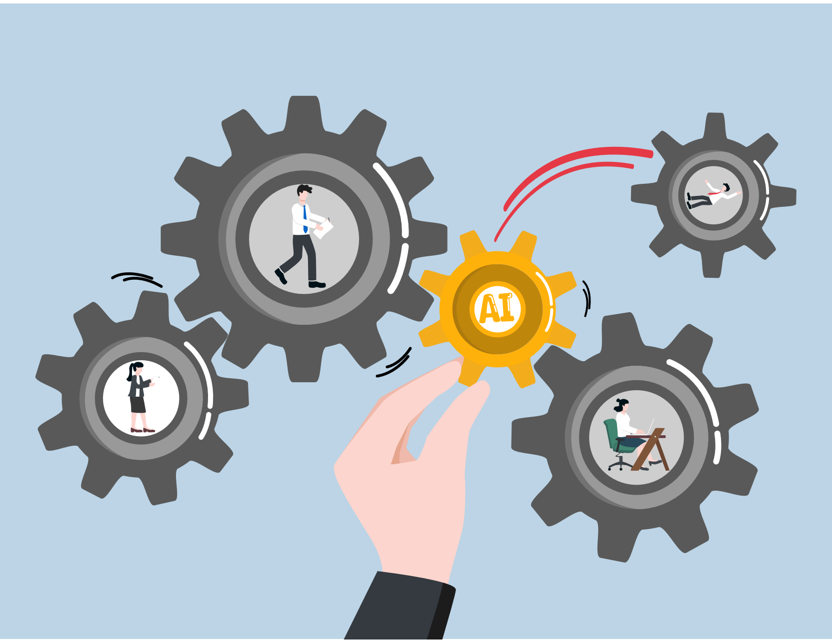
REGULATORY IMPACT

The regulatory picture has constantly been changing, and post-trade workflows have witnessed several knock-on effects. SA-CCR, UMR, and the move to settle trades T+1 are impacting post-trade processing. "A big part of the post-trade FX budget has been allocated to comply with industry, regulatory and trade repository guidelines such as MIFID II, CFTC/EMIR rules re-write, and the FX Global Code," ION's Stevenson says. "Specifically for post-trade FX, firms are placing investment in resources and technology to improve STP workflow, record keeping and reporting, data encryption, which need to meet a common standard across industries and organisations."

Chong explains that SA-CCR has led asset managers to ensure their portfolios' post-trade positions are as optimal as possible. "As optimization is currently undertaken within post-trade, this has led to greater collaboration between the front and back-office to undertake more frequent novation, compression, or rebalancing exercises," he says. "As frequency increases, we are seeing demand from our clients on adopting a more automated approach."

He goes on to explain that TradeNexus has partnered with Capitolis to deliver a solution to clients to automate trade submission, conduct analysis and monitor statuses in real time within a single dashboard. Also, TradeNexus has set up a T+1 Settlement taskforce to review the post-trade processes clients undertake as the post-trade window will narrow for T+0 and T+1 FX. This includes looking at how to improve matching metrics (such as speed and accuracy), and evolve the post-trade landscape with the objective of greater transparency and automation for clients and custodians.

"This includes bringing in new functionality to alert clients when a settlement indicator mismatch occurs between themselves and their counterparty, enhancements to our rules engine, automation of actions,



AI and Machine Learning are being leveraged to automate workflows

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broker performance reporting and better exceptions monitoring to improve speed and accuracy of post-trade FX," he says.

Chong also notes that UMR has prompted more firms to choose between clearing their NDF transactions, optimising their bilateral positions to either remain out of scope, or reduce their bilateral margin exchange.

These changes have occurred against the backdrop of the FX Global Code identifying post-trade risks. "The FX Global Code is extremely clear on the relevance of post-trade risks and contains two Leading Principles (out of six) dedicated to Confirmation & Settlement and Risk Management & Compliance," Dimase says.

"The code also suggests how transactions should be promptly and accurately captured," he continues, "so that risk positions can be calculated in an accurate and timely manner for monitoring purposes. Finally, the code suggests that market participants keep a timely, consistent, and accurate record of their market activity to facilitate appropriate levels of transparency and auditability and to have processes in place designed to prevent unauthorised transactions."

Coyne feels the Code's presence is a reminder of how the industry must self-regulate. "There is no reason why all aspects of the code cannot be adhered to as the requests are not onerous," he says. "The more the industry shares the burden of self-regulation, the less the need for regulatory enforcement. We need to continue to take collective responsibility for safe market operations."

ANALYTICS AND IMPLEMENTATION COSTS

More firms seek transparency in their trade lifecycles, and post-trade processes are subject to analytics and data more than ever. What was once a back-office process is now receiving significant attention from stakeholders as firms realise the benefits of moving beyond simply improving operational efficiency.

Stevenson cites a few benefits of adopting analytics. "Real-time analytics generates insights on the business activities of each customer," she says. "Settlement providers can provide real-time analytics and accurate reporting for customers. Firms can prevent trade settlement failures by identifying potential trades most likely to fail even before the failure occurs."

Chong cites an example. "In addition to executing on best price," he says, "a firm may include metrics from post-trade such as counterparty post-trade positions, operational metrics (e.g. average time from execution to confirmation) and settlement type (e.g. CLS vs Gross) to select their counterparty. By bringing these data points together from the front office to post-trade, a firm may obtain a better outcome based on execution price, risk, and operational considerations."

Coyne feels firms must examine their technological foundations before proceeding with automation, given the risk of automating defective workflows. "Like all data models," he says, "the old adage of garbage in garbage out applies. It is therefore important that participation is based on accuracy and commitment." "Any missing information makes modelling difficult and adds more guesswork. These problems are very resolvable and data APIs play an important role, ensuring that all data is submitted, normalised, and made available on a shared basis."

And what role are APIs playing right now? "APIs combined with standards are essential and increasingly easy," Coyne says. "Our clients are given UI access, however, most want to be able to send and receive data sets over APIs."

Chong confirms that API access requests are more common than ever. "We believe the future lies in a hybrid approach where repetitive tasks will move towards more API-based automation," he says, "whilst complex and exception-based workflows will remain UI-based for better control. We believe for UI, there will be a shift towards more interoperable applications to improve data quality and reduce the need to access multiple applications."

SPECIAL REPORT

Implementing all of this sounds complex and expensive. However, Coyne explains that new working models reduce the total cost of ownership significantly, along with its carbon footprint.

"New models use common standards, golden copy trades, and mutualised life-cycle events. This reduces the cost of ownership and enables much smarter compression and less operational friction."

"It also shares operational risk with peers and enforces a strong set of standards among the user group." The benefits don't end there. "Execution profitability is enhanced with more efficient credit models," he continues, "not just for the ability to see more prices and deeper liquidity but also risk-weighted assets."

"Allocated costs are also reduced because the cost of running such infrastructure is shared." There is a regulatory and transparency impact too, with regulators requesting better market access controls. "Compliance with these requests is very important to the front office business owners," Coyne says. "We have seen recommendations from bodies such as the GFXD, a subdivision of GFMA, and also other regulators who are keen to resolve the systemic issues such as credit over-allocation. The good news is that this technology is now live and being used."

THE WAY FORWARD

The big question when evaluating post-trade solutions is: Should a firm choose a third party solution or build one in-house? Cloud usage is common enough currently to render the in-house option ineffective from an ROI perspective.

Chong says that firms looking for technology partners must examine whether the partner's vision is aligned with theirs. "At TradeNeXus, we believe in the value of an ecosystem and collaboration," he says. "To deliver the best solutions to clients, we assess how we can deliver the best value, which includes partnering with other solution providers to deliver a single dashboard to clients to manage all their post-trade processes."

LSEG's Dimase lists a few factors that firms should look at. "....a venue agnostic approach, the ability to adopt market standard protocols (mainly FIX), and the provision of light or zero IT footprint solutions. The availability of advanced analytics to extract value from post-trade data is also a key factor and the ability to deliver workflow solutions that integrate with proprietary solutions."

"Firms should look for an agile technology provider who is committed to evolving as market factors change," Stevenson explains. "The technology provider should be in partnership with their client providing a robust service model that can easily accommodate changes in the market but also can keep costs sustainable."

"The technology provider should be able to provide a flexible approach to integration and an open architecture that allows firms to easily incorporate common or bespoke workflows. Also, the technology provider should bring a high-level of expertise on all aspects of the post-trade operations."

Solution provider choice aside, Coyne says the industry is witnessing positive steps that aim to address existing gaps. "For example, there needs to be a better linkage between settlements and credit," he says. "We will fine-tune optimisation models to not only give enhanced market access but reduce credit exposure in real-time at very low cost. All events must be alerted to those people who have the responsibility to run orderly markets."

"Industry bodies such as the GFMA," he continues, "are making meaningful inroads to aspects of the market with long-standing issues that need addressing. The most recent is their publication and call to address over allocation of credit by using dynamic credit from a single point. A product that CobaltFX is live with and expanding the user group."

Post-trade processes are evolving thanks to technology and firms' willingness to use it for goals beyond operational efficiency. As the market continues to evolve, post-trade will undoubtedly witness more interesting development.

FX Swaps – Interdealer eTrading expected to accelerate market growth

DIGITEC has just launched D3 OMS, its new Order Management System which automates interdealer FX Swap workflows and connects users to trading venues. e-Forex spoke with Peer Joost, CEO of DIGITEC to understand the market demand for this service, and why it was launched now.

What is D3 OMS?

D3 OMS combines Position Management, Risk Management, OMS and EMS functionality to increase workflow automation and enable traders to connect and efficiently place orders in the interdealer FX Swaps market. At launch it is connected to 360T SUN and LSEG FX Forwards Matching, with more trading venues to be added.

D3 OMS enables traders to automate and enhance their current workflows, managing interdealer FX Swaps orders from a single screen. It supports two sided continuous orders which are automatically updated by the D3 pricing engine, but also has the flexibility to send pegged and discretionary orders, allowing quantity and price to be partially hidden, so that a trader's forward curve is not broadcast to the market.

Resting orders on 360T SUN: Source DIGITEC

Why has DIGITEC developed D3 OMS?

360T and LSEG have launched electronic interdealer FX Swaps trading venues with API access. In this market, further electronification, particularly when fueled by the rise of interbank platforms, enables more participation, increased transparency, and, therefore, more efficient markets. When we developed D3 OMS we wanted to provide the market with the tools necessary to integrate to and participate in this increasingly electronic and automated market. Initially, we were approached by some of our bank clients to develop this service to make placing orders onto these venues as efficient as possible, using tried and tested workflows. We worked closely with the market, clients, and partners to understand exactly what was required from an OMS.

Why did you launch now?

Increased client demand for FX Swaps pricing has led to banks automating trading workflows in a drive for efficiency. The volume of data required to make accurate FX Swaps prices along the curve has moved the industry towards a data-driven approach.

But the current market structure of voice brokers has meant that the interdealer FX Swaps market has largely maintained its manual nature and change has been slow for many years. However, increased regulation, better technology access via the cloud, and the need for transparency are driving change, while clients are trading more FX swaps."

There have also been changes at DIGITEC, where we are now well placed to provide high levels of technical and customer support for this new service. We have client service and technical support in Hamburg, London and more recently Singapore, which opened earlier in 2023. FX Swaps volumes are dominated by London, Singapore, and Hong Kong, so it is vital that we support our clients trading in these centres.

We feel that the increased adoption of electronic interdealer trading will drive growth in the whole FX Swaps market, much like we saw with Spot FX trading, driving new levels of automation.

What are the benefits?

Electronification and automation result in better pricing along the curve, with more clients serviced, more currencies traded, and more quotes accurately auto-priced – leading to increased trading volumes and greater relevance with clients. For this evolution to develop further, the market requires an efficient and increasingly more automated interdealer FX Swaps market to help firms make markets to clients and efficiently risk manage their positions.

What feedback have you been getting?

We launched D3 OMS in early September, but we are already seeing a great deal of interest – being honest, its more than we expected at this stage. We are presenting to existing clients and new prospects, some of whom want to combine D3 pricing and D3 OMS, and others who have their own pricing tools but want an OMS. For clients with an existing FX Swaps infrastructure, we are flexible and can accommodate direct API integrations.

How do you expect the market to evolve?

This is a first but significant step in automating the interdealer FX Swaps market. By launching D3 OMS we are making trading workflows more efficient and flexible. As a result, we expect to see increased volumes on electronic interbank matching platforms, which will drive increased market liquidity, greater participation, improved client pricing and risk management, and for the FX Swaps market to grow for the benefit of all parties.

This increased electronification of the FX Swaps market will lead to greater velocity of the underlying market and translates into a greater need for speed and lower latency, as the markets react more quickly to events. Trading firms need fast, scalable, and robust technology to manage this change.

e-Forex also spoke with 360T and LSEG to get their feedback on this new initiative.

