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e-FOREX

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LATIN AMERICA

Tremendous e-FX growth
on the horizon

FX GLOBAL CODE

A review of recent updates

DISASTER RECOVERY

Strategies for brokers and
other trading firms

PROVIDER OF THE MONTH

Cboe FX brings innovation,
differentiation and more choice

METEORIC RISE OF COINBASE

What can banks and FIs
learn from this

COVER INTERVIEW

JOHN COLASANTI

Managing Director FX & Rates Algos at BGC Partners

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September 2021

The GFXC has now completed its review of the FX Global Code and in this edition we explore the areas of concern that were identified by them and the changes to the Code that have been made to address the various issues. The updates to the Code followed an extensive process of consultation with the foreign exchange committees around the world and a public request for feedback in April. As a result of that activity updates have been made to eleven of the Code's fifty-five principles strengthening the Code's guidance on anonymous trading, algorithmic trading and transaction cost analysis, disclosures and settlement risk. The GFXC has encouraged market participants to renew their Statements of Commitment to the Code and it envisages a 12-month timeframe within which all market participants will signal their adherence to the new Code and adopt the standardized templates in their processes. We plan on publishing our next series of articles on the Code in Q2 next year to see how the market has responded.

Latin America is the focus of our regional e-FX perspective feature this month as the continent looks set to see dramatic growth in electronic FX over the next few years facilitated by the increasing availability of high-quality e-trading technology at an economically feasible cost. Each country across the region is naturally at a different stage of e-trading adoption and electronification has so far been mainly focused on the big markets of Mexico and Brazil. However, the rest of the region, which is facing the same pressures to reduce costs, minimise risk, enhance transparency and improve returns, is catching up. Many commentators expect to see the next round of substantial e-FX growth being centered on Chile, Peru and Colombia which seem to be hotspots at present.

It's too early to be sure yet but the COVID-19 pandemic may also have accelerated these growth trends further as electronic trading capabilities have been seen to be a competitive differentiator for some during the crisis. Credit still remains a problem for firms trying to access the local LatAm FX markets but various initiatives are underway to try and address this challenge so the impression we have come away with is that the digital FX story across the region is one of great optimism for the future.

As usual we hope you will enjoy reading this edition of the magazine.

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September 2021 CONTENTS



Vivek Shankar
FX Global Code



Jerome Kemp
DL technology



Jay Moore
Platform Profile



Nicholas Pratt
Latin American e-FX



John Colasanti
e-Forex Interview



Evgeny Sorokin
Disaster Recovery

FX GLOBAL CODE

18. Moving towards greater transparency: A review of the changes to the FX Global Code

How will the recent changes to the FX Global Code impact workflows for market participants? Vivek Shankar investigates.

MARKET COMMENTARY

22. The potential for Distributed Ledger Technology to reduce FX Settlement Risk

Jerome Kemp discusses the benefits of distributed ledger technology and how it can enable firms to better control their FX settlements and manage intra-day funding requirements.

PLATFORM PROFILE

24. FX Hedgepool - Bringing innovation to the FX Swaps Market

We asked Jay Moore, CEO and Founder of FX Hedgepool to tell us more about the benefits of its platform.

REGIONAL E-FX PERSPECTIVE

28. Electronic FX in Latin America - Tremendous growth on the horizon.

Nicholas Pratt examines the growth of FX e-trading across Latin America and the various factors driving its adoption.

PROVIDER PROFILE

38. Cboe FX: Bringing differentiation, innovation and choice to FX participants

e-Forex spoke to James Arrante and Ben Leit to learn how Cboe FX Markets continues to set the standard in FX.

THE E-FOREX INTERVIEW

40. Building an FX powerhouse

With John Colasanti, Managing Director FX & Rates Algos at BGC Partners

DIGITAL CURRENCIES

50. Deconstructing the Digital Assets revolution – What Financial Institutions can learn from the meteoric rise of Coinbase

Saurabh Anand, Pranati Goswami and Ronak Doshi discuss whether the future for digital currency is real, and what obstacles banks and financial institutions face to compete in this growing crypto market.

FINTECH PROVIDER PROFILE

54. PLUGIT

We spoke to Yulia Tereshchenko, PLUGIT's Operations Manager to learn more about the business and its future plans.

BROKERAGE OPERATIONS

57. Disaster Recovery strategies for brokerages and other trading firms

Evgeny Sorokin explains why the costs of not having reliable fallbacks and disaster recovery protocols in place is becoming too great to bear and what trading firms should do about it.

COMPANIES IN THIS ISSUE

A Advanced Markets	IBC	E Edgewater Markets	p29	I IPC	OBC	Reactive Markets	p8
B Baton	p22	Equiti	p59	N New Change FX	p14	Refinitiv	p11
BGC Partners	p40	Everest Group	p50	O oneZero	p12	S smartTrade Technologies	p5
Broctagon	p16	F Fluent	p10	P PlugIT	p54	Spark Systems	p17
C Cboe FX	p38	FXCM Pro	p27	R RBC Capital Markets	p14	StoneX	p31
Citi	IFC	FX Hedgepool	p24	T 360T	p30	SWIFT	p13
CLS	p15	FXSpotStream	p9	Tools For Brokers	p53	Swissquote	p7
D Devexperts	p61	G GFXC	p18	Tradefeedr	p10		
DMALINK	p6	H HSBC	p6				

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HSBC launches new FX analytics portal

HSBC has launched an interactive eRisk Analytics portal to empower clients to make execution parameter decisions pre-trade, and proactively monitor their FX algo performance in-flight.

The portal has been designed around the client's needs for understanding increasingly complex and fragmented foreign exchange markets. It provides clients with a number of metrics



including volatility, volume, market depth, spread and upcoming news events. Clients can monitor how their algo is performing, both on an absolute level in terms of price and fill, but also against various industry standard execution benchmarks, all in real-time. In addition, clients have the ability to drill down into the dynamics of the algo interaction with HSBC network of electronic liquidity. Commenting on the launch, Richard Bibbey, Global Head of Foreign Exchange at HSBC said: "We are excited to announce the launch of the eRisk Analytics portal within Evolve, HSBC's single dealer platform. This provides clients with an increased level of transparency around their execution needs.

"Our clients have guided us on their requirements for a dynamic interactive tool that will help frame their execution. Client collaboration remains

at the forefront of our innovation strategy and will continue to help us navigate through the next stage of the digitalisation journey." The eRisk Analytics portal provides a new dimension to HSBC's award winning algo suite and has application to other Foreign Exchange solutions including both electronic and voice trading.

The portal provides clients with real-time and historical statistics on volumes and volatility to assess market conditions across deliverable, frontier and NDF currency pairs. As well as the ability to analyse markets ahead of execution, the portal allows clients to set their parameters, keep track of how the order is progressing and even amend the order whilst it's in-flight. HSBC has adapted its technology to cover a breadth of requirements to make it accessible to all clients regardless of where they're located or their chosen execution platform.

DMALINK adds Nomura to bolster its Asia eFX book

DMALINK, the EM focused institutional FX ECN has announced that Nomura, having on-boarded DMALINK as a platform, is to provide customised Asian eFX pricing to its buy-side platform participants in New York and London, with Singapore being added in Q1 2022. The addition of Nomura to the DMALINK ecosystem enables select users to access suitable pricing pools during Asian hours sustainably. The company continues to heavily develop and apply deep analytics in view of improving execution to its clients.

Michael Siwek, Founding Partner and Global Head of Sales at DMALINK, said: "Asian crosses form an ever-growing part in our clients' execution.

Participants can transact any trade size through NetLink across CLS and non-CLS pairs. Users can access Nomura specific pricing across various specialised pricing pools, coupled with in-depth reporting to cater to a high level of competitiveness in today's FX landscape."

Ian Daniels, Head of eFX Distribution, EMEA, Nomura, commented: "Nomura is excited to be providing our liquidity to DMALINK. Our footprint in Asia aligns us well to DMALINK, which is primarily focused within the Emerging Markets. We look forward to contributing to DMALINK's Asian eFX business." Manu Choudhary, CEO at DMALINK, stated: "We are pleased in confirming

that Nomura has joined the platform. The addition is driven by buy-side participant demand, achieving our core objective of providing data-driven regional institutional eFX services to existing and future collaborators."



Michael Siwek

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CLS announces PVP collaboration with 12 global banks

CLS has announced that its working group of 12 settlement members with global operations is participating in a pilot to evaluate potential payment-versus-payment (PvP) solutions for currencies that are not currently eligible for CLSsettlement. The pilot, which started in June, is using trade data from each participating settlement member to better inform the overall design of the optimal solution.

Recent public policy proposals acknowledge the need for greater PvP adoption, including building block 9, "Facilitating increased adoption of PvP", and related action items in the Financial Stability Board's Cross Border Payments Roadmap. The Global Foreign Exchange Committee has recently published an updated version of the FX Global Code. The latest version includes changes to the settlement risk principles, including greater emphasis on the use of PvP mechanisms where available, and provides more detailed guidance on the management of

settlement risk where PvP settlement is not used.

CLS established the working group in late 2020 in response to input from market participants and several public policy initiatives to encourage PvP adoption. CLS has also recently



Marc Bayle de Jessé

completed the next stage in its multi-year technology investment program to deliver one of the most sophisticated, flexible and resilient post-trade technology infrastructures in the industry.

Marc Bayle de Jessé, CEO of CLS, commented, "CLS is uniquely placed at the center of the FX industry to work in partnership with the public and private sector to develop a PvP solution that will address settlement risk for currencies that are not currently eligible for CLSsettlement. CLSNet – our bilateral payment netting calculation service – is already open for approximately 120 currencies, reducing risk and delivering efficient, automated and standardized post-trade netting calculation and processing services for banks, asset managers and corporates across the globe. We are now working with the market to evolve the service to further mitigate settlement risk and unlock liquidity. The support we have received from our settlement members through their participation in the working group and pilot is a vote of confidence in CLS's ability to solve this industry challenge by creating a PvP solution for currencies not supported by CLSsettlement."

NEWS

Reactive Markets launches Switchboard for Cryptocurrency trading

Reactive Markets, provider of Switchboard, the cutting-edge cross-asset trading and price streaming network, has announced the launch



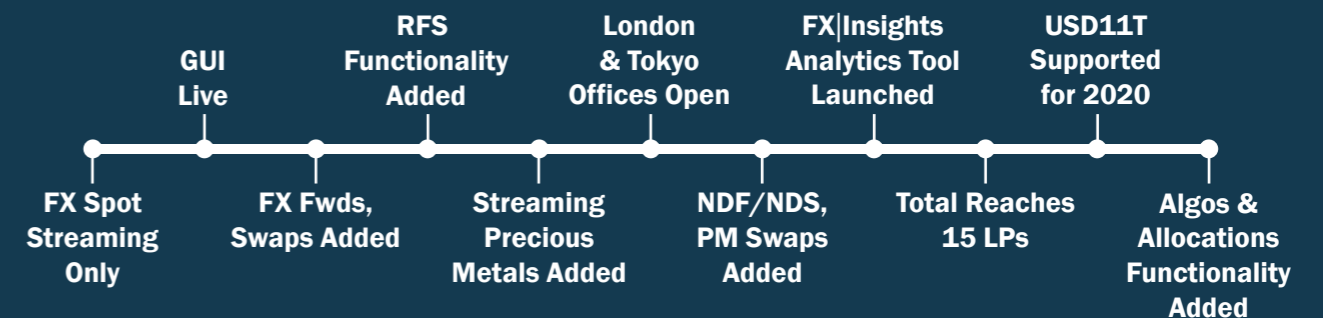
Phil Morris

of its OTC market utility for disclosed trading, supported by five of the leading institutional Crypto Liquidity Providers (LPs). The LPs are Cumberland DRW, Flow Traders, Galaxy Digital, Genesis Trading and Wintermute. Switchboard is the first open and transparent liquidity network for Crypto and FX trading, where clients can trade on a fully disclosed basis with their relationship LPs at no cost, connecting via a single high performance API or front end trader desktop. "As institutional Crypto trading volumes continue to rise, we have seen a sharp increase in clients looking

to improve their execution by trading directly with their Liquidity Providers using our Switchboard network," said Phil Morris, CEO of Reactive Markets. "By offering simple, free, access to leading OTC liquidity providers via our unified API and trader desktop, we enable clients to rapidly connect to the best liquidity in the market." He added, "If clients have a relationship with our LPs they can begin to trade with them on Switchboard immediately, benefitting from our cutting edge institutional trading network and a highly cost effective way to trade."