Simon Jones, Chief Growth Officer at 360T - "We think this is a fantastic development for electronic trading in the FX Swaps market. 360T supports connectivity to our 360T SUN venue and facilitates automation of interdealer FX Swaps trading. We see this as a further confirmation that the demand for electronic hedging venues is growing."

Christopher Dudley, Director of FX Venues at LSEG - "We have recently launched new Commercial Incentives to encourage the adoption of automated trading. Clients are excited by the opportunity to use DIGITEC's D3 OMS to provide a straightforward means of connecting directly to LSEG FX Forward Matching. Through this venue, we are able to offer a world leading inter-dealer Forwards market, covering more than 700 dealing sites across nearly 50 countries and regions. This is testament to the way we work with our clients to develop the solutions they need and continue to evolve the FX markets."

Latin America:

Why the exponential growth of electronic FX trading services looks set to continue


Nicholas Pratt


Image by Shutterstock

Nicholas Pratt talks with four leading e-FX providers to discover what factors are influencing the growth of electronic FX across Latin America and why demand for digital FX solutions is likely to grow still further across the continent in the future.

“Investments in electronic trading systems are being made by local banks who want to provide better client service, compete with global FX dealers, and adhere to national and international regulatory standards.”


Paul Hopkinson

Latin America has made significant strides in terms of its capital markets in recent years, typified by the growth of its FX market and the strengthening of its FX regulations. Countries such as Mexico, Colombia, Brazil, Chile, and Peru have led the way. As a sector-driven, commodity-based economy, the LatAm FX market is heavily reliant on macroeconomic variables such as inflation, capital flows, trade deficits and surpluses, and employment levels. It can also be impacted by macroeconomic and geopolitical events, which has caused some volatility in the last three years.

CULTURAL DRIVERS

At the same time, we are also seeing a marked increase in the use of electronic trading in the LatAm FX market – partly a result of regulatory changes, technology development, changes in demographics and a desire to keep up with other international markets. “Latin America doesn’t want to be left behind in the global digital transformation that is taking place. Furthermore, the value of electronic trading is becoming more apparent to the local FX community as the Latin American market continues to develop,” says Paul Hopkinson, FXGO Product Manager, Bloomberg.

“Investments in electronic trading systems are being made by local banks who want to provide better client service, compete with global FX dealers, and adhere to national and international regulatory standards. As a result, there is now a greater emphasis on the needs of the client throughout the trade lifecycle, along with a need to reduce costs and boost operational efficiency,” says Hopkinson.

“When viewed from the buy-side, asset managers, hedge funds, and pension funds are under pressure to demonstrate best execution and increased transparency as well as wanting to gain access to offshore markets for hedging or investment purposes,” says Hopkinson. “When viewed from the sell-side, FX dealers look for ways to use pricing engines to create and distribute prices more efficiently, increase the number of FX instruments and currencies they offer to local clients, and apply hedging automation to manage risk more effectively.”

One important driver in moving the local LatAm FX markets to electronic trading venues is the strengthening of the local currencies in the main countries in the region, says Hopkinson. “Using MXN as an example, in recent years the Mexican peso has evolved from a national currency in an emerging market country, to a powerful international financial instrument. Companies looking to nearshore to the US often choose Mexico to take advantage of broad trade agreements between both countries. On top of that, Mexico has historically offered relatively high-interest rates that support the carry trade and has also benefited from political and democratic stability which is of great importance for global investors.”

Technology innovation has enhanced market liquidity in a number of ways in the fragmented FX markets across the globe and LatAm isn’t an outsider, says Hopkinson. “Electronic

THE MEXICAN PESO HAS EVOLVED FROM A NATIONAL CURRENCY IN AN EMERGING MARKET COUNTRY, TO A POWERFUL INTERNATIONAL FINANCIAL INSTRUMENT

"The electronification of NDFs represents one of the most pivotal advancements in the LatAm FX markets, empowering local banks to reestablish their pivotal position in their domestic currencies with the global marketplace."

Jose-Antonio Buenaño

platforms, e-commerce or even the use of chats are enabling international traders and investors to access data and liquidity more easily across many venues making the trading process more efficient and reducing the costs associated with trade execution. With this increase in liquidity, more sophisticated investors are turning to algo execution to reduce transaction costs and minimise market impact. Notably, USDMXN is among the top dozen currency pairs of nearly 100 traded algorithmically on FXGO," he adds.

When it comes to the appetite for digital assets in the region, the official policy responses of local authorities to cryptocurrencies and digital assets varies widely, from outright prohibition to the acceptance of Bitcoin as legal tender in El Salvador, says Hopkinson. "As with many other countries, authorities are concerned about the impact of cryptocurrencies on financial instability, corruption, terror financing and money laundering. And while retail market adoption is relatively high in LatAm, institutional participants are very cautious with respect to trading digital assets, and, like many other jurisdictions, are looking for regulatory clarity and tangible operational efficiency before making substantial investment."

In terms of the future expansion of LatAm's e-FX market, Hopkinson says that the adoption of electronic trading in several countries in the region is already significant and will continue to grow. "Outside of the main population centres, one of the key drivers of this expansion will be the availability of the technological infrastructure to support this. Implementation, growth and expansion in other 'new' countries will also begin as the macro-economic and political landscape provides stability for the development of the local FX markets in such countries," he says.

"At Bloomberg, we are highlighting to clients in the region how our solutions can be utilised for both trading in the local markets with functionalities already available to support some of the specific needs of onshore communities, as well as providing access to the global trading community. This allows clients to use a single solution for all their trading needs. Electronic FX trading is more than just finding best price; it is also about utilizing a seamless, flexible, and intuitive platform to improve efficiency, reduce cost and mitigate risk," says Hopkinson.

GLOBAL AMBITIONS

According to Jose-Antonio Buenaño, head of sales, Americas at Edgewater Markets, the electronification of the LatAm FX market means that regional players are able to engage on a global scale. "Being rooted in the local context, they possess an intimate understanding of local macroeconomic data, central bank policies, and the

"Advanced technology like AI and machine learning, cybersecurity, and regtech are becoming increasingly important in the e-FX space. Investment in these areas can potentially enhance trading efficiency, improve security, and ensure regulatory compliance."

Eliane Pereira-Dousie

political stability of LatAm currencies. Yet, their most critical advantage lies in their grasp of both onshore and offshore trade flows. With substantial trade volume in local currency pairs, they have positioned themselves as the ideal partners to handle large currency transactions for the emerging market (EM) portfolios managed by large asset managers. The key to all of this is having technical know-how coupled with credit and distribution services to facilitate the transactions," says Buenaño.

In the current era of LatAm trading, local players are for the first time seamlessly entering the global marketplace, says Buenaño. "When we think of 'deglobalisation' this is what strikes us the most—the ascent of local and regional players, rather than the sole dominance of incumbent, global institutions. They achieve this by harnessing cutting-edge technologies enabling them to scale their operations with remarkable efficiency. This technological integration not only streamlines their processes but also enhances overall market efficiency, as these local providers emerge as the authentic sources of liquidity."

Local banks have recognised that embracing technology is not only a means to reduce operational costs but also a way to enhance their competitive edge while extending their reach to regional and global networks, says Buenaño. "Additionally, the ability of tech companies to tailor their solutions to meet the specific needs and workflows of local clients, rather than forcing companies to conform to outdated technological limitations, has proven to be pivotal in the LatAm region," says Buenaño.

A huge uptake in 5G will mean that mobile connectivity and usage will explode with apps that offer FX trading capabilities a firm necessity

At the same time, it has also made it easier for international traders and investors to access the LatAm markets, says Buenaño. "Electronic trading facilitates streamlined price discovery and efficient execution, but the true game-changer lies in the fusion of technology, credit access, and distribution. This synergy empowers institutions in LatAm and other emerging markets to significantly enhance their involvement in the global FX market."

In LatAm, the driving force of innovation revolves around electronification and the ability to adapt technology seamlessly to meet unique workflow requirements, says Buenaño. "The electronification of NDFs represents one of the most pivotal advancements in the LatAm FX markets, empowering local banks to reestablish their pivotal position in their domestic currencies with the global marketplace. This achievement owes itself to the deployment of potent and adaptable technology, capable of seamlessly integrating new workflows, accommodating evolving data requirements, and establishing robust local data centres," he says.

When it comes to digital assets, Buenaño echoes Hopkinson's view that adoption and appetite are still at early stages. "Institutional investors across LatAm are increasingly expressing interest in the realm of digital assets. It's important to acknowledge that we are still in the early phases of this transition, with El Salvador's groundbreaking move to embrace Bitcoin as a noteworthy example. However, achieving

widespread adoption within the region necessitates the establishment of a sturdy regulatory framework. Substantial efforts are underway to pave the way for institutional investors by providing them access to the digital asset market through comprehensive trading services."

In Buenaño's view, Latin America is in the midst of a new technology era, starting in Brazil and expanding along the Andean corridor and beyond and firms such as Edgewater Markets will look to continue driving this momentum, enhancing trade flows and market efficiency in the region. "To excel in global markets, financial institutions should prioritize three key elements: adaptable technology to support diverse trade flows from various partners, efficient execution partners with a robust global clientele network, and credit intermediation for swift and risk-conscious participation in global markets," says Buenaño.

MINDSET CHANGE

Having worked for a bank and covering clients in the region for 15 years before returning as a tech provider, Eliane Pereira-Dousie, head of sales, Americas, MaxxTrader, says that the most interesting change among market participants has been the mindset. "Whereas a few years back, sitting down with a trader to discuss e-trading was a very educational conversation, now it is a two-way fluid conversation. Traders are interested in liquidity diversification, auto-hedging tools, and distribution. They do not want just another aggregator. They are looking for a knowledgeable and reputable technology partner that can help them solve inefficiencies in their workflows and make them more competitive."

There is also an openness to discuss algos, trading channels, new technologies and the use of data science, says Pereira-Dousie. "The arrival of young and tech savvy people in the workforce and openness to new technologies has had tremendous impact in the digital transformation of the markets and use of electronic trading platforms. Many of these newcomers have an entrepreneurial spirit, coupled with an innovation-driven mindset and are interested in learning about new technologies. I think this trend will continue, especially given that the average age in countries like Brazil and Mexico are in the low 30's."

There has been rapid digital adoption in the region, says Pereira-Dousie. "In a way, the pandemic was a wake-up call for smaller economies. Large organisations equipped with the appropriate technological resources stayed ahead of the competition. The pandemic brought on much needed change in the financial markets. It highlighted the importance of connectivity and having electronic and digital access to financial markets and services."

And while the concept of 'e-desks' is new to the region, locals now see the value in the electronification of their FX business to optimise resources, workflows and to reduce costs, says Pereira-Dousie. "Clients are looking for tech partners that understand local market structure and cultural nuances. The availability of new technologies and greater access to the internet has facilitated the use of e-trading platforms and mobile apps."

There are various factors influencing the evolution of e-FX trading in the region, says Pereira-Dousie. Firstly there is the increased importance of local currencies in the global market. "Looking at global rankings, MXN and BRL are among the top 20 in total FX turnover. However, if you look at the local currency landscape, most banks in Brazil for example still have large trading desks with 80% of trading volumes in the local currency, BRL. In Mexico, the flow is around 90% in MXN. Local markets operate very efficiently and with transparency. Brazil and Chile, for example, are sophisticated markets, with an exchange-like mindset, wherein Spot price is derived from listed markets making these currencies very liquid onshore."

REGIONAL E-FX PERSPECTIVE

"Embracing e-FX platforms could empower regulators to strike a balance between addressing concerns and harnessing the benefits of advanced trading technologies for the region's financial markets."

Ricardo Grados

Technology advancements have also been important, says Pereira-Dousie. "Brazil has been at the forefront of technology innovation. According to Bill Gates, Brazilian bank Bradesco, was the first bank worldwide to provide online banking to consumers. Brazil is also the second largest market for messaging app WhatsApp so there is little surprise to see Brazil adopting and embracing new technologies in various markets."

Mobile connectivity is also a key factor, says Pereira-Dousie. "The implementation of 4G has more than doubled across the LatAm region in the last five years, and is expected to spike even further with the migration to 5G. According to 5G Americas, the region, combined with the Caribbean is projected to have 398 million 5G connections by 2027. This huge uptake in 5G will mean that mobile connectivity and usage will explode, and apps that offer FX trading capabilities will be a firm necessity for institutional FX trading."

One of the main benefits mobile apps offer institutional investors is flexibility, says Pereira-Dousie. "Mobile apps mean that traders can access markets from anywhere at any time. At MaxxTrader, we understand the importance of 'being local,' and developing products and tools to help the local markets. We understand the importance of mobility. We have designed and optimized our mobile app to offer clients the ability to execute and manage workflows on-the-go."

There has been remarkable growth in the region's fintech market, says Pereira-Dousie "Major global banks are recognizing the potential of FX fintech in Latin America. For instance, Citi made a strategic investment in Rextie, Peru's leading fintech for FX services, marking it Latin America's first FX fintech to receive an investment from one of the world's largest banks. This represents a significant recognition of the potential of Latin American fintechs in the FX space."