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Tradefedr partners with PrimeXM

Tradefedr, the community-based, FX data and analytics provider has partnered with PrimeXM, a leading fintech provider focused on liquidity aggregation, order routing and ultra-low latency hosting and connectivity, to deliver Tradefedr's data analytics to clients using the XCore technology stack provided by PrimeXM. Tradefedr has created a common, truly independent FX trading database allowing market participants across the sell side, buy side, regional banks, hedge funds, brokers and central banks to connect, analyse their trading data and collaborate. In June 2021, Tradefedr launched its ground breaking FX data analytics platform with more than 15 leading sell-side and 20 major buy side firms onboarding and another 20 in the pipeline.

The PrimeXM partnership allows participants of PrimeXM's XCore

community to gain access to advanced trading data management and analytics in a seamless way. XCore aggregates liquidity and supports multi-asset classes, across an excess of 120 industry leading market makers, with support for multiple industry standard interfaces. The partnership will deliver the full suite of Tradefedr's collaborative tools to PrimeXM clients on demand when they elect to gain connectivity with Tradefedr.

Tradefedr Co-Founder Alexei Jiltsov said: "In today's markets, trading, analytics and collaboration with your counterparties is an essential part of the trading solution and there is a significant variation in the amount and quality of data inputs that enable users to make the best decisions. The partnership with PrimeXM is a natural fit for Tradefedr given the seamless integration with XCore



Alexei Jiltsov

tech, providing trading and market access to their institutional clients. We are excited to be working with the PrimeXM team sharing a similar ethos of value-add technology solutions to clients who are looking for advanced trading data management."

Fluent enhances NAB's global FX capabilities

Fluent Trade Technologies' award-winning technology is powering National Australia Bank's global FX activity, strengthening and broadening its end-to-end global trading capabilities to deliver a market-leading, ultra-low latency, multi-asset trading platform to its customers, worldwide. David Faulkner, Managing Director, Fluent Trade Technologies said, "Data drives every decision within



David Faulkner

the e-trading environment and we're delighted to provide NAB with the technology to better support its eFX trading business. NAB and Fluent are aligned in the belief that high performance, ultra-low latency technology empowers smarter decisions in respect of price discovery, creation and distribution. Fluent's clients can realise this across the value chain, achieving a dramatic impact on certainty of trading execution, acceptance rates, volumes, profitability and client satisfaction." Mark McCall, Head of Electronic Trading, NAB Markets said its project with Fluent had enabled the bank to extend its market access, improve response times and increase fill ratios significantly. "We're committed to providing our



Mark McCall

customers with quality electronic FX services to facilitate the management of their financial exposures, while also enhancing our position as a leading liquidity provider in our core currency pairs. Fluent has enabled NAB to price clients more accurately, while also allowing us to price a wider range of clients, to connect to more venues and to extend our range of trading services."



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SBI Liquidity Market expands smartTrade partnership

smartTrade Technologies has announced an expanded partnership with SBI Liquidity Market, a Japanese leading FX infrastructure solution and liquidity provider. smartTrade will provide support for SBI FXTRADE's cryptocurrency derivative trading operations, which complement the existing FX business of SBI Liquidity Market. As part of the agreement, SBI has also moved its trading facility into smartTrade's Tokyo data center to ensure its infrastructure is constantly monitored and refreshed as their business grows, as well as to take advantage of smartTrade's fully managed services including enhanced security and redundancy

capabilities. The expansion comes as both retail and institutional interest in cryptocurrency trading continues to soar in the Japanese market. SBI has been a smartTrade client since 2013, when the company chose LiquidityFX as its connectivity, aggregation and smart order routing partner to achieve best execution.

David Vincent, co-founder and Chief Executive Officer of smartTrade Technologies, said: "This unprecedented and volatile year demonstrated the need for high performance trading infrastructure capable of withstanding all

circumstances. We're pleased that what we've been able to offer leading companies such as SBI such resilience."



David Vincent

oneZero launches analytics to evaluate impact of last look

oneZero has announced a data-driven approach to evaluate the impact of last look that aids the implementation of the recommendations set out in last month's Global Foreign Exchange Committee: Execution Principles Working Group Report on Last Look. The analytics, which are available in oneZero's Data Source Insights product, calculate the estimated economic impact of trades rejected in a last look protocol so clients are able to better understand the relationship between the type of flow they send to LPs, quoted spreads and the impact of last look rejections when constructing their pricing and hedging functions.

The Standard package reports showcase fill times by LP on a source of flow, size and/or currency pair basis to help clients more clearly visualize when and for how long the last look may be taking place. The Advanced package enables clients to compare LPs with

different last look approaches by taking into account estimates of the impact of the last look rejection on spreads, in addition to trade acceptance rates, when making their liquidity choices. Clients can further leverage oneZero's position as a neutral provider of both aggregation technology and analytics, by adding a pre-aggregation adjustment to reflect the impact of last look into the construction of their pricing and hedging functions.



Andrew Ralich

Furthermore, the new tool showcases the performance of liquidity providers who are supplying both high quality pricing and executions. These capabilities, along with other Data Source Insights offerings, empower greater understanding of the type of flow clients are sending to their liquidity providers, greater discernment of possible rationale behind liquidity provider pricing functions, and the ability to gain insights about how to better organize their liquidity supply chain relationships.

oneZero CEO and co-founder Andrew Ralich said: "oneZero plays a critical role in the market as a counterparty-agnostic technology provider. Last look analytics will provide better information that will lead to more informed outcomes for our clients and the whole market. This is especially important at a time when the industry is focused on the development and fair and effective usage of the last look process."

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RBC Capital Markets launches Singapore-based e-FX Server and Pricing Engine

RBC Capital Markets has announced that it is launching a Singapore-based e-FX server and pricing engine to serve its clients across Asia-Pacific and around the globe. Developed with support from the Monetary Authority of Singapore



Rod Ireland

(MAS), RBC's new e-FX server and pricing engine will rely on new sales and trading infrastructure in the city state. With the launch to global clients scheduled for December 2021, the new platform will provide those who currently rely on pricing engines based in London, UK, with speedier execution, access to greater liquidity and enhanced price discovery across both G10 and emerging markets currencies in the Asian trading hours.

Rod Ireland, Head of Global Markets APAC said "Singapore has emerged as the largest FX trading centre in Asia and third largest globally, and it continues to strengthen its e-FX trading capabilities and market infrastructure. Our investment demonstrates our

commitment to the region and participating in the growth of the broader FX market."

Lim Cheng Khai, Executive Director, Financial Markets Development Department of MAS said, "We are pleased that RBC Capital Markets has chosen to set up its first Asian e-FX server and pricing engine in Singapore. Singapore enjoys strong connectivity to the regional markets and is well placed to tap the strong institutional flows in Asia and beyond. RBC Capital Markets' entry will continue to broaden and deepen our FX e-trading ecosystem, and strengthen Singapore's standing as the global FX price discovery and liquidity centre in the Asian time zone."

NCFX data to power Chainlink Price Feeds

New Change FX (NCFX) has announced that its premium forex, precious metal, and crypto asset benchmark data is now being used to power Chainlink Price Feeds—a collection of industry-leading decentralized oracle networks for the Decentralized Finance (DeFi) and increasingly Centralized Finance (CeFi) ecosystems. NCFX's financial market data is actively being used across all native Chainlink Price Feed deployments, which include leading blockchain networks like Ethereum, Solana, Polkadot, Polygon, Binance Smart Chain, Avalanche, Optimism, Arbitrum, HECO, Fantom, and more. As a professional data provider with a long history in the forex space and a carefully designed benchmarking methodology, NCFX's high quality, low-latency, and hyper-reliable financial market data helps boost the security and reliability of Chainlink Price Feeds that already

helps secure tens of billions of dollars in on-chain value for smart contracts. With Chainlink Price Feeds recently launching on several high-throughput chains like Polygon mainnet, Avalanche mainnet, Fantom mainnet, Arbitrum and Optimism L2 mainnets, and Solana Devnet, NCFX's financial market data is providing support for low-latency price feeds that still retain full market coverage, protect against various data



Andy Woolmer

manipulation attacks, while providing transparency into the benchmarking methodology that the community can monitor and verify. NCFX will continue to support Chainlink Price Feeds as they expand across new blockchains and new asset types beyond cryptocurrency like Forex and commodities.

"We're excited to supply our premium, high-frequency pricing data to Chainlink Price Feed deployments across leading blockchains, leading to increased decentralization and lower latency updates for the industry's leading decentralized oracle solution," stated Andy Woolmer, CEO of New Change FX. "Our support for Chainlink Price Feeds has not only expanded our business model with little integration overhead, but it has allowed us to seed next generation financial markets and products across DeFi and CeFi."

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Recent public policy initiatives, such as the Financial Stability Board's Cross Border Payments Roadmap and the updated FX Global Code, acknowledge the need for greater PvP adoption.

CLS is uniquely placed at the center of the FX industry to work in partnership with the public and private sector to develop a PvP solution that will address settlement risk for a wider range of currencies and market participants.

Find out more about how we are supporting the FX ecosystem: [cls-group.com](https://www.cls-group.com)



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Broctagon Fintech group launches WorldBook

Fintech solutions provider, Broctagon Fintech Group, has launched WorldBook, a global crypto movement focused on solving key liquidity issues plaguing the industry. WorldBook is the world's first crypto STP (Straight-Through Processing) network with the largest aggregated liquidity pool. The initiative aims to introduce a universal standard of liquidity for digital assets, uniting both processes and technology within the crypto industry under a single framework. The eponymous WorldBook combines the orderbooks of all connected exchanges to create a unified orderbook that enables multilateral liquidity flow. Instead of being confined to local orderbooks which may represent less than 1% of the total industry, exchanges now gain access to 85% of the market. This is made possible by the NEXUS 2.0 aggregator, the driving engine

that powers the WorldBook with SOR (Smart Order Routing), which allows for global price discovery and best bid and offer.

"Despite the gaining acceptance of crypto, it remains a "wild west" with no dominant technology or standard in which it operates. With the WorldBook's price aggregation, we found that bitcoin had an average negative spread of USD\$10, even amongst the major exchanges. This means that with over USD\$15.5 trillion in trading volume over the past year, traders could have saved USD\$5.7 billion in spreads and this is for bitcoin alone, which is already the most efficient and liquid digital asset. The price disparity could only be worse for the thousands of altcoins across many smaller exchanges." said Don Guo, Co-Founder and CEO, Broctagon Fintech Group highlighting



Don Guo

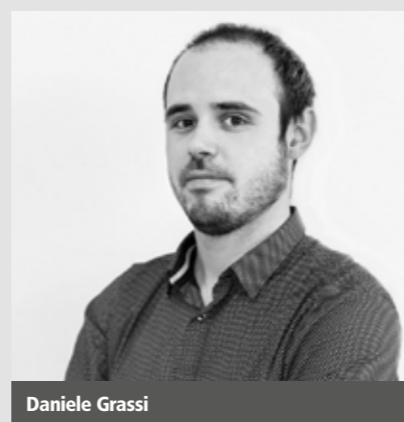
the issues. "We engineered the WorldBook infrastructure taking a page from the fundamentals of FX interbank liquidity. With our experience as a regulated FX liquidity provider, we believe the Prime of Prime (PoP) model has the potential to disrupt the industry and increase crypto trading volumes by more than 400% in the near future."

Axyon AI partners with DMALINK

DMALINK has announced a partnership with Axyon AI to enable the first ever use of Deep Learning artificial intelligence to dynamically manage liquidity, detect market and order anomalies and create smart algos for trade execution in the fiat FX space. Axyon AI is a leading European FinTech company with expertise in Deep Learning/AI for asset management and trading firms. Manu Choudhary, Chief Executive Officer of DMALINK, says: "In spite of the pace of innovation within the e-FX space, liquidity management, anomaly detection and algos have been left behind by advances in deep learning AI technology. The ability for Axyon AI's deep learning technology to leverage insights in a fraction of the time of a human-driven

equivalent provides opportunities for the procurement and analysis of unique data to dynamically manage liquidity, risk and trade execution for the first time." Axyon AI's technology will combine with DMALINK's ECN infrastructure to radically modernise FX trading. For the buy side, deep learning models will considerably improve the quality of order fills. For the sell side, the application will ensure a positive yield curve. The deep learning technology will also detect market anomalies in spot FX allowing DMALINK participants access to one of the most powerful risk management tools developed in the e-FX space. Smart algos, dynamically created by the AI will instantly adjust trade execution as a function of the market dynamics.

Daniele Grassi, Chief Executive Officer of Axyon AI, says "We believe that deep learning has just begun to transform financial markets, increasing efficiency and improving risk management. Our partnership with DMALINK will be a driver of this paradigm shift for the FX trading industry."



Daniele Grassi



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Moving towards greater transparency: A review of the changes to the FX Global Code

As FX markets evolve, the guidelines governing it have to keep pace to ensure fair and transparent markets. How will the recent changes to the FX Global Code impact workflows for market participants? Vivek Shankar investigates.



Vivek Shankar

FX markets have always differed from their financial cousins. A large network of dealers, central banks, and private institutions come together to execute transactions in what is essentially an OTC market. Naturally, transparency and client focus has always been paramount.

The Global Foreign Exchange Committee (GFXC) brings together all of these actors together to create an open and transparent market that benefits all market participants. The GFXC's FX Global Code is the industry's benchmark concerning best practices and guidelines that promote the effective functioning of the wholesale FX market.

Given the rapid changes that the market has undergone in recent years,

the GFXC identified 5 focus areas and began an extensive process of consultation with market participants. Dr. Guy Debelle, Chair GFXC and Deputy Governor of the Reserve Bank of Australia, says "The primary response of market participants was that the Code remained fit for purpose and changes should only be made as necessary. The strong guidance was that changes to the Code should be contained to a few areas."

The result is an updated FX Global Code that preserves the integrity of the market. Here are the areas of concern identified by the GFXC and the changes to the Code that address them.

PLATFORM DATA POLICIES

Anonymous trading activity and multi-dealer FX trading volumes have risen tremendously over the past decade. Anonymous trades in an order book are connected to customers using tags (unique identifiers) with the tag maps known only to the platform. While this prevents information leakage, there are negative ramifications to market transparency as it relates to data usage.

In a bid to address this issue, the GFXC has encouraged anonymous trading platforms to make the Code signatory status of its users publicly available.

In addition, the Code has been revised to promote greater disclosure concerning the management of tags by anonymous platforms.

"The prior version of the Code did not make any reference to tags or tag-related policies," Debelle explains. "Given the relevance of tags and the various ways in which they are managed by semi-anonymous platforms – such as who receives them, how/when they're presented, and to what extent re-tagging occurs – we wanted to make sure that the topic was sufficiently addressed in the updated version of the Code."



The FX Global Code is the industry's benchmark concerning best practices and guidelines that promote the effective functioning of the wholesale FX market

Platforms are now encouraged to disclose what counterparty information is provided, and to whom this information is sent. In addition, users must also be given information about when tags are shared in a transaction.

Disclosure documents outlining tag management policies along with clear audit trails must be present. Specifically, re-tagging should not be used to facilitate trading amongst participants when one party wishes to avoid facing another.

Multi-dealer FX trading platforms should disclose their market data policies, including providing information about the user types data is provided to, the frequency, and latency. Credit limit control mechanisms should also be disclosed to prevent a fallout from an anonymous market participant defaulting.

SETTLEMENT RISK

Mitigating the risks of FX settlement was high on the GFXC's agenda, and the result is a strengthening of the Code concerning guidance on settlement risk. Specifically, the new language places greater emphasis on payment-versus-payment (PVP) settlement mechanisms, when available.

In cases where PVP isn't used, the Code details settlement risk management guidelines. "The revised text in the Code provides guidance on the appropriate measurement of principal risk," says Debelle, "emphasising that risk arises from the time when a payment instruction on the sold currency can no longer be cancelled, and that the receipt of funds should not be recognised until it is confirmed during the reconciliation process." The Code also clarifies that principal risk should be controlled with

"The revised text in the Code provides guidance on the appropriate measurement of principal risk,"



Dr Guy Debelle

counterparty limits in the same way as other counterparty credit exposures of similar size.

Often, a counterparty's settlement method prevents a participant from reducing their settlement risk. In such situations, the Code recommends decreasing exposure to that counterparty or creating incentives for the counterparty to modify its settlement methods.

To discourage the practice of "strategic fails", the Code has been updated to warn participants of the broader effects of a default on the market ecosystem, which include liquidity dislocations and disruptions in payments.

ALGORITHMIC TRADING

Algorithmic trading is highly prevalent in the FX market and the GFXC has outlined a raft of measures aimed at increasing disclosures in this area. These changes aim to provide clients with an easier understanding of the services being offered. Clients can compare services across providers in a standardized format, which makes selecting a provider easier.

To this end, the GFXC will publish an Algo Due Diligence Template that

participants can use to disclose details of their services. Conflicts of interest that impact order handling are of especial interest in these disclosures. Any conflict that arises from interaction with a service provider's liquidity or commercial interests in other trading ventures must be disclosed, along with detailing how such conflicts will be handled.

Neill Penney, Co-Vice Chair at the GFXC, Managing Director and Co-Head of Trading at Refinitiv, believes these changes to the Code are essential. "Clear disclosures are an essential part of good conduct in the FX market. The new guidelines across disclosure will help ensure market participants using algorithmic orders understand how these products work and can make informed decisions about how to apply them in their trading strategies."

Some algorithms have access to the service provider's liquidity feeds. Penney believes the new disclosure recommendations are particularly relevant in these cases. "Some clients will want to keep a strict separation between provision of the algo service and provision of liquidity to fill the algo, while other clients will be happy to have the algo service operator include its own liquidity when this can result in better quality execution for the client and is done with appropriate controls."

The Code recommends these disclosures be made easily available on the service provider's website or shared with clients bilaterally. Transaction costs are also covered by these disclosure templates. The GFXC believes that standardizing data reporting in the industry will

Moving towards greater transparency: A review of the changes to the FX Global Code



The GFXC has encouraged anonymous trading platforms to make the Code signatory status of its users publicly available

enable clients to better analyze their execution costs.

The Transaction Cost Analysis (TCA) Data template that will soon be published will help service providers offer their clients a more organized view of cost data and eliminate the current high barriers of conducting thorough TCA.

DISCLOSURE TEMPLATES

The GFXC has created 3 templates in all to help propagate greater transparency in the markets. The Disclosure Cover Sheet, Algo Due Diligence Template, and TCA Data Template aim to increase accessibility in the markets and provide clients with standardized information they can use to make better decisions.

Market participants receive a large amount of information these days. It can be tough to categorize and analyze the disclosure data given to them. To this end, the Disclosure Cover Sheet templates that LPs and FX E-Trading platforms can use to provide their clients with a variety of information.

Standardizing information disclosures in this way helps market participants better understand the parties with whom they interact. Emphasis has also been added by the GFXC about trade rejection information.

Penney believes the introduction of these templates is “the biggest single benefit from the Code Review for the buy-side.” The lack of “standardization in disclosures has meant it is still difficult for buy-side participants to extract key information from them and compare across their multiple liquidity providers,” he explains. “Disclosure templates solve both these problems.”

Market participants are now encouraged to explain to clients the basis on which their trades might be rejected and maintain a trail of records documenting these reasons. Prime brokers, for instance, must disclose

to clients how their credit limits are monitored and their processes for managing limit breaches.

PRE-HEDGING AND LAST LOOK GUIDANCE PAPERS

The GFXC’s principles provide guidance to market participants regarding the practice of pre-hedging and the last look period. Following a review, the demand for clarity on the use of these



Neill Penney

“The most important use-case for Pre-Hedging is in the execution of orders whose size is significant relative to the amount of liquidity available for that currency pair in the market at the time.”

practices resulted in the GFXC deciding to publish 2 guidance papers.

These papers are meant to accompany the Code and illustrate its application. They don't replace the Code in any way. The Pre-Hedging guidance paper illustrates circumstances that justify the use of this practice and the disclosures that market participants need to make. It aims to provide guidance on Principle 11 of the Code.

The GFXC’s DeBelle believes liquidity providers and consumers alike stand to benefit from the paper. “Liquidity providers can use the guidance set out in the paper to evaluate their Pre-Hedging activity, including whether they feel that they have the appropriate controls and disclosures around Pre-Hedging”, he says, and “liquidity consumers can use the paper to help guide the way they approach the market for their liquidity needs.”

Pre-hedging is defined as any trading activity that takes place when the client requests a firm quote from the LP and before they accept or reject the quote. Any trading activity after

acceptance of the quote constitutes hedging and as such, Principle 11 doesn't apply to these activities.

As a rule of thumb, the GFXC specifies that all Pre-Hedging activities must be executed to benefit the client. LPs must first consider whether Pre-Hedging is a valid choice given the size of the RFQ relative to risk limits, prevailing market liquidity, and normal market liquidity levels.

The paper also highlights the importance of market participants understanding the impact of Pre-Hedging on clients and the broader market. For instance, the paper illustrates a scenario where a large RFQ from a liquidity consumer during an illiquid period can cause unintended disruption.

As Penney explains, “The most important use-case for Pre-Hedging is in the execution of orders whose size is significant relative to the amount of liquidity available for that currency pair in the market at the time. These orders can significantly impact market pricing if not executed carefully.”

Stop and limit orders are gray areas since their execution is anticipated, but they depend on a trigger being hit. The guidance paper cautions LPs against taking any action that might result in activating these triggers and adversely affecting client positions. In addition, LPs should monitor for any potential conflicts of interest from trading around stop and limit order triggers, and establish clear guidelines and surveillance of their execution.

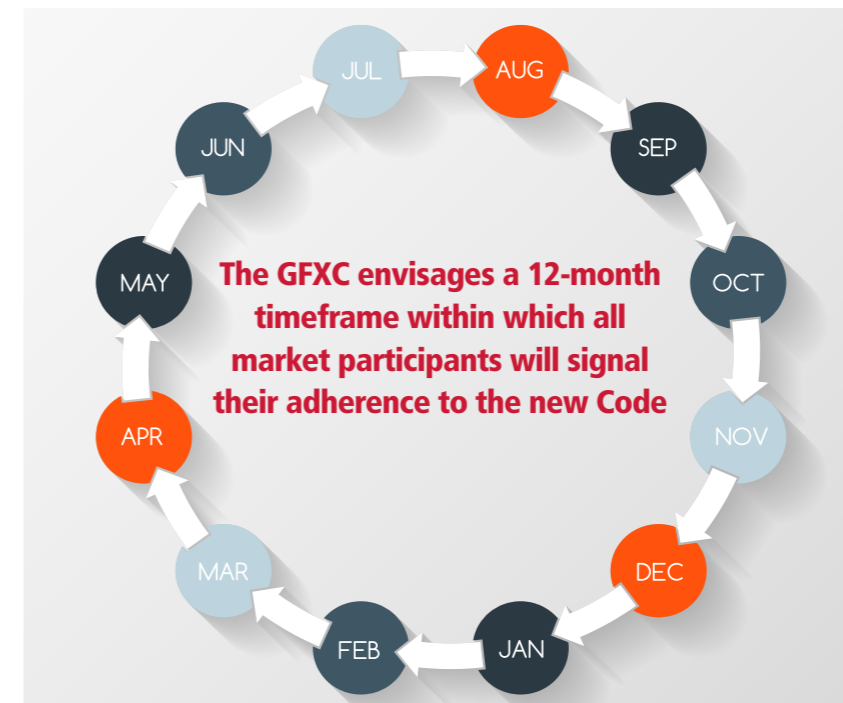
Helpfully, the GFXC illustrates a variety of order scenarios in the guidance paper to help LPs understand their obligations and pre-hedging actions within the context of the Code. “Pre-hedging can be a useful technique that benefits the client in multiple ways,” says Penney. “There are other techniques that may also be appropriate for the execution of large orders, and the guidance paper highlights several of these.”

The guidance paper covering the last look period has just been published and we will be talking about it in the October 2021 edition of this magazine

A POSITIVE STEP

The GFXC has encouraged market participants to renew their Statements of Commitment to the Code and signal their intent to create a more transparent market. There's no doubt that certain sections of the market will be more affected than others.

The GFXC envisages a 12-month timeframe within which all market participants will signal their adherence to the new Code and adopt the standardized templates in their processes. “We all have a strong common purpose in ensuring that the FX market continues to operate effectively and with integrity” says DeBelle. “The Code will continue to serve its important role of setting the standard for good practice.”