Local banks are also investing in crypto and the use of blockchain and DLT, says Pereira-Dousie. "They are setting up digital businesses, well-staffed with readiness to go live once regulatory approval is in place. Their use of AI and ML is impressive. Banks are using these new technologies to improve decision-making in FX trading and to automate trading strategies and hedging."

So where should investment in the region's FX market be focused to make the most of this growth? "Along with consistently embracing new technology, it is pertinent to prioritise education and training to fully understand the complexities of FX trading," says Pereira-Dousie. "This knowledge can help them make informed decisions and manage risks effectively. Compliance with local and international regulations is also essential. And in terms of where future investment should be focused, areas such as advanced technology like AI and machine learning, cybersecurity, and regtech are becoming increasingly important in the e-FX space. Investment in these areas can potentially enhance trading efficiency, improve security, and ensure regulatory compliance."

EXPONENTIAL GROWTH

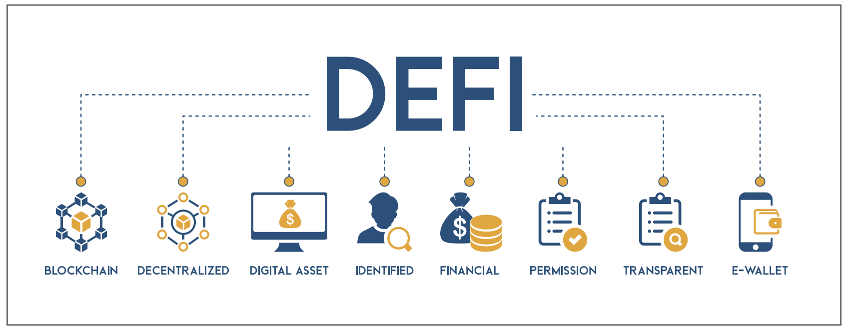
"The electronic forex exchange market in LatAm has seen exponential growth in recent memory, even amidst uncertainties like the pandemic," says Ricardo Grados, head of e-liquidity institutional sales at Finalto, the UK-based FX trading software vendor. The market volume grew from 5.6 trillion in 2020 to 7.5 trillion in 2022, a rise that Grados attributes to the advantages that e-FX offers over traditional FX trading methods. Other key drivers include increased accessibility for retail investors through brokers, prop trading firms, and FX network marketing schools, which have attracted millions of new traders, says Grados. Moreover, several new brokers emerged in LatAm over the past 4-5 years, with many leveraging white label solutions, resulting in potential conflicts of interest.

"This growth is being reinforced by key players in the e-FX market including central banks, banks, hedge funds, investment managers, commodities trading advisers, brokers, retail aggregators and corporations. It is because of this support that growth is unlikely to slow," says Grados.

Trade challenges in Latin America, such as fluctuating commodity markets and global tensions, have highlighted electronic commerce's potential, says Grados. "While there's some regulatory progress for fintechs, many countries like Mexico, Chile, and Argentina lack comprehensive rules for e-FX/CFD Retail Brokers. Regulators currently prioritize centralised market entities like banks and hedge funds over decentralised ones. Most major players, bound by tradition, still conduct trades via phone or chat, shying away from electronic platforms. However, cultural shifts and tech innovations are driving change, with institutions like pension funds seeking transparency and best execution."

LatAm regulators face several deterrents when considering e-platform adoption, says Grados. "These include concerns surrounding potential job losses due to automation, regulations mandating in-jurisdiction data centres, and fears that international trading could undermine local monetary control. On the other hand, e-FX platforms present compelling advantages, such as providing evidence of best execution, ensuring price transparency, adhering to codes of conduct, enabling efficient trade confirmation and settlement, and offering comprehensive cost analysis. Embracing e-FX platforms could empower regulators to strike a balance between addressing concerns and harnessing the benefits of advanced trading technologies for the region's financial markets."

The evolution of electronic FX trading in Latin American countries is influenced by several key factors, says Grados. "One significant driver is the rapid expansion of internet and mobile technology, granting access to over 530 million people in the region. The emergence of OTC markets around a decade ago has also opened up new opportunities for e-FX trading channels, with platforms like Bloomberg and Reuters promoting FX products. Moreover, the region's growing appetite for retail FX trading is fuelled by easy access to credit lines, technological innovations, and overall economic growth. Alongside these developments, increasing competition among FX providers, including large brokers entering the region and the rise of white-label brokers and local startups, is shaping the landscape and giving retail traders a wider range of options."



DeFi platforms built on DLT are also gaining momentum across the region

At the same time, leading e-FX providers in Latin America have been actively expanding their portfolio of products and services to meet market demands, says Grados. "They are enhancing their electronic trading platforms, real-time pricing solutions, and pre & post-trade FX toolsets to offer more flexibility and power to their clients. This includes advanced trading platforms with user-friendly interfaces, improved order execution, access to multiple sources of liquidity, real-time pricing solutions, and advanced risk management tools. They are also catering to algorithmic traders and institutional clients by offering APIs for automated trading strategies. Additionally, these providers are promoting financial education through webinars and market analysis, ensuring regulatory compliance, and bolstering customer support for a comprehensive and efficient forex trading experience in the region," says Grados.

CONCLUSION

"Technology is revolutionising the way we trade forex, and it's fascinating to see how new advancements are making a real impact," says Grados. "Innovations in FX Fintech are transforming the forex trading landscape across Latin America. Key technologies like blockchain, AI/ML, and DLT are driving this evolution. Blockchain's potential in forex is significant, enabling secure and transparent cross-border transactions while reducing costs. AI-powered advanced trading algorithms crunch vast data, leading to more efficient and profitable strategies for traders. Sentiment analysis, also fuelled by AI, offers valuable insights from various sources, aiding in informed decision-making."

DeFi platforms built on DLT are gaining momentum in the region, providing decentralised access to financial services, empowering traders with more control over their assets while robo-advisors are using AI to offer automated investment advice, says Grados. "Of course, as technology progresses, security remains paramount, with DLT and Blockchain providing tamper-resistant and fraud-resistant transaction records, safeguarding client data. While these advancements promise an exciting and accessible forex trading experience, regulatory considerations and challenges must be addressed. Nonetheless, this era heralds a transformative period for FX fintech in Latin America and an exciting time to be part of the FX fintech world!"

Andrew Ralich

Serial technology innovator oneZero's next area of disruption: **Intelligent Performance**

oneZero is a global leader in multi asset trading technology solutions, with an emphasis on bringing innovation to the FX markets. eForex spoke to oneZero's CEO and co-founder Andrew Ralich and director of quantitative analysis Steve Totten about changes in trading markets in 2023 and how oneZero is delivering intelligent performance that helps its FX clients to thrive.

You told us last year about the strides oneZero has made in serving the institutional market. How have market trends such as higher FX volatility in early 2023 and a greater focus on industry regulation affected the next stage of this push?

Andrew: The rise in FX volatility - especially in the first quarter - was both a major benefit for the industry in terms of boosting trade volumes, and a significant challenge to technology providers. Some technology suppliers struggled to cope with this test, but oneZero's systems remained robust and adaptive, allowing us to keep serving our clients when it mattered most.

This was supported by our 'technology first' approach, and our experience serving the FX brokerage space over the last 14 years. It was also complemented by our recent investments and evolution in servicing institutional counterparties and their requirements.

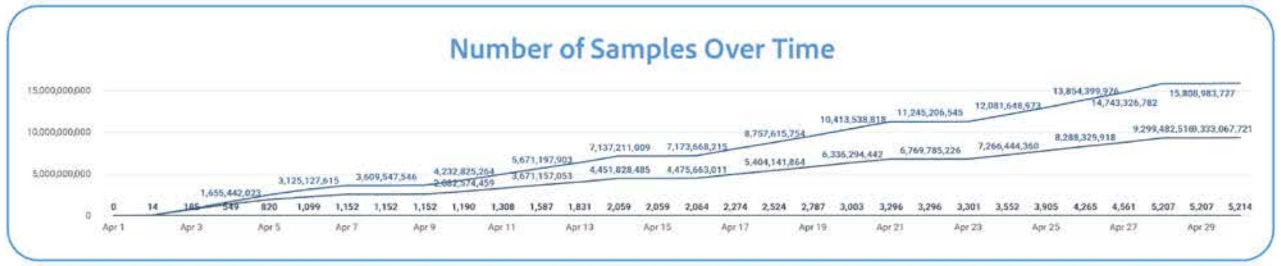
We know that nothing else matters if your technology solution is not both robust and scalable. This has proved to be a valuable calling card as we increase our interaction with institutional clients such as regional banks, asset managers and prime of primes, along with liquidity providers, including major banks.

The focus on coping with increased regulation is another area where the higher end of the retail brokerage market and institutional firms both face similar challenges. oneZero has made product enhancements to help clients of all types to cope with regulatory requirements while facing minimal disruption to their core business activity.

Advances in data management are key to FX technology innovation. How is oneZero making further improvements to your Data Source function?

Andrew: Data has always been at the forefront of what we do at oneZero, and this year we pushed even harder to invest in our ability to help clients make the best possible use of FX data - both their own information and the vast amounts of data that can be accessed via oneZero's solutions.

At the start of 2023 we hired Steve Totten as our new director of quantitative analysis to spearhead this upgrade in our data deployment. Steve was most recently the global head of e-FX at Unicredit and before that a portfolio manager at Citadel, so he has first hand knowledge of what oneZero's institutional clients need to succeed in the fast-evolving FX markets.



oneZero systems remain robust and adaptive, allowing us to keep serving our clients when it matters most.

Serial technology innovator oneZero's next area of disruption: Intelligent Performance

Welcome, Steve. What attracted you to oneZero, and what do you view as the main opportunities to develop FX data tools?

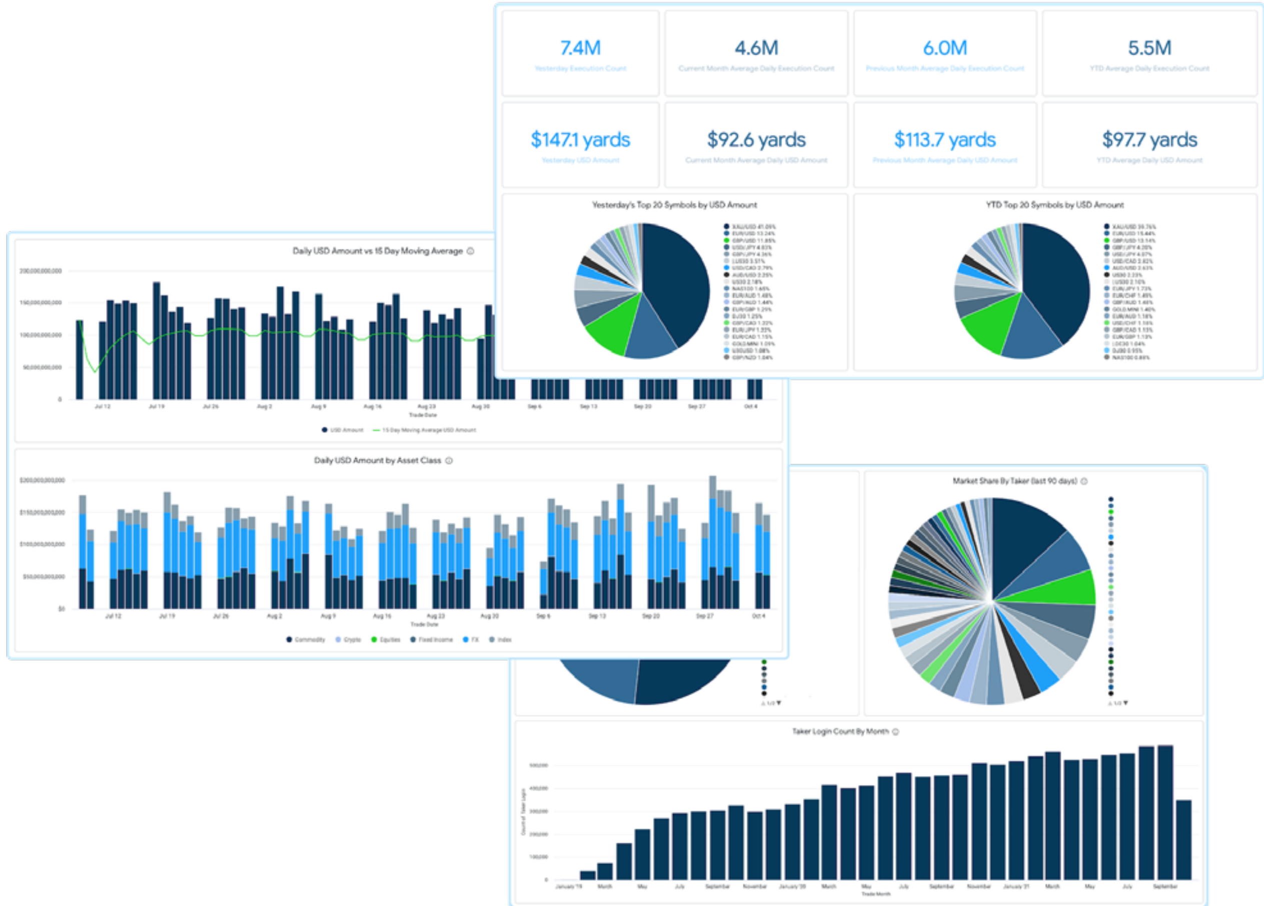
Steve: I wanted to join a firm that is pushing the boundaries in FX technology and found that Andrew and the entire team at oneZero shared my view that the knowledge derived from analytics is fundamental to achieving the objectives of trading market clients.

oneZero already had a fantastic Data Source product when I joined, and data capture and measurement is really part of the DNA here, so I am excited to help to take this to the next level.