The potential for Distributed Ledger Technology to reduce FX Settlement Risk

By Jerome Kemp, Senior Advisor to Baton Systems



Jerome Kemp

In 2019, the Bank for International Settlements (BIS) Triennial Survey estimated almost \$9 trillion-worth of FX payments remain at risk of settlement failure on an average trading day and reported PvP protected settlements had dropped to approx. 40% of the market¹. In an effort to eliminate principal risk, in December 2020, the BIS issued supervisory guidance recommending using PvP settlement where practicable² - a message echoed in the recently updated FX Global Code, with its increased emphasis on the need for market participants to reduce settlement risk and use PvP mechanisms where available³.

Whilst various governance bodies are calling on the industry to step-up and take action, the challenge remains

that many FX market participants lack access to the infrastructure necessary to facilitate safe settlement.

FX is a market without a widely used central exchange or clearing facility. CLS offers Payment-vs-Payment (PvP) settlement to its members across a select number of central bank currencies - reducing the risk of a counterparty failing to fulfil their settlement obligations. However, as trading in emerging market currencies continues to rise, for example from 2016 to 2019, daily average volume for CNY grew by 41% to \$285bn and RUB by 24% to \$72bn⁴, the proportion of trades eligible for PvP protection is in decline.

In 2020, the Financial Stability Board (FSB) launched an initiative focused on enhancing and de-risking cross-border payments⁵. Looking to the revolutionary change in network technology, the FSB committees advocated that new technologies can and will enable faster, cheaper, transparent, and scalable payments for a broad range of users in the banking system⁶.

However, following years of under investment in post-trade infrastructure, many banks are heavily reliant on legacy technology built around central-server based architecture with

disparate interconnected systems, running batch-processes and different data schemas.

If access to PvP is to evolve in a realistic timeframe it is therefore likely to be via the co-existence of innovative technologies that effectively interoperate, non-intrusively, with the legacy systems and processes prevalent across financial institutions. Ripping out and replacing existing infrastructure (at this stage) is not an option for most large banks.

WHERE DO WE GO FROM HERE?

Firstly, it's evident that increasing market access to secure PvP settlement protection is fundamental. A more inclusive approach is needed - one that allows a broader range of market participants and currency pairs to be eligible for PvP settlement. If this could be achieved without the dependency on using central bank money, adding new currency pairs would not prove so challenging - making PvP a more viable option for settling emerging market currencies. This would bring an end to the idea of 'riskless settlement' as a privilege available to the happy few.

Secondly, the processes of managing intraday exposures and obligations during 24hour settlement cycles needs to be streamlined, to provide



With the ability to consume data from a distributed ledger, market participants would be able to trigger payments at will throughout the trading day

counterparties real-time visibility and greater certainty as to when exactly their trades will settle.

If PvP settlement timeframes could be reduced, liquidity could be liberated. This would allow Treasury teams to increase the usage and flow of capital across the organisation, with access to money that would have otherwise been inaccessible for an elongated period whilst the settlement process completed.

Moreover, reducing settlement timeframes would also present the possibility of multiple settlement cycles taking place intraday, providing participants with the ability to re-use their cash, effectively further reducing liquidity requirements.

Thirdly, creating an innovative settlement ecosystem that allows for the co-existence of configurable network capabilities, using new technologies such as distributed-ledger technology (DLT), interoperating (non-intrusively) with legacy systems such as ledgers, payment gateways and messaging systems and protocols, would prove transformative. It would ultimately allow for constructive disruption through the use of blockchain inspired technology in an environment ripe for automation and change.

Such a structure would offer capital market firms the option to continue leveraging their existing communication protocols and core systems, whilst eliminating the impact of inflexible batch-based, fragmented infrastructures. The introduction of DLT would afford settlement participants complete and real-time visibility of all settlement actions, offering a single source of truth and the ability for all interactions to instantly become immutable facts. This would deliver a level of transparency and certainty unachievable with traditional bilateral settlement - significantly reducing settlement risk.

With the ability to consume data from a distributed ledger, market participants would be able to trigger payments at will throughout the trading day. DLT would allow settlement participants to efficiently transfer asset ownership using collaborative and synchronised

workflows, operating across real accounts that hold real assets (negating the need for tokenisation). This simultaneous change of ownership is at the core of PvP practices, allowing settlement participants to benefit from the latest advancements in decentralised technology with settlement finality enforced by jurisdiction-specific rule sets.

The ability for this data to be then consumed by software that could determine the payment frequency and initiate settlements following the trigger of pre-set thresholds and the rails over which the funds will transmit, would provide even greater control.

There is a clear need for flexible, safe and robust settlement mechanisms for all currencies and all market participants. The status quo needs to evolve if we are to effectively curtail settlement risk exposure.

The distributed ledger technology required to enable firms to better control their FX settlements and manage intra-day funding requirements with confidence, is available to market participants today, contact info@batonsystems.com for more information. If you'd like to learn more about FX settlement risk, lessons from the cleared derivative markets (learned the hard way in response to the Global Financial Crisis) and the challenges of the market's existing infrastructure download our white paper: Stress Fatigue: Addressing the urgent threat of settlement risk in the global financial system. <https://pay21.batonsystems.com/stress-fatigue/>

1. https://www.bis.org/publ/qtrpdf/r_qt1912x.htm
 2. https://www.bis.org/press/201217_letter.pdf
 3. https://www.globalfx.org/docs/fx_global.pdf
 4. <https://stats.bis.org/statx/srs/table/d11.3>
 5. See FSB Enhancing Cross-Border Payments Stage 1

Report to the G20 at <https://www.fsb.org/2020/04/enhancing-cross-border-payments-stage-1-report-to-the-g20/>; Stage 1 Report to the G20: Technical background report at <https://www.fsb.org/wp-content/uploads/P090420-2.pdf>; CPMI Enhancing cross-border payments:

building blocks of a global roadmap Stage 2 Report to the G20 at <https://www.bis.org/cpmi/publ/d193.pdf>; and FSB Enhancing cross-border payments Stage 3 Roadmap at <https://www.fsb.org/wp-content/uploads/P131020-1.pdf>
 6. FSB Stage 1 Report to the G20, op.cit.

FX HedgePool

Bringing innovation to the FX Swaps Market

<p>Midpoint Pricing</p> <ul style="list-style-type: none"> • WM/R London 4pm fix • Consistent in all market conditions • Optimized for crosses • Fixed, explicit fees 	<p>Zero Impact</p> <ul style="list-style-type: none"> • Common liquidity • No pre-hedging risk • Anonymous matching • Eliminate market footprint 	<p>Stability</p> <ul style="list-style-type: none"> • Dependable matching each cycle • Fixed spreads • Monthly & quarterly roll cycles • Benchmark replication 	<p>Risk Mitigation</p> <ul style="list-style-type: none"> • Transparent TCA • Optimized netting • Cost redistribution • Bilateral settlement • Credit diversification
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The key advantages of FX HedgePool

FX HedgePool is an award-winning matching engine for the mid-market execution of FX swaps. The firm's platform has transformed the foreign exchange market with the breakthrough unbundling of liquidity from credit – unlocking vast potential for passive hedgers to provide liquidity to their peers, while banks optimize their balance sheets. We asked Jay Moore, CEO and Founder of the company, to tell us more about the benefits of his platform and why the time was right to launch it.



Jay Moore

Jay, FX HedgePool has been live going on 2 years now and is clearly gaining momentum in the market. Can you talk a bit about what is behind the excitement for what you're doing?

Our vision from the start was not to build products that enrich the rich, but rather to strip costs from the market and ultimately put money back in the pockets of everyday investors.

When we began the FX HedgePool journey, we set out to fix what we saw as a glaring problem with the FX swaps market. Market structure was forcing inefficiencies between the buy-side and sell-side that introduced layers of cost that eventually are paid for through the investment products that we all, the investing public, own in our retirement accounts and personal investment portfolios. We aim to change that.

As career finance professionals, friends and family often ask us questions like, "What makes one manager or fund better than another when deciding who to trust with our investments?" Truth is, for the longest time we didn't know!

When we really think about it however, it's clear that the most successful money managers in the world are the ones who look under every stone for innovative ways to evolve the market and find savings to pass along to their investors. Managers who find new ways to reduce costs, streamline workflows, and optimize their resources are the ones able to pass along those efficiencies in the form of better performance and/or more economical products to their investors.

These are the firms that are embracing FX HedgePool.

Please can you explain how your firm is enabling a more efficient marketplace, how that impacts investors and how it works?

Just as Uber matches drivers to riders and AirBNB matches guests with accommodations, FX HedgePool uses technology to match buys and sells among buy-side institutions



The most successful money managers in the world are the ones who look under every stone for innovative ways to evolve the market and find savings to pass along to their investors

with mutually offsetting trading requirements. This eliminates layers of costs and risk in the process.

The current FX market structure relies on the relationship between credit and liquidity for the buy-side to execute FX trades with the sell-side. This dependency has created a bottleneck, where pricing can only come from banks with whom a buy-side firm has credit lines available. The best price may be from some other party, bank or otherwise, that you may not have a credit relationship with, and therefore is unavailable to you as a buy-side trader.

Banks, on the other hand, offer the balance sheet necessary from a credit perspective to book and settle the FX trades against a buy-side firm/fund, while also having the burden of being relied upon for pricing in all market conditions. Unfortunately, this relationship limits the flow of both liquidity and credit across all participants in the market.

At FX HedgePool, we've modernized the institutional foreign exchange market by 1) creating the technology that allows liquidity to flow anonymously within a community of the world's largest buy-side institutions, while 2) enabling banks to remain at the center of the credit relationship to sustainably monetize their balance sheets by providing credit-as-a-service.

This new market structure eliminates layers of unnecessary costs to the

buy-side, putting money back in the pockets of the investing public while allowing the sell-side to replace high-risk and volatile trading revenues with reliable and transparent fees. A win/win/win for all parties – most importantly, for us as investors.

What does the buy-side consider to be the greatest benefits of FX HedgePool?

The FX HedgePool model, and peer-to-peer in general, aims to address several pain points for the swaps market, including spread volatility, tracking error, operational risk and of course, market impact.

When we started out, our initial focus was on spread savings. Funnily enough however, as we spoke with more and more large buy-side institutions, many claimed that swaps pricing was at or near "mid". We asked ourselves how this was possible while banks' FX businesses remain highly profitable in the process. But, there really can only be one of two explanations.

The first is that if one client is getting mid, then another must be paying a disproportionately high spread to balance things out and ensure that the banks are net profitable. From the investing public's perspective, this doesn't sit well, as one way or another it's money out of the pockets of investors.

Second, given the reliable nature of passive rolls (swaps), perhaps a bank

knows the position is coming and in preparation for the trade, they begin to build inventory to ensure a fair price to their client at the time of execution. Unfortunately, while this helps banks manage their risk (which they should be able to do), pre-hedging the position creates market impact. While the client may get a mid-price at the time of execution and look great on their TCA reports, the bank was able to buy low and sell high, which means that again, investors lose as a poorer price leads to a worse performance in their funds.

It's difficult to argue with the benefits of substituting risky trades from an opaque, expensive, and inefficient market with safe and reliable matched trades on a highly transparent, dependable, and automated technology platform. Peer-to-peer makes this possible.

Does FX HedgePool's liquidity benefit the sell-side?

Absolutely. In the FX market, there are two essential elements of a trade. The first is pricing and the second is credit and settlement. As mentioned, to provide and accept a price, a credit relationship must exist between the firms. FX HedgePool has broken this long-standing dependency.

Under the FX HedgePool model, although liquidity is now directly accessible between peers, the sell-

side remains central for the credit and settlement of the trade. By transforming credit into a service, we've created an entirely new way for banks to dependably monetize their balance sheet, while offering a valuable service to the client relationships that they've worked so hard to cultivate.

Additionally, liquidity and credit provision don't always go hand-in-hand. There are numerous global banks with high quality credit ratings and appetite for credit exposure but are specialized in certain currency pairs and unable to compete in others. Alternatively, some banks may be highly competitive in pricing, but have limited balance sheets or capacity for credit. This has created a highly concentrated market, preventing the diversification needed to properly achieve best execution.

Separating liquidity from credit allows both elements of the execution to be optimized, creating a better balance in the market on the whole equation.

Why now?

Innovation in the swaps market has lagged as the broader FX market has evolved towards electrification over the past ten years. I'd argue that this is largely due to the market structure



A growing panel of banks are getting these benefits from FX HedgePool

dependencies I've talked a lot about and the complexities of credit.

At the same time, growth of swaps has outpaced all other aspects of the market. This is mainly a result of dramatic increases in passive investing and the corresponding demand for programmatic FX hedging. With this growing demand comes an increased need for liquidity, but perhaps more importantly, the need for automation

and scale. Without automation, firms on both sides of the market face higher levels of operational risk, credit consumption and resource constraints. All these forces contribute to greater costs and inefficiencies, which are passed on to the end investors in some form or another.

With the innovative technology of FX HedgePool, we have created a unique marketplace for passive hedgers where over \$2.5 trillion of volume has been matched to date – proving that large demand can be satisfied off market. That's \$2.5 trillion that was never exposed to market impact or the juggle between price and credit. It's also the volume that was executed without needing highly experienced traders to negotiate or distract their time and attention from more strategic trading requirements. We believe we're well on our way towards a better exchange that ensures we all receive the greatest returns on our investments.



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Electronic FX in Latin America

Tremendous growth on the horizon

Nicholas Pratt examines the growth of FX e-trading across Latin America and the various factors driving its adoption.



Nicholas Pratt

Electronic FX trading is becoming more widespread in Latin America, driven by trading firms' ambitions to reduce their costs, increase their operational efficiency and generally become more client-focused. This has resulted in the growth of online platforms and electronic FX trading delivery channels across the South American continent.

There has also been increasing use of algorithmic trading in the region's largest and most sophisticated markets – Brazil and Mexico. But what specific currency and FX trading products and services are in most demand? And can the electronic platforms and local expertise of the leading regional FX providers help international investors gain access to the fast-growing LatAm markets?

IMPROVED CONNECTIVITY

Matt Kassel, chief operating officer at US-based FX trading platform Edgewater Markets, says that the adoption of e-trading for FX throughout Latin America began some years back, primarily through the use of existing legacy systems. But in the past two years, says Kassel, there has been an explosion in the electronification of markets in the Andean region, creating improved connectivity to the world and decreasing the need for previously utilized execution services.

Electronic FX in Latin America - Tremendous growth on the horizon

"Technology solutions are being developed and delivered to the region today that offer fully automated streaming non-deliverable forwards (NDF) and spot rates," says Kassel. "The proliferation of technology in the region is connecting the local market participants to the larger FX market in a way that is quickly transforming their abilities to execute quickly and efficiently."

Adoption though does vary throughout the region, says Kassel. "Mexico being a deliverable currency is liquid and fully streaming already. The market participants in Mexico are now utilising the various options for distribution and are able to reach clients on all continents without the use of previously expensive legacy central limit order book technology. In the case of Brazil, despite on/offshore restrictions, the market is already electronic and liquid, due to major players having onshore booking capability. The further development of technology is supporting the local participants reach into the larger market and the growth in this space continues to play a larger role amongst the local community."

"The proliferation of technology in the region is connecting the local market participants to the larger FX market in a way that is quickly transforming their abilities to execute quickly and efficiently."



Matt Kassel

When it comes to the services that are most in demand among FX traders in the region, Kassel highlights access to off-shore transactional business, streaming liquidity and execution services. There is also an increasing demand for white label solutions that enable local banks to extend their reach.

"There are also a few sophisticated trading desks that have also adopted algo trading, and this space continues

to be a topic in all conversations with the banking community interested in further technological growth," says Kassel.

There are a number of ways for local traders to get access to some of these tools, says Kassel. "Global participants and local onshore players who have direct access to technologies such as Edgewater Markets LatAm FX product, are finding their abilities to interact with the larger market is easier than they had anticipated. The local players are elated to welcome the FX market into their onshore activity, and the traditional FX market participants are finding enormous value in being included in the local markets."

According to Kassel, the focus to invest in technology has become the latest trend in the region, starting with the larger local banks. "The resources being deployed to enhance distribution and reach, thus lowering execution costs, is a pervasive theme in LatAm as a whole, with tremendous growth on the horizon."

LOCAL PRESENCE

An important point to make about electronic FX trading in Latin America is that it is a heterogeneous region, says Matt O'Hara, CEO, Americas of multibank trading platform 360T. "Each country is at a different stage of e-trading adoption and there are important differences and nuances within the FX marketplace of each that technology and service providers operating in the region need to be cognisant of."

That is why it's crucial to have a local presence to support clients there and



The Mexican peso is in the top 15 most frequently traded currencies in world

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Electronic FX in Latin America - Tremendous growth on the horizon

to build strong relationships with all of the key market participants in each country, says O'Hara. He cites 360T's expanded presence in Brazil as an example. "Having the right people who understand the local markets enables us to build up a strong client base within each Latin American country and then once we are able to connect these onshore pools of liquidity with our global FX community it creates better trading outcomes for everyone."

For 360T, the strategy is regional but the implementation remains localised. "Mexico and Brazil constitute the two largest FX markets in the region and, yes, the adoption of trading technology there is generally more advanced than elsewhere in the region," says O'Hara. "But importantly, the technology solutions required by each vary significantly based on local market structures and the nature of the MXN and Brazilian real (BRL) currencies."

According to data from the Bank for International Settlements, the Mexican

"While there are some challenges which limit the scope of access to LatAm markets for international FX traders, with a combination of innovative thinking and local partnerships we don't believe that any of them are insurmountable."



Matt O'Hara

peso is in the top 15 most frequently traded currencies in world. It is a CLS currency and highly international, especially in the Spot FX market, with 80% of trading activity occurring outside of Mexico.

By contrast, a lot of the local FX trading in Brazil occurs in the Futures market, it is not a CLS currency and as a consequence international trading

of BRL is focused heavily in the NDF market, says O'Hara. "So while the adoption of e-FX trading is accelerating in both of these markets, the actual technology solutions required in each aren't identical, and therefore it's important as a technology provider that you have an offering which is broad enough to meet the differing requirements of each."

But while firms in Mexico and Brazil might, generally speaking, have travelled further down the road in terms of FX technology adoption, those in the rest of the region are still facing the same pressures to reduce costs, minimise risk, enhance transparency and improve returns, says O'Hara. "Partnering with technology providers is a proven way of achieving all these goals and this is why we're seeing growing demand for e-trading solutions throughout the region, with Chile, Peru and Colombia being particular hotspots on this front right now."

The types of services that are most in demand can vary significantly, but in this instance the differentiation is more between different customer segments rather than geographies, says O'Hara. "Amongst the real money community we see growing demand for technology tools which can drive workflow efficiencies, reduce operational risks and deliver improved FX pricing. In addition, these firms have a responsibility to their investors and stakeholders to achieve the best returns possible, as well as a competitive incentive to do so, and therefore there is a lot of interest from them around accessing and consuming high-quality data



Credit is a big challenge for firms trying to access the local LatAm FX markets

feeds that can both improve their execution outcomes and help them to benchmark their FX trading activity."

Meanwhile, the regional banks are looking for the transparency, efficiencies and price improvements that can be gained by putting multiple liquidity providers into competition, which pushes them towards multibank platforms, says O'Hara. "Corporate clients in Latin America are also very focused on transparency, but less for reasons of ensuring that they can prove best execution and more because it can significantly help them from an audit and compliance perspective.

Clearly, executing FX transactions via an electronic system which records everything and is then able to produce a complete and comprehensive audit trail of all trading activity helps in this regard. Streamlining workflows is also important for these firms, because FX trading is simply one amongst many of their daily tasks and therefore they are looking for technology which can make this process quicker and easier,

enabling them to focus on other more mission-critical elements of their jobs and thus increase productivity."

THE CHALLENGE OF CREDIT

The biggest challenge for firms trying to access the local LatAm FX markets is credit, says O'Hara. "So, for example, while a trader sitting in New York could access a multibank platform to try and interact with local FX market participants in Mexico, they will probably only be able to face a small number of firms on the platform as a counterparty because of credit limitations."

360T is currently developing a new product to try and address this challenge, says O'Hara. "We have partnered with a domestic Mexican bank, Banco Monex, to create a credit hub that allows local firms in Mexico to interact with the full range of global liquidity on our platform on an anonymous basis. How this works is that Monex has an excellent credit rating and is therefore able to face off against a wide ranging spectrum of international liquidity providers and in addition is a

member of CLS and therefore is able to act as a credit hub."

This is also broadly representative of 360T's NDF strategy in LatAm, says O'Hara, which involves connecting the local onshore currency specialists with a global community of active NDF traders. "So while there are some challenges which limit the scope of access to LatAm markets for international FX traders, with a combination of innovative thinking and local partnerships we don't believe that any of them are insurmountable," he says.

There's a broad confluence of factors driving the adoption of e-trading in LatAm, says O'Hara. "The availability of high-quality FX trading technology at an economically feasible cost continues to increase and the value proposition of this technology continues to be demonstrated in other marketplaces. The entire FX market globally, including LatAm, is drifting towards a more transparent and regulated environment, which naturally leads to more electronic



Regulation is an important factor driving adoption of e-trading across the region

Electronic FX in Latin America - Tremendous growth on the horizon

trading. On top of this we see firms throughout the region – including central banks – committing to the FX Global Code of Conduct, which helps promote best practices around FX trading. By executing across platforms which have publicly announced their adherence to the Code, firms in LatAm can be certain that they are operating in an environment which meets all of these industry best practices.”

But perhaps the most significant factor influencing e-trading in the region is the nature of capital markets, says O’Hara. “An asset manager that is able to eliminate operational inefficiencies and access better FX pricing will produce better returns to its investors, and this becomes a point of differentiation. A bank that can deploy a world class pricing engine using SaaS technology will be in a better position to compete against large international banks for local FX business and can improve their P&L as a consequence of this. A corporate treasurer with a streamlined FX workflow solution in place can enhance their productivity across the treasury desk, which can significantly enhance their productivity.”



Eric Donovan

“Regulation and credit are two factors driving adoption of e-trading in the region. Many of the policies across LatAm restrict liquidity and make electronic trading much more difficult.”

So ultimately, the competitive advantage that comes from e-trading is its biggest driver of adoption, says O’Hara. “And on the flipside, the firms who resist this trend towards greater technological innovation and adoption, risk falling behind their peers.”

DELIVERABLE VS NON-DELIVERABLE

When it comes to describing the rate of adoption of e-trading in Latin America, it is better to look at deliverable vs non-deliverable currencies rather than the region as a whole because it is very different, says Eric Donovan, global head of institutional FX at StoneX, the US-based financial services network. “Mexico for example, is fully deliverable and has excellent electronic liquidity anywhere in the world. Spot FX is a welcome product in most regulatory jurisdiction and the Mexican peso (MXN) has very robust liquidity as a result,” says Donovan.

“MXN trading looks a lot more like most G7 currencies in terms of how it trades throughout the world because you can freely deliver MXN outside of Mexico. Brazil, Chile, Argentina and Columbia on the other hand, are non-deliverable and have a variety of capital controls in place. This means that in many jurisdictions, trading those currencies falls under swaps regulation which vastly limits market participation. To be clear there is still an electronic market, but it is considerably less reliable, more fragmented, and more difficult to access than MXN.”

Consequently, while Mexico and Brazil are the two most important currencies in the region, Brazil is non-deliverable and therefore falls far behind Mexico in terms of electronic FX and overall liquidity and trading, says Donovan. Regulation and credit are two factors driving adoption of e-trading in the region, says Donovan. One of the biggest hurdles LatAm banks and trading firms face in accessing FX markets is the ability to access quality credit intermediation through a tier 1 prime broker. “Electronic tools that help solve credit intermediation are as important, if not more important than liquidity aggregation,” he says.

In addition, many of the policies across LatAm restrict liquidity and make electronic trading much more difficult, says Donovan. “All of the tools to have a fully electronic, open trading environment already exist as we can see in Europe and the across most major deliverable currencies. Regulations greatly restrict who can even trade these NDFs, and because of the lack of liquidity and low trading volumes, large scale credit intermediation is also remains much more cumbersome.”

TRANSPARENCY AND SOPHISTICATION

The adoption of electronic trading is generally driven by the level of sophistication and transparency of the FX market and the evolution of the adoption rate is no different in Latin America, says Bart Joris, head of FX sell-side trading, customer proposition date & analytics, for Refinitiv.

“Transparency and sophistication create a virtuous cycle which will push e-trading uptake at an accelerating pace,” says Joris. “Sophistication refers to infrastructure, technology and market conditions while transparency is more focused on

how open and visible the market is trading such as price discovery, credit and participants. As markets become more mature and countries develop, this will be a natural process that drives the adoption.”