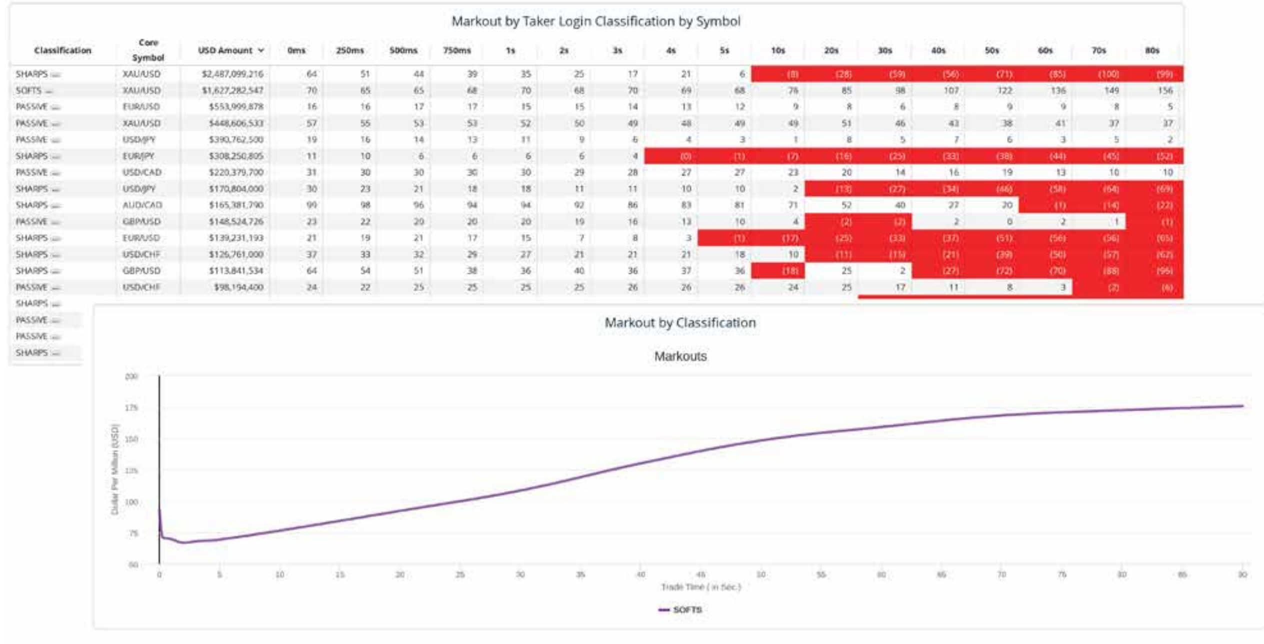
Our goal is simply to help clients better manage their franchise. We have an extremely robust data pipeline that captures millions of trades, and terabytes of pricing data in all market conditions, and recently increased our investment to further speed up our data query performance across massive data sets.

Our Data Source Insights offering produces analytics off the back of this, with a focus on helping eFX traders, salespeople and quants to take away actionable results.

We're also adding new analytics on internalization efficiency, and how effective and profitable a client's skewing model is.



Data capture and measurement is part of the DNA at oneZero



oneZero also has a unique maker pool analytics tool that allows clients to test the efficiency of maker pools used for hedging via simulations

On the regional bank side we're working on more tools to help sales and trading boost their RFQ performance on multi-dealer platforms, across both spot and swaps.

And multiple reports cover liquidity pools, spreads, pricing and the value of flow over time, including how different elements correlate.

Andrew, you and Steve both mentioned regional banks, which have faced a difficult market backdrop this year. What do they need from a provider of FX technology solutions?

Andrew: Some regional banks have certainly had a challenging year in certain markets, primarily linked to managing deposit outflows that were themselves due to the effect of higher interest rates. Though the impact was relatively isolated among a few big names, the broader challenge has caused many regional banks - both in the US and other countries - to re-examine their business models.

Other regional banks are having a good year, with strong profitability driven by higher rates, and, coming off the back of a couple of years of strong growth in markets, and in particular FX revenue, they want to continue investing in their technology stacks and capture increased market share.

Both of these factors have prompted some fascinating conversations between oneZero and regional banks, as we discuss the opportunities to retool FX technology to ensure that FX becomes both more efficient and ultimately an even greater revenue contributor.

New technology can level the playing field in FX and demand among regional banks in the first half of 2023 has stemmed from new profit sources emerging and a keen focus on stability and data analytics. This is developing into a new period of creative disruption by prompting an examination of long standing industry habits. And that in turn is very similar to what we observed in the brokerage space in the 2010s.

AI has been one buzzword of 2023 for trading markets. How is oneZero developing AI functionality to help clients by delivering intelligent performance that is enhanced by new ways to use data?

Steve: The advances of AI are opening a new era of possibilities in the FX industry. AI algorithms can analyze vast amounts of data, uncover hidden patterns, and identify valuable relationships in sophisticated ways. AI techniques are evolving fast, with development of clustering models one of the areas where we are seeing the biggest early benefits for our clients. At oneZero, AI is already deployed to analyze client flow and markout information.

This delivers efficiencies for traders, as our model flags up clients whose trading style has changed recently, allowing them to focus their efforts on the most relevant customers.

In order to effectively train this model with sufficient statistical power, a large set of trades is required, and a lack of data can end up locking out smaller firms from this next generation of analytics. At oneZero, firms of all sizes can benefit from our vast dataset by aggregating their orders in a confidential and anonymised way with information from other market participants for mutual benefit.

Firms understandably don't want to give data on their entire trading history to a liquidity provider to run analysis, but as a neutral third party we supply metrics that can be quickly deployed to improve performance - and client/provider relationships.

oneZero also has a unique maker pool analytics tool that allows clients to test the efficiency of maker pools used for hedging via simulations that allow replays of taker orders against alternative pool constructions.

Watch this space! There is much more to come in terms of deploying AI for our clients.

Andrew, oneZero recently won the FX Markets e-FX award for Best Liquidity Aggregation Service - for the second year in a row. What is oneZero doing to maintain its leadership in liquidity service provision for clients?

Andrew: Fundamentally, we are investing and innovating. We have doubled our investment in technology in the last three years, which stood us in good stead when volumes surged earlier this year. I should also point out that FX data volumes are rising at a far higher pace than actual trade numbers, including when markets are busy. That is placing additional pressure on technology suppliers and raising the importance of partnering with a robust, scalable FX solution provider.

Some of this is a commitment to basic service standards - unlike some firms, at oneZero we support our solutions with 24/7 trade operations and our performance service level agreements are backed by data, for example.

We also acknowledge the challenges faced by market participants today. Reducing FX latency without compromising the breadth of information available for decision-making is difficult. oneZero's commitment to investment allows us to deliver performance improvements that keep up with increasing market speeds. This is not the case for all participants in the market today.

I was pleased that this effort was recognized by a number of awards this year, including Best Trading Solution for FX Markets in the TradingTech Insight Awards in both the USA and Europe, and Best Technology Provider, along with Best Hosting and Connectivity Provider with clients polled for the Global Forex Awards B2B.

Hedging efficiency is a key element of delivering for FX clients. What is oneZero doing to improve functionality for hedges that are conducted along with spot customer trades?

Andrew: We have definitely placed an increased emphasis on providing more choices for hedging functionality. This includes passive hedging tools such as peg orders that can be used to reduce risk over time as a lower cost alternative to crossing spreads with active risk management trades.

oneZero's Institutional Hub enables our clients to either use the same maker pools for hedging as for customer pricing, or to tap an alternative maker pool. We allow customers to utilize their real-time inventory of positions to provide better pricing to their clients, through mechanisms like price skew or dynamic spreading.

Decoupling pricing and hedging pools allows incorporation of skew safe feeds into execution logic in a controlled mechanism that prevents maker skews from leaking to the market via customer pricing functions.

Can oneZero's clients combine your functionality with their own proprietary algorithms?

Steve: They can - and in fact we encourage clients to do just that. oneZero's Algorithmic Pricing Module is an advanced price creation tool that allows clients to insert proprietary algorithms and native code within our Institutional Hub.

This enables customized pricing as proprietary algorithms access market data, risk positions and other information. The module delivers greater control of underlying data elements in the construction of price algorithms, which run in real time on the same hardware as the oneZero Hub.

This could be as simple as integrating a market event feed for dynamic widening around numbers, or something as sophisticated as a full in-house pricing pipeline, driving spreads, skews, and volume banding.

There is no need to expose proprietary processes to oneZero - or anyone else - in order to maintain your competitive edge. And clients can also import custom parameters into our hub, to allow users to make real time changes without changing the algorithm's source code.

Andrew: I would add that open API frameworks have been a key feature of our solutions at oneZero for over a decade now, and we are constantly learning and improving our service from close collaboration with our clients,

Collaboration has indeed been another buzzword in FX markets in 2023. How has oneZero's EcoSystem helped market participants to work more closely together?

Andrew: There is a growing appetite for oneZero's EcoSystem as clients come to appreciate the benefits of using our secure, ultra low latency network to connect with a wide range of key partners. At the risk of a pun on our name, FX trading really does not have to be a zero sum game.

The overarching policy for our solutions for clients remains as it has always been: we are liquidity neutral and want our clients to have access to the LP relationships, credit and market data that fuel their business today and in the future. Over time, as we've grown as a firm, how counterparties engage with our EcoSystem has evolved and matured. Today they can do this both via direct relationships and on behalf of existing client relationships.

Our clients in the EcoSystem operate their businesses with increased scale and efficiency in distribution - that is why they are connecting via oneZero - and that in turn enables the support of an expanding list of trading products and services while lowering costs, speeding time to market, and solidifying win-win supply chain relationships.

Another repeat win for oneZero in 2023 was recognition by Inc. 5000 as one of America's fastest growing private companies, along with a Business Intelligence Group award for Best Place to Work. What does that mean to you as a co-founder and how are you maintaining oneZero's culture as you grow?

Andrew: It means a huge amount to me and my co-founder Jesse Johnson, and indeed to the whole oneZero team. We have continued to add staff as we build our service capabilities and are now up to 170 team members globally. That inevitably imposes some changes on the way we run the company, but we are also working very hard to retain our unique culture.

I was thrilled that we were able to revive our annual team building retreat - Camp oneZero - in the New Hampshire woods this spring and also that we had record attendance, both in overall numbers and in team members arriving from outside the US, many of them relatively recent joiners.

How would you define what is unique about oneZero's culture?

oneZero has been recognised by Inc. 5000 as one of America's fastest growing private companies

Friendly competitions at Camp oneZero are an important part of our culture

Andrew: oneZero is a technology-first company that was founded by technologists and prizes analytical innovation and customer service above all. That helped us to establish oneZero as a key partner to the trading markets - first in retail FX brokerage and now with a growing range of institutions - because we are not tied to legacy habits of thinking of vested financial interests.

We are genuinely liquidity neutral and independent. A shared approach to problem solving is a key part of this culture and I was pleased that new team members from Europe and Asia were keen participants - and winners - in our friendly competitions at Camp oneZero.

Steve: I can confirm that I was one of the participants and even managed to rank among the joint winners. That has been one of the pleasant surprises about joining oneZero - the commitment to teamwork and innovation is genuine and there really is a unique culture here. The focus on technology that serves business goals is a major differentiating factor for oneZero.

The build out is continuing in multiple regions of the world then - where is oneZero expanding its presence?

Andrew: We have continued to add a number of experienced staff in London, including Julian Gay, who joined us as director of institutional sales for EMEA. And Asia remains a focus too - in Hong Kong, Singapore, Tokyo and elsewhere. I recently spent time in our Sydney office, which is the hub for much of our Asia-Pacific activity, and visited our new development center in Canberra.
It was particularly gratifying to see that we are gaining recognition from clients across the world for this move to expand our service capabilities.

oneZero was named Best FX Technology Provider and Best FX Aggregator in the FX Markets Asia Awards this year, for example, which is a testament to the great work that our EVP Alex Neo and the rest of the Asia-Pacific team are doing to help clients.

Which conferences have you already attended, and where can we expect to meet the oneZero team for the rest of the year and into 2024?