In Latin America, Mexico and Brazil aside, this was slower in the last decades than other emerging regions, for multiple reasons such as political unrest, credit, and infrastructure though recently this was accelerating, says Joris. “With events as Covid, the trend accelerated even further as the electronic market provided quicker access compared to traditional trading. It is a two-speed region with the more developed countries such as Mexico and Brazil, taking advantage of their open economies with established e-trading while other emerging nations focus on developing their economy and are in the early days of electronic trading.”

Joris agrees with others’ view that adoption varies across the region. “Mexico has clearly a head start followed by Brazil, though we see accelerated activity all over Latin America in places such as Chile, Argentina, and Colombia. Mexico has led since the MXN is the only full convertible currency in Latin America so its internationalization happened much quicker. It was therefore logical that the local market would follow international trends more easily than other countries,” he says.

“Most countries are looking for foreign investment to develop their economy, creating an environment where transparency and sophistication is increased. This triggers the need for more e-trading to provide better access to the market for foreign participants. For an efficient electronic market, price discovery is a key component,” says Joris. “Without knowledge of

“It is a two-speed region with the more developed countries such as Mexico and Brazil, taking advantage of their open economies with established e-trading while other emerging nations are in the early days of electronic trading.”



Bart Joris

where the FX market is traded, it is impossible to create a valid electronic price. Manually you can call around to find the correct market levels, though electronically you need to find the data points and afterwards construct your market price for distribution. We see overall progress, as data becomes more widely available, and electronic trading provides more electronic data.”

When it comes to the type of electronic services most in demand, aggregation is critical to supporting price discovery, says Joris. “Further components such as price creation and distribution with or without smart order routers comes second. For algo execution, a well-established electronic market is needed with sufficient electronic data and history available to ensure the models incorporate the correct behaviours.”

This would also help develop effective transaction cost analysis (TCA) tools. “One unforeseen moment can lead to very impactful algo results, which is in general the opposite of what an algo wants to achieve. Simplified TCA on best execution and post-trade market

behaviour is important in ensuring correct practices. Electronic markets help to enhance TCA value and increases comfort levels which drives further adoption. For in depth TCA, it is still early days, as reference data is needed and even open visible market information to benchmark correctly.”

For the major countries such as Mexico, Brazil and some smaller countries, there is already either direct access or availability through the assistance of local brokers or banks, says Joris. “Naturally offshore markets offer NDF and Options capabilities if you do not want to trade directly. Foreign traders are looking how to apply their expertise edge in trading models and algos, though do need the necessary technology and transparency. Major market players such as LSEG offer ability to trade locally, aggregation and services to increase visibility via data or provide end-to-end electronic white label systems. They also tend to offer the ability to trade on the off-shore market instruments. Other countries are still in early days and need to progress on infrastructure and transparency.”

There are several drivers for adoption though they are no more different than elsewhere, says Joris. “These are increased efficiency, both operational and intellectually based on analytics, as well as execution speed, distribution and even straight-through-processing (STP) through reduced human errors. The demand for best execution from the buy side and more transparency via STP to regulators are factors that have also helped encourage FX trading firms to adopt e-trading platforms.”

What can the payments industry do about FX settlement risk?

How SWIFT gpi allows FX players to monitor and manage settlement transactions

At the end of 2020 we commissioned an e-Forex magazine supplement on FX settlement risk. Our objective was to bring together some of the leading industry experts to dissect the problem, examine what solutions exist today and see what could be done in the future. At the same time, the Financial Stability Board (FSB) released their Stage 3 report on enhancing cross-border payments. This included a 'Building Block' called 'Facilitating increased adoption of PVP', which directly addresses the topic of FX settlement risk.

QUANTIFYING SETTLEMENT RISK

CLS currently removes around \$5.5 trillion of settlement risk each day,

which according to the Bank for International Settlements (BIS) is only a third of the total daily figure. This leaves more than \$10 trillion of settlement risk to be removed by other means. BIS also estimates that the proportion of trades with PVP protection appears to have fallen from 50% in 2013, to 40% in 2019. Some underlying reasons for this are:

1. the long term upward trend in overall volumes,
2. the increasing share of prime brokerage,
3. the increasing use of swaps, and
4. the trading volumes of non-CLS currency pairs, where the share of emerging market currencies rose to

23% in 2019 from 19% in 2016. CLS currently offers PVP on just 18 currencies.

The increasing use of swaps may well be one of the most significant factors behind this increase in settlement risk. Not only because it has been taken-up by small regional banks that are less likely to use CLS settlement, but also because each swap trade implies four settlement legs.

USING DATA TO UNDERSTAND SETTLEMENT RISK

Clearly, there is a need for more industry data to understand how the 60% of those FX obligations without PVP protection actually settle. Whilst a significant proportion would be via the correspondent banking process, other settlement mechanisms exist such as cross account movements for the "on-us" settlement process or internal account movements for intra-group trades.

The crucial step for FX settlements via the correspondent banking process are the actual payment instructions. Whether settled gross or settled net, each party will send an outgoing payment and will expect to receive an incoming payment too. This is of course the heart of the FX settlement risk - if the outgoing payment is sent but the incoming payment does not arrive, then a settlement failure occurs.

An in-depth survey done by BIS in 2008 estimated that bilateral exposure could exceed a tenth of the size of the institution's capital for 12% of institutions on a daily average basis, and for 23% of the institutions on a peak day basis. Total settlement exposure across all counterparties for some institutions could be as high as three to six times the size of their capital.

To manage this large settlement risk, FX parties can monitor both the progress of the payment they sent for the currency they sold, as well as the incoming payment they expect for the currency bought, using the new gpi for Financial Institution Transfers tracking service for MT202. Whilst this does not take away the risk, it represents a major improvement to the monitoring and management of it, especially if it users combine the service with bi-lateral netting solutions.

As we look forward to the future, this basic principle of linking the two payment legs together via gpi could support new PVP-based solutions. For example, if a crypto-currency were to become the settlement mechanism for a FX trade, in order to transfer ownership it would still require account links to know when both parties have made their payments. Similarly, when implementing a solution based on an escrow account management arrangement, users would be able to release funds with certainty, knowing they had received gpi confirmation of credits for each payment leg.

To support these new initiatives, we'll continue to extend the transaction management and data capabilities of our platform. FX settlement risk is an industry critical subject and we hope that the e-Forex supplement we sponsored has helped to contribute to the debate. Conversations and analysis will certainly continue and we look forward to being part of the dialogue.

WHAT IS PVP?

'PvP' or 'Payment vs Payment', is a settlement safety mechanism that makes sure the final transfer of a payment in one currency only takes place if the final transfer of a payment in another currency does too.

Source: CPML: Enhancing cross-border payments building blocks of a global roadmap - Stage 2 report to the G20 (July 2020)



Overview of the focus areas of the FSB Stage 3 roadmap for enhancing cross-border payments which includes a 'Building Block' on 'Facilitating increased adoption of PVP'

FXAlgoNews is your no.1 source for the latest industry and market developments related to algorithmic FX trading.

Published quarterly, it focuses on:

the growing demand by corporates and asset managers for algorithmic FX trading toolsets to meet best execution requirements and reduce the market impact of their currency dealing activities

the use of automated trading solutions and execution algos by specialist currency management practitioners to facilitate their passive and active overlay mandates

the use of execution algorithms by hedge funds operating in the currency, futures and crypto markets to facilitate their quantitative investment strategies and managed account programs



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Cboe FX: Bringing differentiation, innovation and choice to FX participants



James Arrante



Ben Leit

Cboe FX continues to set the standard in FX with a proven history of technology innovation, reliable liquidity provision and its uniquely client-centric approach. e-Forex spoke to James Arrante, Director, FX Product Management and Ben Leit, Global Head of FX Sales at Cboe Global Markets about the continuing drive to ensure clients have access to a comprehensive range of execution options through the Cboe FX suite.

Ben, can you start by explaining some of the changes you've been working on to increase the different execution methods available to clients?

BL: CBOE FX is one of largest sources of spot liquidity in the market and that, coupled with our curation process, is what makes our platform stand out. But in addition to offering that market-leading liquidity component, we also want

to make sure our clients have all the execution tools they might need at their disposal. We started giving our clients more execution tools around five years ago when we brought in a Full Amount offering, which can consolidate streaming price feeds from several liquidity providers into a single best price. More recently, we added hidden peg functionality to our suite of services, again to ensure that our clients have as much optionality as possible.

Are you seeing any significant changes or trends in how clients are trading FX?

BL: One of the most significant area's we've seen has been the growth in NDFs. Cboe FX invested in this area very early but the past year has really seen an uptick in the number of banks and active traders looking for ways to electronify their execution in NDFs. As a result, we've seen significant highs in our NDF volumes and our average daily volumes in key NDF pairs continues to climb. This complements what we do in spot and we believe that NDFs will go down that same road and also become a highly electronic market. That is a really big theme for us at the moment.

James, given this rise in demand for NDF execution, has Cboe FX made any changes to its offering to support this further?

JA: We now offer two different platforms for clients looking to trade NDFs. We have Cboe SEF, that's our longest standing NDF platform and the one which has seen significant levels of growth over the last year or so.



Cboe Spot offers full depth-of-book view, centralized price discovery, anonymous market access, streaming quotes, full amount trading and robust real-time pricing and reference data

And then last year we also introduced Cboe Swiss, which is our new 'off-SEF' venue which we launched to offer liquidity opportunities to our clients in emerging market NDFs. As Ben has already mentioned, our aim is to give clients optionality in their execution method and we know that for some clients trading on a SEF works for them, while other clients will prefer to use the off-SEF platform. Over the last couple of months we've also added the Full Amount style execution tools to both platforms, which again shows how mindful we are of the need to offer choice to our clients.

On Cboe Swiss we offer trading in the most actively traded emerging market NDFs, which tend to be the South Korea Won and Indian Rupee. But having said that, we recently had a high in Brazilian Real and offer the LatAm suite as well, so Peru, Columbia and Chile, in addition to the Chinese Renminbi. Asian NDFs are a bit more electronic than LatAm which means LatAm NDFs might be slightly behind in terms of the liquidity available right now, but that all seems to be changing pretty quickly. We're excited to be able to keep adding to the suite of execution options that is available for NDFs as this market grows and continues to become more sophisticated.

Sourcing liquidity has been a key area of focus in recent months. How do you support clients on this front?

BL: Liquidity conditions right now are pretty good and there hasn't

been as much volatility which does help improve liquidity conditions to an extent. Clients can also rely on our Full Amount platform to handle larger size executions. The fact that we can curate a liquidity pool and aggregate sources is a huge benefit for customers. Getting good liquidity in a larger order size in a liquid pair is easy in FX, but we know from clients that it is not so easy to find larger size liquidity available in emerging market pairs at certain times of the day. By having invested significant time and resource into developing the Full Amount product, we've been able to improve liquidity conditions for a lot of our customers that may have not had access to this, especially the big banks. It's now a commonly used tool among our clients in both calm and volatile markets.

And finally, are there any particular areas or shifts you are seeing in the market which you'll be paying close attention over the coming months?

JA: A very interesting key initiative which we launched last year was Cboe FX Central, our new central limit order book (CLOB) which introduces a further element of choice for clients. The platform sits as an alternative to traditional CLOBs available in the primary markets as it rewards liquidity providers with faster market data when their liquidity is at, or close to, the best bid or offer. This adds another execution method to our suite but it also brings a much needed element of choice to that space as well.

Liquidity	Anonymous	✓
	Firm	✓
	Non-firm	✓
Execution	ECN	✓
	Full Amount	✓
Data	GUI	✓
	FIX Bookfeed	✓
	ITCH	✓

Cboe Swiss provides market participants access to deep Non-Deliverable Forward (NDF) liquidity on emerging market currencies

We continue to see volumes on the primary markets' CLOBs decrease and there has been more volume shifting into curated liquidity pools. Having said that, the primaries in CLOBs are still very important for the overall marketplace from a market data perspective and price discovery perspective, so it will be interesting to see how that that sector evolves. Primary markets are going through significant migrations following key acquisitions from CME and the London Stock Exchange Group. We've introduced our own CLOB which will give our clients an alternative to use, especially while those businesses are going through this transitional phase. Market data is vitally important in FX and if liquidity continues to be removed from CLOBs then that leaves a significant void which we expect Cboe FX Central will help to fill as liquidity moves more off CLOBs and into curated pools.

Currency Pairs	Tenors	Min Price Increments	Fixing Reference	Min Order Size
USDKRW	1M	0.1	KRW KFTC18 (KRW02)	\$100,000 Notional
USDBRL	Equivalent BM&F Future	0.0001	BRL PTAX (BRL09)	\$100,000 Notional
USDINR	1M	0.001	INR RBIB (INR01)	\$100,000 Notional
USDTWD	1M	0.001	TWD TAIFX1 (TWD03)	\$100,000 Notional
USDIDR	1M	1.0	IDR JISDOR (IDR04)	\$100,000 Notional

Currently available contracts on Cboe SEF

Building an FX Powerhouse

With John Colasanti, Managing Director
FX & Rates Algos at BGC Partners

Headquartered in London and New York, BGC Partners, Inc., through its various subsidiaries and affiliates (collectively "BGC"), offers a wide variety of trade execution, broker-dealer, clearing and other back-office services. BGC also offers financial technology solutions, market data, and analytics related to numerous financial instruments and markets. The firm works with a broad range of financial and non-financial institutions around the world, offering them access to more than 200 financial products, through brands including, but not limited to, Fenics, kACE, BGC Trader, Capitalab, Lucera, and Fenics Market Data. We spoke to John Colasanti, Managing Director, FX & Rates Algos, to find out more about the FX side of the firm's business.



John Colasanti

John, what core FX platforms and products does BGC now offer?

The recent launch of Precision Algos for FX and US Treasuries is the latest addition to the suite of cutting-edge solutions that BGC provides to the market. The Precision Algos leverage Lucera – our industry leading hosting, connectivity, aggregation and price distribution provider – for market data and market access. Through Fenics FX, we provide a carefully managed and transparent ecosystem that delivers real, actionable liquidity to the marketplace at a low cost. Our Fenics Direct platform enables customers to trade aggregated vol liquidity at top of book directly with dealers. Fenics Market Data is a leading provider and generator of global financial and commodities market data. kACE empowers clients with software and analytical solutions to accurately price vanilla and exotic FX Options. Capitalab provides portfolio compression to bring capital and operational efficiency to clients as well as NDF Match to help clients offset fixing risk.

What support does Fenics offer via Precision Algos?

We've built a highly modular algo framework designed to support the rapid development of trading algos for multiple asset classes. Everything was designed and built in-house using state of the art tech and software development techniques. Lightweight and fast core components are standardized and reusable which enables us to focus squarely on trading logic. This provides a powerful customization framework that supports multiple levels of behavior adjustments from basic parameter tweaks to entirely bespoke strategies. It can be deployed on an agency or bilateral basis or as a white label



BGC specializes in delivering high-quality brokerage services and technology solutions for a broad range of financial products

solution to banks who want a highly customizable, best-in-class solution without the operational burden and high costs associated with developing and maintaining it themselves. For example, a single framework to support FX, treasuries and equities can be deployed on a single box which makes this an attractive white label solution for banks focused on reducing operational costs.

What strategies do you offer?

Out of the box we offer a variety of liquidity seeking, schedule driven, dynamic and benchmark targeting algos. The strategies offer user defined parameters and are easy to customize. The liquidity seeking algos include our IS algo iSEEK which leverages a proprietary market impact model that's specifically calibrated to the FX market to efficiently seek liquidity across different venues. It builds a trading schedule based on order size, market liquidity, expected participation rate, volatility and spread and seeks to minimize slippage relative to the bid/offer

mid at order entry with completion as close to the benchmark time as possible. Our SOR, or Smart Sweep algo, seeks to maximize liquidity capture by fully committing orders across different venues. As liquidity is sourced, it is rebalanced between different venues while maintaining the specified displayed quantity and can be customized to prioritize price improvement, costs or speed of execution.



My colleague Kathryn Zhao is Global Head of Electronic Trading at the firm

Building an FX Powerhouse - with John Colasanti, Managing Director FX & Rates Algos at BGC Partners



Our electronic FX trading and algo support team consists of specialists with deep domain expertise

In the schedule driven category, we provide a TWAP that offers configurable randomization to reduce predictability. Our VWAP algo leverages historical volume curves and trades over a specified time period. It adheres to the curve with some discretion based on profile and trader intent.

The core adaptive strategies are POV which dynamically tracks volume in real-time by continuously calibrating its participation and an Iceberg strategy which minimizes market visibility and impact.

You mention that this is offered as a white label solution to the sell side. What prompted this move?

The decision to enter the FX space was prompted by the success of our award-winning equity algo platform, the strength and experience of our algo development team and the overall trajectory of market demand. However, building market share in a crowded sell side space has its challenges. Rather than compete with the banks it makes sense to partner with them to provide a cost-effective solution that can be easily customized to accentuate their core strengths and meet the specific needs of their client base. We enable our partners to focus on differentiating themselves in other ways while reducing operational costs and maintaining the flexibility to adapt to constantly shifting market conditions and client

demands with minimal effort and investment.

Can you elaborate on the level of flexibility and support you offer to providers to help ensure they are meeting these needs?

Our framework offers extensive customization capabilities from simple adjustments within our existing strategies to the creation of bespoke strategies using an extensive library of components. Our research and development teams are constantly working to improve our product offering and the underlying components based on proprietary TCA framework so clients will benefit and see savings from our regularly scheduled upgrades.

Have there been any notable changes in the market which are driving demand for these services?

Institutions have always been focused on managing costs and as profit margins have shrunk, reducing costs has been key in trying to maintain profitability. Banks are realizing that the cost of building, testing, enhancing and supporting solutions can be significant so outsourcing commoditized solutions has become a great way to reduce costs. While FX Algo usage continues to grow, we've had feedback from banks indicating that the investment for an internal FX algo build doesn't always justify the returns. White labelling algos is one way that banks can reallocate spend and resources towards enhancing their strengths and differentiators while allowing them to continue providing the execution capabilities that their clients need. FX providers recognize that they must have an algo offering to be a significant player in the space and partnering with BGC enables them to do so simply and economically.

How do you customise your offering to meet the different needs of various FX providers? For example, an established tier one bank compared to a newer entrant to the FX algo space.

Established banks with large client bases can leverage our client level customization capabilities to accommodate different system requirements while newer entrants can shorten the time to market and reduce spend on building solutions and connectivity. Both types of firms will benefit from our internalization capabilities and cost savings provided through our platform and our Global Support model.

Can you talk more about some of the algos strengths?

A key strength is that they're model and data driven. The models were quantitatively derived from research



We've built a highly modular algo framework designed to support the rapid development of trading algos for multiple asset classes

involving intensive data analysis. The primary objective is to let the data speak. For example, given the critical importance of market impact to the quality of execution we developed a proprietary methodology to construct the unique market impact model for FX. When applied to the data, our model achieved great statistical significance. The nature of being model and data driven also enables us to build adaptive features into the logic so that the trading behaviors can be adjust in real-time to market conditions.

How do the algos make routing decisions?

Our algos make higher level macro-trading decisions in terms of the price and quantity they need to trade during a specific time period. The smart order router then turns that into the micro-trading decisions that determine the type of liquidity to interact with, venues to target and appropriate slice size. Both per currency pair historical research and real-time market data and trade information are inputs to our order placement models. Venue



Rather than compete with the banks it makes sense to partner with them to provide a cost-effective solution that can be easily customized

Building an FX Powerhouse - with John Colasanti, Managing Director FX & Rates Algos at BGC Partners



Out of the box we offer a variety of liquidity seeking, schedule driven, dynamic and benchmark targeting algos

idiosyncrasies (i.e., minimum order size, minimum price/size increments etc.) are also a part every routing decision the SOR makes.

How important is it for algos to make use of disclosed (bilateral) liquidity in addition to anonymous (ECN)?

In our view, having access to full-amount liquidity from quality providers improves the execution performance for algo clients. By quality providers we mean top-tier banks with tight spreads, small last-look windows and high rates of internalization. Including this liquidity reduces information leakage and, consequently, market impact. The sell-side algo order flow is viewed by banks as benign so gaining

access to their top-tier RFS liquidity is a matter of relationships. Certain full-amount execution practices should still be maintained to not abuse these relationships. Monitoring the fill-to-reject ratio and the length of last look on a regular basis is important for having healthy conversations with banks aimed at improving the quality of liquidity.

BGC is a large multi-asset class brokerage operating across multiple financial markets. How strategically important is FX in the overall mix of products and services that the firms offer?

BGC specializes in delivering high-quality brokerage services and technology solutions for a

broad range of financial products including foreign exchange, fixed income securities, interest rate swaps, equities, credit derivatives, commodities, futures and structured products. Given the size of the market and its importance in facilitating other asset classes, FX is naturally of high strategic importance.

Why does the scale and experience of BGC stand to benefit banks in terms of the level of support they can expect to receive?

We have the size and scope of the BGC's support teams behind us from its various companies and shared services globally. Our FX Algo support team provides proactive customer service, live phone support and quick email responses from specialists with subject matter expertise. The main goal of this team is to provide regular communication and speedy resolution for all issues. This team also collects and collates detailed information on all client requests and issues for trend analysis and prioritization of future development.

You mentioned that you also support US Treasuries - Why do you consider your US Treasury Algo offering to be ground-breaking?

The US Treasury cash marketplace is highly fragmented and buy side institutions are often left without direct access to UST trading venues. As a result, they source liquidity primarily through sell-side RFQ systems or direct streaming channels that subject them to potentially large trading fees. The Precision UST algo suite provides all market participants with the ability to execute their orders directly on UST cash venues through high performance and easily customizable execution strategies and efficient post-trade workflow solutions. We believe our highly optimized and fully data-driven offering



Through Fenics FX we provide a carefully managed and transparent ecosystem that delivers real, actionable liquidity to the marketplace at a low cost

is an attractive alternative to the existing US Treasury trading options.

What are some of the advantages to using the Precision UST algo suite?

We provide sophisticated algos tailored specifically to UST market structure, along with traditional strategies such as TWAP, VWAP, SEEK, and Iceberg. We have proprietary, innovative market impact models derived from UST exchange market data with high statistical significance. These strategies are built using state of the art software development techniques with adaptive features that allow

trading to be adjusted in real-time based on market conditions. Our algos are fully customizable, high performance algos that support the introduction of proprietary execution logic and customized liquidity access.

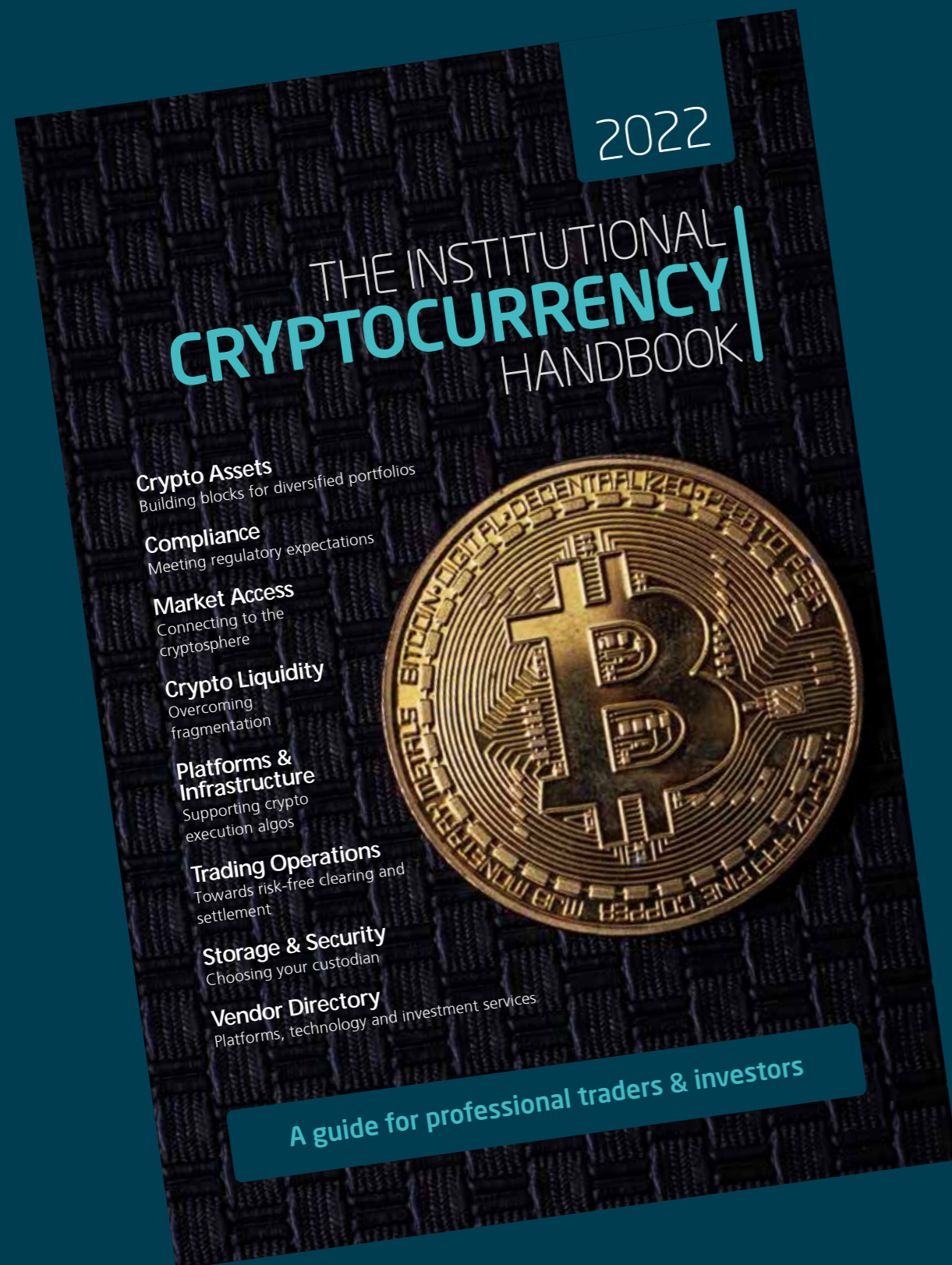
A final word about this month, which of course sees the 20th anniversary of the 9/11 attacks. BGC has for many years held an enormously well supported annual Charity Day raising money for the Cantor Fitzgerald Relief Fund and other non-profits as a way to honor the victims of that terrible event. How can people wishing to make donations find out more about how to do that?