It is a long list! We have attended conferences in every region and upcoming highlights in October and November include the Full FX at The FIA Expo in Chicago and Full FX in London along with FX Markets USA in New York.

There is growing demand for conferences that bring together institutional clients of all types and in terms of regional appetite there is a huge interest in meetings in Dubai, such as the Forex Expo Dubai 2023 in late September.

Our focus is simple: meet as many actual and potential clients as possible to explain how oneZero's FX technology solutions can help to boost their own performance.

Counterparty diversity: a prerequisite for FX risk management?

The collapse of Silicon Valley Bank, UBS's takeover of Credit Suisse and the closure of Signature Bank has shone a light on many vulnerabilities in the banking industry, particularly the risks associated with only having one or two banking partners. Eric Huttman, CEO at FX-as-a-Service provider MillTechFX, explains why there's safety in numbers when it comes to FX counterparties and how firms can enhance their FX risk management in this uncertain climate.

On March 8th, shares in Silicon Valley Bank (SVB) began to fall sharply due to fears of the bank's solvency.

Venture capital firms began to advise their portfolio companies to withdraw money from SVB and by the end of March 9th, customers had initiated $42 billion in withdrawals. The next day, US regulators took control of the bank, whilst SVB's UK arm was sold to HSBC for £1.

Spooked by the sudden collapse of SVB, customers at Signature Bank began to also withdraw deposits. As withdrawals reached over $10 billion, regulators took over Signature Bank in the third largest bank run in US history.

Corporates and fund managers should consider establishing a robust counterparty risk evaluation framework that considers a range of risk factors

The collapse at SVB and Signature Bank was swiftly followed by a crisis at Credit Suisse, which culminated in rival Swiss bank UBS agreeing to purchase the beleaguered firm.

This turbulence raised the question: what lessons can be learnt from these events?

Whilst the banking sector has seemingly stabilised since the turmoil of the Spring, it's important that senior finance decision-makers at corporates and fund managers review their banking setup to make sure they have the right systems in place to mitigate the impact of any future crises.

As they navigate this uncertain landscape, they should consider assessing their existing foreign exchange (FX) counterparties and using technology to get access to multiple liquidity providers to protect their business from any further fallout.

COUNTERPARTY RISK ASSESSMENT

When selecting FX counterparties, many firms may prioritise prices and onboarding times as two major factors. But, as the recent banking crisis illustrates, other execution factors such as the likelihood of settlement are equally important.

Corporates and fund managers should consider establishing a robust counterparty risk evaluation framework that considers a range of risk factors. These include monitoring realised and unrealised profit and loss for each counterparty, credit rating from reputable rating agencies, credit default swaps as well as regular counterparty review and monitoring activities.

In addition to reviewing and assessing the counterparty risks, recent market events also highlight the importance of establishing a robust FX execution contingency plan that takes into account legal and operational complexities. If the counterparty becomes unavailable, the firm should be able to quickly and efficiently manage the existing FX trades (such as through novation or close-out) and implement new FX trades as the business requires.

MULTIPLE COUNTERPARTIES

One of the big lessons for corporates and fund managers from recent events in the banking industry is the importance of having access to multiple counterparties.

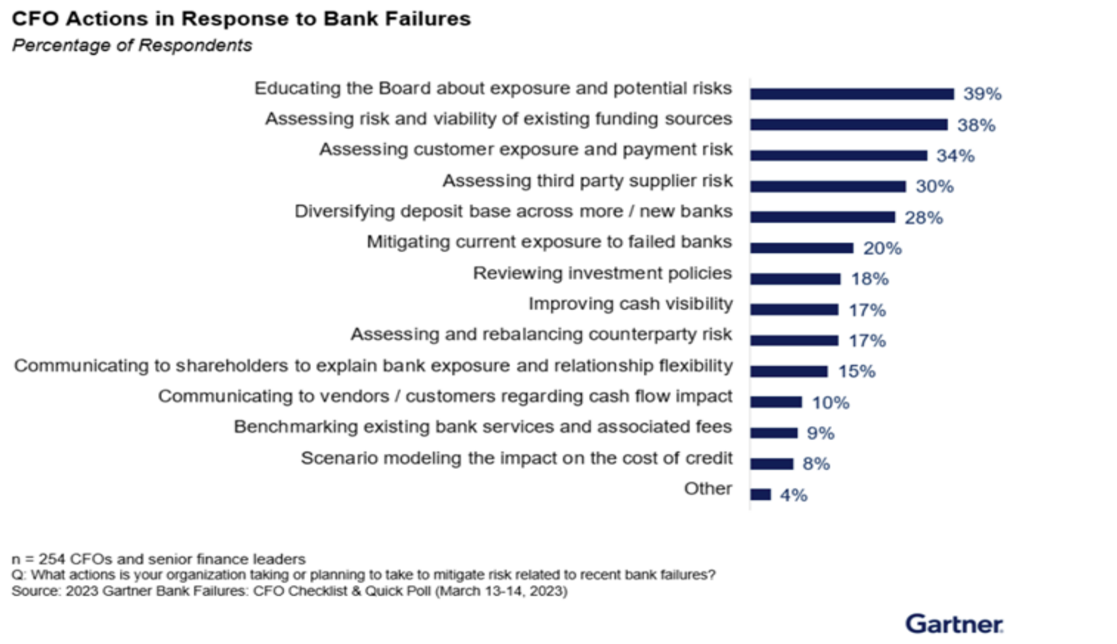
It is now widely known that a bank's failure can cause serious short-term liquidity issues. Should a banking counterparty no longer be able to function as an FX provider, then this can affect vital expenditures such as payroll and supplier invoices, even if it's only for a few days. Other risks include:

1. **In-the-money FX hedges** – if a firm has open FX forwards with a failing counterparty and those positions have a positive mark-to-market (i.e. they make a profit if they were to be sold back into the market today at the prevailing spot rate), then the firm might be at risk from not realising that mark-to-market gain.
2. **Loss of collateral** – if a corporate or fund manager has had to post collateral with their counterparty in order to book an FX forward, then that collateral may be at risk, in a similar way to cash deposits.
3. **Not being able to maintain the FX hedge** - crucially, there is a risk that any pre-existing forward contract will not be honoured. If the purpose of that forward was to mitigate the effect of FX volatility on a portfolio of foreign currency assets, then fund level returns could be negatively impacted.

Many CFOs are subsequently making changes for the better, with one in four (28%) planning to diversify their deposits across more banks.

But this lesson also applies to FX operations. In FX, reliance on one or two banking partners can be a particular problem. For corporates and fund managers who trade FX for payment or hedging purposes, FX can be seen as second-order: they transact

Figure 1: CFO actions and planned actions to mitigate risk related to recent bank failures



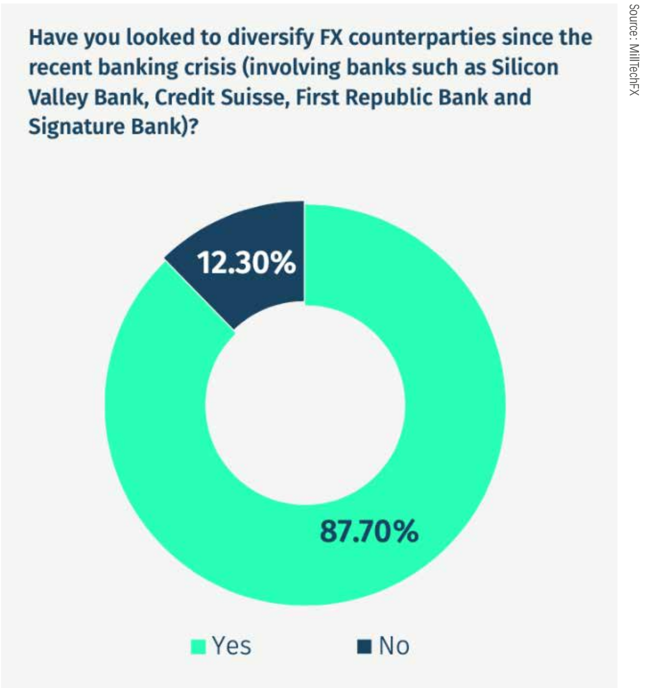
Source: Gartner (March 2023)

Counterparty diversity: a prerequisite for FX risk management?

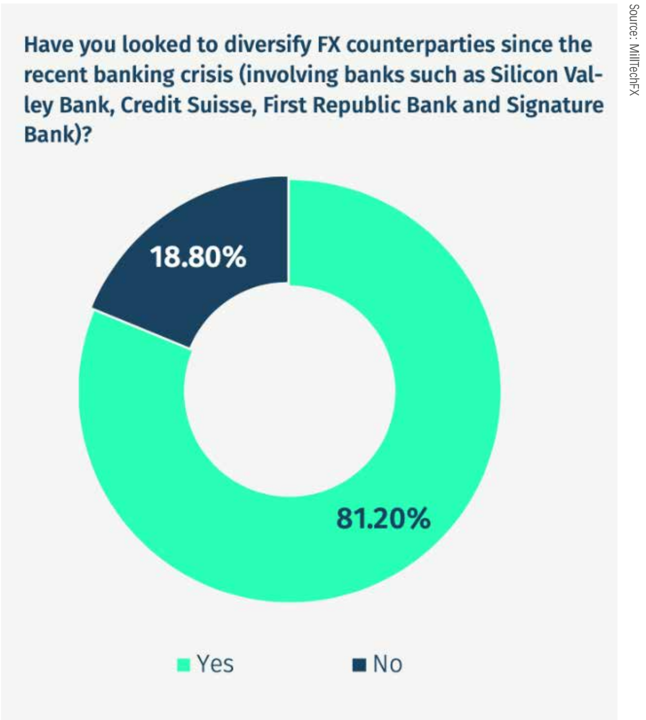
in FX not because they 'want to', but because they 'have to' due to international business activities. It is thus often operationally inefficient for them to set up and manage multi-bank relationships.

In some instances, regional tier two banks will offer smaller firms a 'soft dollar' arrangement whereby they provide a discount on other services if the corporate or fund manager deals exclusively with them for FX. This means they are often reliant on one or two counterparties, and it can often take months to onboard others, which leaves them open to risk should another bank run occur. The loss of a major FX counterparty could render firms unable to trade, potentially impacting staff pay, supplier invoices and currency exposure.

Recent research from MillTechFX shows that senior finance decision-makers at corporates and fund managers are taking this lesson onboard when it comes to their FX operations. 88% of corporates and 81% of fund managers are now looking to diversify their FX counterparties following the recent banking crisis.



Responses from Corporates



Responses from Fund Managers

This highlights that firms are taking positive action to diversify their counterparty base to avoid having all their eggs in one or two baskets.

Having multiple counterparties can also have a positive impact on pricing. Due to the opacity of the FX market, it can be incredibly difficult to compare prices without having access to multiple banks. At any given time, they may not be able to trade at the best available rate as they have no other access points to the market. Getting competitive quotes from multiple counterparties can enable corporates and fund managers to compare the market so they can ensure they get the best rate and achieve best execution.

A NEW, TECHNOLOGY-DRIVEN APPROACH

It's clear from this debacle that cost and transparency issues aside, reliance on one or two counterparties can be an extremely risky strategy.

Fortunately, there are alternatives to the traditional single bank-based approach on which so many corporates and fund managers have been forced to rely. Technology and the advent of electronic trading have enabled new entrants to offer an alternative way to transact in FX that addresses risks associated with a single point of failure.

They offer access to a greater pool of liquidity from a single interface, providing corporates and fund managers with more options, safe in the knowledge that if one counterparty faces financial difficulty, they can select a different one with potentially minimal operational impact on their business. This also has cost benefits as it enables them to compare live rates and execute at the best available price.

By expanding beyond traditional brokerage or banking relationships, corporates and fund managers can get access to the kind of liquidity normally reserved for the largest trading institutions, along with associated cost savings. Vitally, they get the safety that comes with having

Image by Shutterstock

FX trading risk management: Harnessing the benefits of Digital Transformation

Trading FX is an inherently risky activity, and risk management has kept pace with advances in electronification. Price action, liquidity, volatility, human errors, and system failures—the list of trading risks in FX can seem never-ending as Vivek Shankar discovers.

Electronification, ironically, has introduced new risks for market stakeholders. John Stead, Director of PreSales and Marketing at smartTrade, explains. "As FX trading has evolved and electronified some risks such as human error have reduced whilst others have become more prominent such as an increased reliance on technology and an increasing complexity of trading platforms across the market both on the buy and sell-side," he says.

A firm's choice of service provider can impact its risk management workflows. For instance, cybersecurity and disaster recovery mechanisms are two examples of workflows that firms must pay attention to. Examining the nature of these risks is informative since they have resulted in unique and innovative solutions for buy-side FX risk management.

LEGACY CONSTRAINTS AND ADOPTION ISSUES

"A corporate participant's primary source of risk," says Jonathan Tunney, CEO of AtlasFX, "is due to their inability to properly extract required trading data from their OMS. This is often a giant Excel spreadsheet, that pulls Enterprise Resource Planning (ERP) data at the transaction currency detail level and matches that information against existing FX contracts, either through a treasury management system or some other type of database. There are often forecasting data and 'one-off adjustments' (e.g. tax, real estate) that can further complicate this process."

This Excel-based OMS is obviously at odds with current market developments. For instance, increased volatility is pushing firms to better understand their workflows and remove inefficiencies. A patched-up OMS is unlikely to give them the data they need.

Cormac Walsh, Head of Product at Barracuda FX, an ION company, lists a few other events like the move to T+1 settlement and the rise of digital assets further complicating the risk management picture. "The SEC changing standard settlement from T+2 to T+1 for most broker-dealer transactions in securities has presented complexities," he says. "Where transactions involve an FX component there are potential increased risks/costs which are most likely to be mitigated by closer integration of order management and execution systems on the securities and FX sides, and with the back office."

"SA-CCR and UMR have increased capital charges, introduced more calculations in workflows, and created a need to further optimise capital," he says. Unsurprisingly, firms are well aware of the additional risks their outdated OMS' introduce. Yet, adoption lags and legacy systems continue to operate.

When asked why this is, smartTrade's Stead explains that data migration difficulties were traditionally a roadblock. "Replacing legacy Risk Management systems has been a cumbersome and challenging process," he says, "primarily due to integration difficulties and the potential risks associated with data migration."

He explains that smartTrade has invested significant resources in solving this problem. "In particular," he says, "there are two areas where we have made a significant impact. All of smartTrade's solutions are modular allowing them to be incrementally integrated. Second, our cloud-based SaaS offerings speed up deployment times and lower upfront costs, making the shift from legacy systems more accessible and efficient."

"It is still shocking when we come across prospects that have risk siloed in different books and systems with multiple seconds of latency."

John Stead

Atlas' Tunney points out that there is a human factor to the lack of adoption too. "There is rarely someone in the FX risk management role who understands how all the pieces fit together completely enough to take a leadership position and simply state 'this system is not working and is too risky to continue to operate'," he says.

Does that mean change only comes about when firms experience a disaster of some sort? Tunney likens it to decisions 'bathed with blood.' "Too often, decisions to upgrade these antiquated FX risk management systems occur where there has been a huge mistake," he says, "and management decides that they have no other option but to change."

Despite this, he notes some progress concerning adopting new technology. "On the plus side," he explains, "there has been more willingness to go with "best of breed" solutions that integrate well with other solutions, versus trusting that a single, bloated, expensive TMS that tries to do too much, but does it poorly, will be the answer."

APIS

The best-of-breed solutions Tunney mentions rely on APIs to deliver efficiency. Every market participant is familiar with APIs these days, but how do they smooth risk management workflows?

Stead says, "Standard FIX and REST APIs make integration cost effective and quick. But they're also rich enough to allow comprehensive data extraction, offering deeper insights into trade activity. They can also be customised to suit a client's needs, giving them full ownership of data. smartTrade has integrated to over 130 liquidity partners including venues, banks, non-banks and other vendors not only for trading but also order and algo connectivity. This means we abstract the client from costly proprietary integration leaving them with a single normalised standard API for integration."

He goes on to explain that APIs also enable data extraction and can be used with custom algorithms in smartTrade's AlgoBox. "This facilitates automated management of risk, allowing for more dynamic and responsive Risk Management strategies."

Tunney believes using APIs is a no-brainer, given the advances they represent existing processes. "APIs are a critical aspect of automation in the FX risk management systems," he says. "Outside of robust API libraries, there are only manipulations of flat files that require manual data parsing to get to a usable format. This is incredibly dangerous as the fidelity of the data is often compromised in this process."

Given all this information, how are modern risk management solutions and OMS improving workflows and building more efficiency?

NEW PLATFORMS AND THEIR ATTRIBUTES

"Moving away from Excel as the primary source of truth for trading decisions is the biggest improvement for FX Risk Managers," Tunney says. "AtlasFX is designed for enterprise-level data management collection, aggregation, calculation, and for delivering exposure information in a timelier manner. This allows the risk manager to spend more time with analysis on trading decisions and less time with rote spreadsheet manipulation."

Integration is a central theme when discussing these solutions. Tunney notes that modern risk management systems pull data from the ERP directly and cross-check datasets for integrity to prevent errors.

smartTrade's Stead is well placed to offer the technology provider's view of processes. He highlights real-time monitoring, the use of AL and ML, and seamless integration as drivers of cost efficiency. "smartTrade's platforms enable immediate tracking and more importantly centralising of market risk," he says. "It is still shocking when we come across prospects that have risk siloed in different

"Moving away from Excel as the primary source of truth for trading decisions is the biggest improvement for FX Risk Managers,"

books and systems with multiple seconds of latency. It is a deficiency we can immediately address and obviously reduces risks by an order of magnitude."

"Our trading, OMS and payments solutions blend effortlessly with clients' existing systems, creating a unified interface that simplifies risk management in real time. smartTrade's technology not only reduces costs but also maximises capital utilisation."

He highlights a few transformative aspects of modern risk management solutions that deliver outsized benefits. "Centralised risk management, live revaluation, predictive risk assessment abilities, custom real-time alerts, and the ability to use analytics-based signals in algos are game-changers."

"Centralization ensures that control measures are consistent and allows for a more comprehensive understanding of potential risk factors," he continues. "Live revaluation enables trading firms to understand the current value of their positions and potential exposure, allowing for timely and informed decision-making. Leveraging advanced analytics, our solutions can detect underlying trends and patterns in trading behaviour. By understanding these dynamics, firms can proactively identify potential risks and opportunities, optimising their strategies accordingly."

"Finally, by integrating analytics-driven insights into algorithmic trading strategies, our solutions enable firms to automatically adjust trading activities based on real-time market conditions. This approach ensures a dynamic response to changing risks

Jonathan Tunney

and helps in maintaining optimal risk-reward profiles."

Moving away from standard risk management solutions, ION's Walsh notes that OMS platforms have evolved considerably to mitigate the risk management picture. "Order flow is automatically captured from internal and external channels and this ensures all orders are validated, credit screened, and routed appropriately," he says. "Order management is also consolidated across voice and electronic channels. Modern OMS' integrate deep into the eFX trading infrastructure enabling algorithmic hedging of market risk and incorporation of orders into price axes, thereby improving price construction algos."

The benefits on offer for firms are significant. Walsh notes that these features ensure full order flow visibility. "Visibility controls allow order flow to be segregated by currency, sales coverage, trading desk location, etc. to eliminate information leakage," he says. "Automated order handling ensures all regulatory requirements

"Automated management of FX orders in swaps and NDS, further integration to buy-side OMS', and advanced algorithmic risk management are some features firms can look forward to."

Cormac Walsh

captured and adherence to Global Code policies are met and monitorable."

OUTSOURCING

Firms can outsource order management to third party providers for out-of-hours coverage, currency specialisation, or white-label algo execution. As with risk management systems, Walsh cautions that replacing legacy OMS comes with challenges.

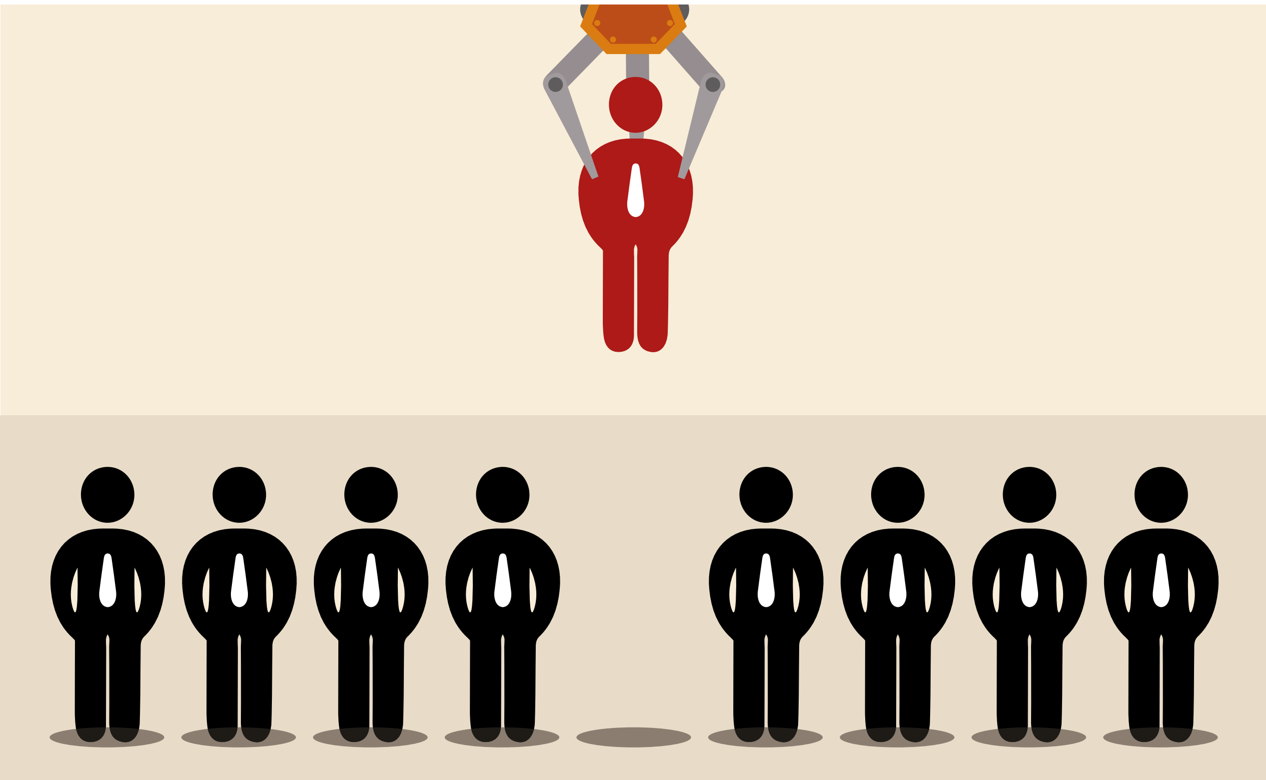
"Conduct a full appraisal of the ancillary manual workflows performed," he says, "around the OMS to complete the full cycle and seek to automate as much as possible." He recommends firms look at a solution's ease of integration, deployment, and functional coverage when assessing options.

When asked for specific features, he notes the following. "The order capture mechanism APIs, multi-dealer portals, single dealer portals, buy-side OMS', indirect flows, contribution to prices axes, credit system, eligibility and regulatory checks, and static data synchronisation, to name a few."

Moving back to the risk management perspective, Tunney notes that the outsourcing question can be evaluated from risk management and an FX trading perspective. For risk management, he opines there's no good reason for firms to build systems from scratch. "This would be akin to building your spreadsheet rather than paying for Microsoft Excel," he says.

The picture is more complex when considering FX trading to mitigate risk. "Today most, if not all, of the trading is done in-house because there aren't any adequate platforms to take over this activity," he says. "In the future, there will be systems where corporates can simply upload their desired trades the night before and come in the next morning with a completed set of trades and a high level of assurance that those trades were executed at a fair and competitive price."

"This will be a step function improvement over what can only be described as a meaningless and low value-added activity of actually performing FX trades. Of course, there will still be those in the 'don't know what they don't know' category that believe they can 'feel' the right time and method to execute FX transactions."



A firm's choice of service provider can impact its risk management workflows

Tunney believes these next-gen trading platforms will disintermediate many banking participants who are no longer absorbing risk in their market-making activities. "These next-generation oFX trading platforms will not only allow corporates to upload their desired FX trades to execution but will also allow for better matching against other commercial participants," he says.

CHOOSING THE RIGHT PARTNER

So how should firms go about choosing the right partner? Track record is the first factor Tunney and Stead highlight. "There is simply no good reason to go it alone anymore as institutional knowledge can either be faulty and error-prone," Tunney says. "Alternatively, it can simply leave the organisation when someone retires."

Speaking of next-gen FX trading platforms, he says, "The most important attribute for these trading platforms will be transparency of pricing and execution costs. FX trading participants have rightfully earned a very bad reputation in this regard (e.g. FX fixing rate scandal) and this will be a major differentiator."

"A partner with experience of firms of similar size and profile means it can offer trading, OMS and payments solutions that align perfectly with your business model without lots of customisation, ensuring a seamless partnership," Stead notes. "An innovative approach leverages next-generation technologies like AI/ML to set you ahead of the curve, offering ultra-low latency data analysis and pattern recognition to deliver unprecedented functionalities."

"A commitment to exploring and developing new technologies to solve tomorrow's problems and proven expertise in the FX industry, with years of delivering tailored solutions, ensures a deep understanding of the unique challenges and dynamics of FX trading."

LOOKING AHEAD

ION's Walsh is excited about the evolution of OMS platforms and their ability to help firms manage risk. "The ability to in-source and outsource market risk from partner banks for out-of-hours coverage and/or currency specialisation is a key feature on the horizon," he says.

"Automated management of FX orders in swaps and NDS, further integration to buy-side OMS', and advanced algorithmic risk management are some features firms can look forward to."

APIs are a critical aspect of automation in FX risk management systems

Stead highlights an exciting initiative at smartTrade. "We already have a very rich and mature trading, OMS and payments offering, but we are determined to further push the boundaries of innovation! The next frontier is creating advanced systems to automatically assist clients, sales teams and traders by through ultra-low latency data analysis, processing vast volumes of information, and identifying complex patterns and signals that would be impossible for humans to detect. Looking forward, we anticipate further evolution in risk management platforms with enhanced predictive analytics, real-time decision-making support, and personalised, intelligent automation."

Given its position in FX trading workflows, risk management is set to experience a technological shift. While the future is unknown, there's no doubt that the market will witness exciting shifts soon.

RISK MANAGEMENT IN RETAIL FX

While institutional risk management tends to receive a ton of attention, retail risk workflows are just as challenging to manage. Specifically, brokers catering to retail clients need robust risk controls in place to prevent adverse incidents.

Cristian Vlasceanu, CEO of Centroid Solutions, is well-versed in the different risks retail FX brokers have to mitigate. "When it comes to running a retail FX Brokerage, there are different types of risks brokers need to consider," he says. "Brokers must ensure they have an infrastructure that is built for financial trading. They should understand where they are getting their profits and where risks are coming from." "Furthermore, when dealing with multiple liquidity providers," he continues, "it is crucial to maintain adequate controls over the trading activity with each counterparty. These controls should be automatically applied at the level of the trading engine." So how can technology help brokers mitigate these risks and what should they look for in a service provider?


Cristian Vlasceanu

TECHNOLOGY AND ANALYTICS

Retail brokers handle large volumes of trading data and consolidating these datasets into easily-analysed information is challenging. "One option for brokers is to adopt a comprehensive risk management system that can consolidate data from trading platforms," Vlasceanu says.

"With such technology, brokers will have the ability to define different criteria based on their requirements, such as providing real-time analysed results and displaying them in a meaningful way (e.g. graphs/charts/tables), real-time risk alerts, identification of client trading behaviour, trends, market conditions, and more. It can even provide the ability to take action when specific criteria are met."

He goes on to explain that new-age tech can even integrate GPT AI and ML into risk workflows to ease daily operations. Brokers can identify risky patterns and potential risks much faster, leading to better decisions. The biggest value driver here is the insights a risk management platform delivers based on the data it collects.

Can data analysis reveal potential problems on the horizon in a predictive fashion? Vlasceanu believes so. "Brokers receive trades from various customer types across different regions. By analysing this trade data, brokers can identify and understand customer trading behaviour, enabling them to provide an offering suitable for specific countries, customer groups, and/or products."

"Brokers can employ strategies, such as client sentiment analysis, client profiling, and/or client analysis, to monitor, mitigate, and prevent risks. These analyses can also provide brokers with more insights into their business, such as customer lifetime at the brokerage or the performance of the business." Vlasceanu also points out that analysing historical trade data can help brokers correlate risky patterns between accounts and their trading patterns.

So what should retail FX brokers look for in a solutions provider? "Brokers must choose a provider that offers a comprehensive range of risk management tools that can help them manage market and credit risks, and their trading activity in real-time," Vlasceanu says. "The service provider must offer technical support and training to assist them in understanding the system and resolve any issue," he continues. "The ability to customize certain aspects of the risk management system is also an important factor."

He also lists the diversity of trading platforms supported, integration with external systems like CRM and IB portals, and cost-effectiveness as important criteria to evaluate. "Choosing the right risk management provider is crucial for brokers to effectively manage risk and protect their business from potential losses," Vlasceanu explains. "However, brokers should also have a clear understanding of their requirements, so they can analyse and see if the risk solutions can help them fulfill their risk management strategies and business goals."

Cloud Repatriation - escape route or dynamic reality?

By the Beeks Group

THE TREND TOWARDS CLOUD REPATRIATION

Cloud Repatriation means the withdrawal of workloads out of the public cloud back into on-prem environments, either bare metal, colocations or managed private and hybrid cloud platforms.

It is a trend that technology infrastructure commentators have been highlighting since 2018, when an International Data Corporation Cloud and AI Adoption Survey identified 80% of customers were redeploying data storage and processing onto local platforms within their immediate control.

It feels like a regressive step. After all, aren't Digital Transformation and Cloud Technology the way of the future?

ESCAPE ROUTE

There are many emerging reasons for the trend, not least of which is that of escape. Expensive and poorly thought through 'lift and shift' programmes, perhaps exacerbated by the pandemic, may have prematurely lured organisations into Digital Transformations for which they were not ready. In these cases, back-pedalling from the Cloud would seem like the safest option.

Notwithstanding, the majority of companies are more likely to have had a more sophisticated experience of cloud technology and have benefitted hugely from the scalability, flexibility and cost efficiency potential of virtual environments.

So what are the real reasons organisations are giving for their Cloud Repatriation escape?

Service costs

There comes a point in a company's cloud transformation journey when the law of diminishing returns inevitably sets in. Although there are initial cost savings to be gained from decommissioning hardware, subscribing to managed services, and releasing capital spend budgets in favour of greater flexibility, once an organisation reaches a certain scale and maturity with their Cloud provision they can see the service costs skyrocket.

In response the main hyperscalers have developed their Cloud Repatriation offerings in the shape of hybrid clouds AWS Outpost, Microsoft Azure Arc and Google Anthos. Each solution offers the high degree of technological sophistication that one might expect from such big players, but not all of them offer the same level of multi-cloud flexibility. Nor do they necessarily guarantee that businesses will have better cost control from their deployment. This indicates a business outcome blind spot amongst the hyperscale cloud providers, and an omission of understanding that the trend towards Cloud Repatriation is not a reflection of the technology as much as of the spiralling service costs.

Vendor lock-in

In April 2023 the UK's communications regulator Ofcom report highlighted how limited interoperability, cynically offered loyalty discounts and the soaring cost of data egress fees were prohibiting Cloud MSP customers from taking advantage of services from multiple cloud providers. This anti-competitive behaviour threatens to reduce flexibility and performance optimisation opportunities, and contributes to vendor lock-in. It also makes it more difficult for smaller and innovative providers to gain a foothold in the market. Given that the main providers of public cloud inhabit a combined market share of 60 – 80%, the watchdog is looking to recommend a Competition and Markets Authority investigation into cloud technology provision in autumn 2023.

From a business outcome perspective, the current status quo within the generic cloud market has the potential to stifle agility and foster apathy in businesses who feel stuck in prescribed Infrastructure-as-a-Service (IaaS) scenarios.

IMPLICATIONS FOR THE FINANCIAL TRADING SECTOR

Nowhere have the shortcomings of generic public cloud technology been more dramatically highlighted than in the fast-moving Capital Markets trading environment.

Here the 'one size fits all' approach of public cloud has been historically reflected in the sector's hesitancy to adopt Cloud Technology. The main concerns hyperscale providers cannot meet are around security, regulatory requirements, ultra-low latency performance and system monitoring and management – all vital ingredients in Capital Markets trading technology.

Organisations in this space will shy away from services which do not allow maximum control over data locality and sovereignty, and which threaten optimal performance.

Consequently, this has made Cloud Repatriation in financial trading businesses less of a linear regression and more of a constant feature of innovation and IaaS provision. Gordon McArthur, CEO of financial cloud infrastructure specialist Beeks Group, comments: "In a way Capital Markets need to operate a constant ebb and flow of shifting workloads for maximum flexibility, intelligent load-balancing, and performance optimisation. Public cloud is still part of the toolkit for non-critical workloads, but a dedicated financial platform needs to be local and vendor neutral."

Gordon McArthur

ADVANTAGES OF ON-PREM PROVISION

There are clear and obvious advantages of situating workloads on-prem in the capital markets industry. "Providing secure local connectivity, data sovereignty and ultra-low latency have always been Beeks' start point," McArthur says. "Since 2011 we have honed a selection of on-prem cloud offerings to suit the requirements of our customers. We are specialists in private cloud IaaS and we now offer fully managed and monitored connectivity infrastructure to Exchanges themselves."

"This means Exchanges become their own on-prem cloud provider and can begin to turn a profit from their resident businesses' cloud usage," McArthur says.

CHOOSING THE CORRECT MSP

"It's vital that companies work with MSPs who understand their operation and industry sector and who can provide outcome-based solutions rather than mere technology," says McArthur. "We've spent over a decade listening to nobody else but traders and financial companies, so we know their concerns, challenges and ambitions. In response we've built solutions to match exactly what they need. It's not the platform that is the outcome. Business performance, efficiency and security are."

Addressing the insidious costs of data egress McArthur says: "It's obvious how prohibitive data egress fees become to businesses trying to optimise performance. So, it's simple. We just don't charge them."

DYNAMIC REALITY

With the insight, understanding and expertise of a knowledgeable and experienced Capital Markets MSP, Cloud Repatriation is not an escape event, retreat or defeat. Rather it is an on-going dynamic process. "It's not really about repatriation," says McArthur. "It's about consistently using bandwidth and resources in a smart way, for the best possible business outcome."

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A perfect fit: **Why increasing numbers of market participants are adopting FX in the Cloud**

Nicholas Pratt investigates why the FX market is a perfect fit for the operational characteristics and agility of Cloud computing.

According to Vikas Srivastava, CRO, Integral, the FX market's evolution from voice trading to electronic trading and from manual to automated processes, has made it a much better fit for cloud services. "If you look back far enough, everything in the FX market was manual and voice-driven but we have seen more processes become digitised and automated. Typically, institutions used to run high maintenance, on-premise legacy systems which stand in contrast to the benefits that can be gained from cloud computing," he says.

These benefits, says Srivastava, include faster deployment of tech; greatly increased agility and flexibility; reduced infrastructure costs and constraints; fully customisable technology that is built for scale; instant access from any location with internet access and frictionless updates with Software-as-a-Service (SaaS) solutions.

"FX providers who've migrated to the cloud are able to access state-of-the-art technology at a fraction of the price it would cost to build their own," says Srivastava. "They can deploy pricing engines, algos, connectivity and distribution tools, as well as make prices, obtain liquidity and host algorithms in a low latency configuration in a matter of weeks – this has been a game changer."

WORKFLOW BENEFITS

At the heart of all these benefits is workflow. "Workflow is unique to each organisation – their processes and their way of interacting with clients. On-premise solutions are much more rigid. Any required changes to the system put you on the back foot. With the cloud, you can deploy and update technology much more quickly. Workflow automation involves interoperability and requires an API-first tech strategy so that other apps, services and systems

"FX providers who've migrated to the cloud are able to access state-of-the-art technology at a fraction of the price it would cost to build their own – this is a game changer."

Vikas Srivastava

can connect and that tends to be more prevalent in cloud services. It is better, quicker and cheaper."

A significant factor in the increased adoption of cloud services was the global pandemic and the enforced move to working from home, says Srivastava. "The pandemic helped shift attitudes and made the benefits of the cloud much more widely accepted. Those that used the cloud were able to move seamlessly to working from home. This was in contrast to those firms that had an on-premise system that wasn't designed for hundreds of remote users. Overall, people are much more comfortable in the cloud in both their professional and personal lives," says Srivastava.

Research conducted by Integral found that the vast majority of trading in the $6.5trn-a-day FX markets is expected to migrate to the cloud by early 2026. There have already been several high profile migrations in the financial services industry in the past year. German exchange Deutsche Börse has selected Google Cloud to provide the backbone of its digital assets business. Meanwhile the London Stock Exchange Group struck its own deal with Microsoft that would see a number of core services migrate to the cloud. It is not just exchanges. State Street has engaged both Microsoft and Amazon Web Services.

Another survey, conducted in 2022 by McKinsey, found that while most financial services firms have a presence in the cloud, only 13% have more than half of their IT footprint in the cloud, even if 54% said that they intend to migrate at least half of their workload to the public cloud within the next five years. According to McKinsey, financial institutions in the Fortune 500 could generate as much as $60 to $80 billion in savings.

"There are multiple reasons to believe that firms are shifting towards cloud-based technology as a central component of their technology stack," says Srivastava. In fact, he says, the continued acceleration and demand for tier-one technology that Integral has seen might mean it is sooner than 2026 when the majority of firms are trading their FX in the cloud. "While it was our thesis that firms are looking to migrate, we were surprised by how many more market participants will have access to great technology without an increase in total cost of ownership (TCO)."

One major implication of greater adoption of cloud technology and an FX market where the majority of activity takes place in the cloud is a greater need for interoperability. This is especially true for managed data services in the cloud. "In general, having one source of data makes everything easier: the aggregation, data analysis and the ability to draw better insights from the data," says Srivastava.

"Our cloud-based SaaS technology allows clients to gain a holistic view of critical business functions and FX activity and the data science tools empower them with actionable intelligence. In addition, there are real-time trade monitoring and intuitive BI tools to help make executive decisions in all spheres and phases of the FX workflow. The key is actionable insights from the data and being able to slice and dice it in a way that suits your business – which is why there is a need for flexible tools."

So what should a firm be looking for from a prospective cloud provider? "From a customer's perspective it is about finding a trusted and proven provider who has reliable technology, can improve efficiencies and the experience they offer their customers, and ultimately give them technology that supports their business growth

Source: Integral

	Cloud	On-premise
Hardware & Software	· No physical hardware because servers are in the cloud, reducing time to deploy · Software-as-a-Service (SaaS) reduces time spent on installation and configuration	· Time consuming on-premise server installation requires ongoing maintenance · Software-as-a-Product local deployment is costly to support
Staff	· Reduced concerns about staff recruiting and retention	· Costly to recruit and retain demand in technology and software development staff
Scalability & Costs	· Easy to scale SaaS solutions in response to your company's changing needs · Much lower total cost of ownership for SaaS solutions · Managing budget is easy as SaaS comes with fixed monthly subscription fees	· Buying hardware, software and networking equipment ties up capital and doesn't allow for flexible up or downscaling · Upfront costs and ongoing maintenance and upgrades are costly and harder to plan

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"For FX market participants, hybrid cloud solutions may offer the best of all worlds with respect to meeting myriad and changing performance, security and compliance obligations."

Ganesh Iyer

with flexibility and scalability," says Srivastava.

"It is about understanding your customer's pain points and using technology to solve them and allowing for customisation by configuration as even the individual needs by customers are so different," says Srivastava. "It is also important to know the details of the provider's offering. For example, do they have a multi-tenant model or are they hosting bespoke software? Can the provider really be trusted because reliability is as important as the functionality."

DATA IN THE CLOUD

FX market participants have long recognised the value of cloud services to manage 'big data' storage and processing demands arising from algo and automated trading strategies, regulatory reporting and the need to collect and manage huge volumes of data in an efficient way, says Ganesh Iyer, Chief Marketing Officer at IPC Systems. "Storage facilities are relatively cheap to use (no physical storage costs, pay for what you use consumption models), infinitely scalable and easy to access. Data held 'in the cloud' can be accessed as required to support specific internal and external business analysis, risk management and reporting functions, managed still through traditional infrastructures and platforms. FX market participants also recognise the far greater value and opportunity presented by cloud technologies with respect to global market connectivity, data distribution and communications that support enhanced performance, client engagement, and nimble, go-to-market product and business strategies," says Iyer.

Financial institutions are, to a certain degree, compelled to embrace the 'power of the cloud' in order to stay relevant

"It is important for trading firms to distinguish between the different types of cloud technologies available and the respective benefits in terms of FX trading and workflow requirements, Public clouds are accessed via the internet and shared with multiple users and organisations. They are the most widely-known and used cloud models – think emails and gaming apps - offering flexibility and almost infinite scalability and are geared particularly well to software development and deployment," says Iyer.

Public clouds are typically accessed with low-cost subscription or consumption-based models that may also be linked to different service-level agreements. Cloud vendors are responsible for managing service delivery and performance, reducing financial firms' inhouse IT resource requirements. However, says Iyer, "public clouds are de facto not as secure as private clouds and are therefore not suitable for many mission-critical financial services activities, including trading, payments and other market data and time-sensitive functions."

While there are examples of shared private clouds, they are more typically used by a single organisation, says Iyer. "Computing resources are managed within a secure private network on site, or more usually in third-party data centres. Regulated financial firms subject to rigorous security, confidentiality, data protection and performance obligations benefit from the high reliability, security and customisability of private clouds," says Iyer.

"Both public and private clouds are flexible and scalable. The key difference between them is that purpose-built private clouds are not vulnerable to activity surges or unpredictable events such as may be caused by another party 'sharing' the service. Private clouds are more expensive to operate than public clouds, particularly if they are owned and maintained by financial institutions themselves. They also require initial capital investment to set up. There may also be challenges around remote and mobile access given the need to maintain the highest levels of security and data confidentiality," says Iyer.

"For FX market participants, hybrid cloud solutions may offer the best of all worlds with respect to meeting the myriad and changing performance, security and compliance obligations," says Iyer. "Low-cost public cloud services support non-sensitive workflows (e.g., data storage) while private cloud solutions support mission-critical trading operations. Service reliability can also be enhanced through the distribution of services across multiple data centres, private and public." Regardless of the specific cloud combinations desired by different types of market participant, managed "cloud-as-a-service" and "network-as-a-service" consumption models offered by specialist service providers can mitigate the cost and risk of significant direct investment in cloud connectivity and service capabilities – as well as the arguably greater risk of being left behind as new technologies and applications become mainstream," says Iyer.

"Accessing the cloud as a managed service has the further advantage of ensuring that any and all service enhancements made by the managed service provider with respect to its own cloud connectivity will automatically benefit all of its managed service customers. A managed service strategy also grants greater flexibility in terms of switching between service delivery models since it removes the need to invest in and maintain rigid internal infrastructure and gets rid of long-term contractual obligations to a service provider," says Iyer.

So what factors are influencing market participants' choice of cloud provider? "All cloud providers are potentially 'suitable' with respect to their overarching proposition of facilitating fast, high volume data processing, storage and management. What we are seeing in our extensive market participant network, however, is a more considered approach to cloud adoption that tends more towards multi-cloud and hybrid cloud/terrestrial solutions that deliver the best all worlds from a risk (security), reliability (resilience) and performance (latency) perspective." Says Iyer

As such, no single cloud service or solution will likely meet all of a firm's or institution's needs, says Iyer. "Our customer (market practitioner) surveys suggest that the majority of financial firms will implement a combination of private, public and hybrid cloud solutions to satisfy particular market access, operational and distribution models and to manage multiple interrelationships in the transaction supply chain."

FX market participants have long recognized the value of cloud services to manage 'big data'

"It is important to shop around and to maintain unfettered access to best of breed services. Platform independence from any single cloud provider allows businesses to move application delivery environments around based upon shifting factors like performance, cost, compliance, and geo-political events. Ultimately, this provides agility. Conversely, reliance on a single cloud provider, and building around that provider's capabilities and tools rather than in the context of a cloud-agnostic delivery strategy, can create what has been described as the 'Hotel California' problem, where it is free to enter but much more difficult to leave. A multi-cloud strategy supports mutability and portability of applications and datasets between domains while also supporting compliance and data sovereignty obligations (and challenges) that are critical to all financial markets participants," says Iyer.

Financial institutions are, to a certain degree, compelled to embrace the

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"Traders and institutions can leverage cloud-based platforms to access advanced tools, streamline operations, and offer more tailored services, ultimately enhancing the overall FX trading experience."

Gordon McArthur

'power of the cloud' in order to stay relevant in an increasingly challenging competitive environment, particularly with respect to new, non-bank and typically cloud-native industry disruptors, says Iyer.

"In terms of front-end trading applications, it is still relatively early days for cloud 'proof of concept' and the FX industry - like others - is still somewhat circumspect about full-on cloud adoption. There is, nonetheless, a steady adoption of other aspects of cloud services, and it is inevitable that in time, order management systems and core matching functionality will migrate to the cloud," says Iyer "Cloud adoption is the foundation-stone of digital innovation, the starting point for firms to completely rethink how they access and manage high-cost, high-maintenance operational resources (network and communications infrastructure, data storage, client connectivity etc.), shifting business mindsets beyond pragmatic 'build or buy' investment decisions to embrace much nimbler 'as a service' business models," says Iyer. "The success of this approach - in terms of measurable performance and more creative decision-making – will be linked irrevocably to the robustness of the connectivity between a firm's operational workflows and the cloud."

DIGITAL TRANSFORMATION

The most obvious reason that cloud computing is a good fit for the FX market is the increased use of technology, according to Gordon McArthur, CEO of Beeks Group, a cloud provider for the financial services market. "The FX market has been undergoing a fast-paced digital transformation, with the adoption of advanced technologies such as algorithmic trading, high-frequency trading, and the use of artificial intelligence and machine learning for trading strategies. There's also the rapid growth of the retail trading segment itself. With more and more individual traders participating in the FX market, there's an increasing number of online brokerages and trading apps. This has made it easier for retail investors to access the market and electronic trading platforms have become more prevalent, making it easier for participants to access the market," says McArthur.

"The FX market has embraced cloud computing to improve scalability, cost efficiency, accessibility, data management, security, and disaster recovery. Cloud computing is constantly evolving to help FX providers adapt to market challenges, in particular the complexities that can come from deploying infrastructure. The cloud's flexibility and robust infrastructure have become integral to the operations of FX brokers, traders, and other market participants, helping them stay competitive in a rapidly evolving industry. With cloud computing FX markets can receive rapid deployment of infrastructure quicker, cheaper, and more flexible than before." Says McArthur.

As already outlined by Ganesh Iyer, at its core, there are two distinct cloud types – public and private. A hybrid cloud is a cloud computing environment that combines elements of both public and private clouds, allowing data and applications to be shared between them. It's essentially a combination of on-premises infrastructure, private cloud services, and public cloud services to create a unified, flexible, and scalable computing environment.

"The main concerns over the public cloud are around security, regulatory requirements, ultra-low latency performance and system monitoring and management – all vital ingredients in trading technology," says McArthur. "Organisations in this space will shy away from services which do not allow maximum control over data locality and sovereignty, and which threaten optimal performance," says McArthur.

"Public cloud is still part of the toolkit for non-critical workloads, but trading firms need the control, security, and flexibility that private cloud provides. The vendor has even designed its own hybrid cloud service, with a private cloud environment that can be installed on premise and can integrate quickly to public cloud." Says McArthur.

McArthur agrees that cloud computing has had a democratising effect on the FX market by providing affordable, scalable, and accessible technology solutions that enable traders and institutions of all sizes to compete on a more level playing field. "Managed cloud providers allow a broader range of participants, including smaller firms

Security always used to be a major obstacle to the wider use of cloud services, but the issues have now been addressed in recent years

and individual traders, to compete on a more level playing field with larger institutions, ultimately enhancing market diversity and liquidity. This fosters innovation, diversity, and increased competition, ultimately benefiting the FX market as a whole." Says McArthur.

"Consequently, both buy- and sell-side firms in the FX market should consider managed cloud services. Managed cloud services are designed to scale with the needs of the user. Whether they need to increase or decrease resources, managed service providers can quickly adapt to changes in their workload and user demands. This can lead to improved efficiency, reduced risks, and better overall IT performance. By offloading cloud management tasks to managed service providers like us, firms can focus on its core competencies and strategic initiatives, allowing them to be more competitive in the industry." Says McArthur.

"Cloud managed services provide real-time and historical data related to currency exchange rates and other relevant financial information. They're designed to meet the data needs of various financial institutions, traders, and businesses involved in the FX market. Typical services are data aggregation, real-time data feeds, historical data, data normalisations, API access, data security, scalability, redundancy and reliability, monitoring and alerts, compliance and reporting, support and maintenance customisation and cost transparency. Overall, a fully managed FX data service in the cloud offers a convenient and reliable way for financial institutions, traders, and businesses to access the critical FX data they need for trading, analysis, and decision-making while also benefiting from the scalability, security, and accessibility advantages of cloud technology," says McArthur.

SECURITY

Security always used to be a major obstacle to the wider use of cloud services, but there has been a concerted effort to address this in recent years, according to McArthur. "Around five years ago financial services became a primary target for DDoS attacks, which was well published at the time. Beeks understands the critical importance of security, reliability, and low-latency access for our clients, and we make significant investments in infrastructure, technology, and expertise to meet these requirements. We continually evolve to address the evolving landscape of cloud computing and cybersecurity," says McArthur.

The firm has invested in its security to meet the demanding needs of its clients, in terms of high-performance networking, Service-Level Agreements (SLAs), redundancy and failover, DDoS protection, security compliance, security services, security auditing and logging, data backup and recovery and continuous improvement. Beeks has also partnered with security vendor Blue Voyant and also obtained compliance with certified security standards like ISO 27001 and SOC.

According to McArthur, there are several factors that can impact the performance, security, and overall success of your FX trading operations, but the most critical would be latency, performance, reliability and pricing model. "For FX trading, ultra-low latency is crucial," he says, explaining that Beeks infrastructure is built within data centres strategically located near major financial hubs to minimise latency.

The vendor has also built a high-performance fabric offering high-speed, redundant network connections to ensure faster data transmission. "Outsourcing system and infrastructure builds has been a prominent option to relieve the pressure on IT departments in the financial sector," says McArthur. "Outsourcing to a cloud provider means improved accessibility, performance, collaboration, and customer engagement. Traders and institutions can leverage cloud-based platforms to access advanced tools, streamline operations, and offer more tailored services, ultimately enhancing the overall FX trading experience," says McArthur.

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