The Cantor Fitzgerald Relief Fund commemorates the 658 Cantor and 61 Eurobrokers employees whose lives were lost in the terrorist attacks of September 11, 2001 by holding our annual Charity Day, during which 100% of global revenues raised by Cantor Fitzgerald, BGC Partners, and GFI Group are distributed to the Cantor Fitzgerald Relief Fund and the charities it supports.

This year's Charity Day has already taken place but those wishing to make donations can still do so at www.cantorrelief.org.



Our team also collects and collates detailed information on all client requests and issues for trend analysis and prioritization of future development



2022

THE INSTITUTIONAL CRYPTOCURRENCY HANDBOOK

Crypto Assets
Building blocks for diversified portfolios

Compliance
Meeting regulatory expectations

Market Access
Connecting to the
cryptosphere

Crypto Liquidity
Overcoming
fragmentation

**Platforms &
Infrastructure**
Supporting crypto
execution algos

Trading Operations
Towards risk-free clearing and
settlement

Storage & Security
Choosing your custodian

Vendor Directory
Platforms, technology and investment services

A guide for professional traders & investors

A desktop guide to the emerging Digital Asset marketplace for professional traders and investors

Targeted specifically at Banks, Brokers, Institutional Investors, Family Offices, Asset Managers, Money Managers, Hedge Funds and institutional trading firms all over the world, this unique publication will provide:

- Investor Perspectives
- Market Commentaries
- Research & Industry Reports
- Trading & technology analysis
- Regulatory & compliance viewpoints
- An A-Z of Digital Asset terms & concepts
- A directory of leading platform, technology & investment service providers

COMING SOON!

The Institutional Cryptocurrency Handbook will be available in print and electronic versions.
To obtain your copy please email: charles.jago@sjbmedia.net

The implications of Central Bank Digital Currencies for everyday users and banks

Kim Engman, Senior Director at TietoEVRY Financial Services looks at the progress of Central Bank Digital Currencies (CBDCs) including the different designs for CBDCs and how they might look; why they may impact most parts of the economy; and why consumers, business and banks would and should care.



Kim Engman

Inspired by so-called cryptocurrencies and stable coins, and building on the development of open banking, instant- and mobile payments and private alternatives to money, central banks are looking to create Cash 2.0. This has the potential to be a lot more than just a means of paying for goods and services, it could change money forever.

MOST CENTRAL BANKS ARE ADVANCING CBDCS

Central banks, representing close to 90% of the world's GDP, are either researching, piloting, or developing a CBDC. In fact, the Bahamas have

already launched theirs – the so-called Sand Dollar. And the central banks of the three major currencies of the world (US Dollar, Euro and China's Renminbi) are actively pursuing a CBDC.

China seems poised for a 2022 launch coinciding with the Beijing Winter Olympics (live pilots are ongoing with millions of users), the US Federal Reserve chairman Jerome Powell has deemed a digital Dollar a high priority project, and the European Central Bank has just started a two-year digital Euro project paving the way for a

possible 2025 launch. In our own neighborhood, for the past few years the central banks of Norway and Sweden, Norges Bank and Riksbanken respectively, have been publishing thoughtful and detailed reports contemplating the societal- and financial considerations including high-level design choices of a CBDC.

This year, Norges Bank will embark on a two-year pilot project and the Swedish Riksbank has since 2019 been carrying out an e-krona pilot which we, at TietoEVRY are actively taking part in. Denmark's central



Being digital, CBDCs inherently have the potential to be much more than just a means of payment

bank is officially averse to the idea of a CBDC at the time of writing.

CASH 2.0 – SMART MONEY

Being digital, CBDCs inherently have the potential to be much more than just a means of payment. Central banks, by way of the design of a digital currency, have the option to both consider how CBDCs are funneled into the economy, as well as their traits and features. Depending on the design choices, commercial banks, consumers, businesses, and the economy may be greatly affected. Key questions need to be addressed such as: should a CBDC be interest bearing? How are virtual "bank runs" mitigated? And what will be the impact on Monetary Policy?

Unlike today's cash which is distributed via licensed banks, central banks could also choose to distribute CBDCs by way of new intermediaries - or even straight to the public. They could also choose to make CBDCs programmable and limit individual CBDC usage to specific situations, type of goods and services, online/physical stores, domestic/international purchases, purchase size, etc.

Additionally, choices must be made on how to balance anonymity and privacy. For instance, whether it should be possible to track CBDCs with different thresholds of privacy/anonymity dependent on transaction amount (like the People's Bank of China is considering). Equally importantly, central banks need to consider if they will require all users of CBDCs to have an account with the central bank, or whether they wish to emulate today's banknotes and coins where users can share cash between themselves with little oversight. It is a choice between an account based or value (token) based CBDC.



CBDCs will undoubtedly be a partnership between central banks, governments, the financial sector as well as consumers and businesses

THE FUTURE OF COMMERCIAL BANKS

Given the many CBDC design options open to central banks, commercial banks must be proactive and engaged. I have noticed a change in attitude amongst banks and banking associations from hesitancy, a few years ago, to a much more inquisitive attitude today. Due to the systematic nature of commercial banks, the central banks are also keen to listen to the financial sector. CBDCs will undoubtedly be a partnership between central banks, governments, the financial sector as well as consumers and businesses.

WHAT ABOUT USERS?

Speaking of consumers and businesses, interestingly CBDCs are being driven by central banks, and not demanded by consumers or businesses. Even though CBDCs would be a claim on the central

bank, and thus guaranteed, users would not see an upgrade from the digital "money" they have today. If one were to ask the average consumer, most would say that the money in their bank accounts is already digital, and perfectly easy and secure to use by way of cards or mobile phones.

Central banks will need to motivate and explain a CBDC to the general public, and likely need to ensure CBDC usage, by way of both push- and pull-effects. For example: CBDCs could maybe be "pushed" into the economy, by governments mandating public payments and/or payouts for businesses and consumers alike. And perhaps a "pull" effect could be if businesses were to prefer instant, and maybe cheaper, payments in CBDCs and push by requiring CBDC payments of their suppliers as well as customers.

Deconstructing the Digital Assets revolution: What Financial Institutions can learn from the meteoric rise of Coinbase

By Saurabh Anand, Senior Analyst, Pranati Dave, Practice Director and Ronak Doshi, Partner at [Everest Group](#)

DIGITAL CURRENCIES

Digital assets have come a long way from only being Bitcoin to a complete array of increasingly used financial assets. Coinbase's striking rise has demonstrated a growing acceptance for cryptocurrency that could stick with traditional investors. Is the future for digital currency real, and what obstacles do banks and financial institutions face to compete in this growing crypto market?



Saurabh Anand



Pranati Dave



Ronak Doshi

When Coinbase became the first major cryptocurrency start-up to go public on a U.S. stock market this April, the world started giving crypto more legitimacy and the company's astronomical valuation has garnered great attention.

Along with the skyrocketing value of cryptocurrencies such as Bitcoins and Ethereum, Coinbase – the preferred platform for U.S. investors to purchase these assets – has grown

ninefold over the past year. The investment trend over the past five years suggests that cryptocurrency valuation will cross US\$24 trillion by 2027.

This rocketing rise can be attributed to increased interest by retail and institutional investors that started investing in Bitcoins and Altcoins as another option to falling interest rates across the world. Other crypto assets such as Non-Fungible Tokens

(NFT) traded nine times in the first half of 2021.

Crypto assets have experienced great growth since their early days. Some of the new types (described in Fig 1 and 2) have unique use cases and designs.

INVESTORS PAYING ATTENTION

Improved technology and better financial services have fueled a remarkable demand in digital assets,

The digital assets market is a thriving ecosystem comprising privacy coins, stablecoins, cryptocurrencies, and Central Bank Digital Currencies (CBDCs)

	Privacy coins	Stablecoins	Cryptocurrency	CBDCs
Type of asset	Designed on private and anonymous blockchain transactions to track origin and distribution of transactions, and maintain privacy of sender and receiver over network.	These are tokens backed by fiat money, commodities like precious metals, and other cryptocurrencies. They counter the volatility of cryptocurrencies by tying its value to real-world assets.	Digitalized currency created to decentralize and demarginalize medium of exchange and store monetary value. Distributed Ledger Technology (DLT) used to store coin ownership on publicly accessible database.	Central banks issued and regulated stablecoins. Equipped as central bank issued digital version of fiat currency.
How to trade	Searches address (new address for every transaction), transaction mixer, and Zk-SNARKs to validate transaction without revealing critical information.	Traded on exchange platforms and on service provider (over issuer) platforms, wherever offered.	Many exchange platforms are available to buy and sell tokens. Wallets used to store and trade the currency and the interest with various service providers for their products.	To be traded as regular cryptocurrency, but completely regulated by government and state regulators.
Investment	Service users - individuals who seek privacy. Government and regulators have a key on liquidity of the technology.	Retail use - individuals who want to use it as stable digital money. Financial institutions can develop their simple digitalized currencies. Regulators need to monitor its stability, capital, underlying asset.	Retail investors and individual and business users. Financial institutions for trading and investing in technology and finance.	Retail investors. Financial institutions. Government and national currency regulators.
Examples	Monero and Zcash hide transaction value, sender and recipient identity. Dash and Bitcoin are some other privacy coins in the market.	USDC - a token created by Circle and Coinbase that is backed by real dollars. Users can buy real dollars using USDC coins. USDC is pegged against the USD.	Bitcoin. Ethereum. Finance Coin. Dogecoin.	Bank of England created the first proposal, followed by China launching public testing of its digital RMB yuan in 2021.
Market utility	Highly speculative, unregulated, and limited trading options create limited use cases.	Less speculative, better regulated, and similar uses as cryptocurrency.	Currently speculative, unregulated, however, enjoy highest investments and trade volume.	Starts as full currency, completely regulated but still under development.

Figure 1

especially by institutional investors, over the past 18 months. Investor groups are getting involved in the market for various reasons, including:

- Retail investors – improved personal finance management, easier payment and remittance services, and increased transparency offered by Distributed Ledger Technology (DLT) through openly verifiable and immutable transaction history databases
- Institutional and High Net Worth (HNW) investors – lower operational costs, high reliability and security, faster transaction processing and almost real-time tracing of contracts and payments, and improved access to liquidity for fundraising

TECHNOLOGY FIRMS PARTNERING

As investor interest grows, several

FinTechs and BigTechs are investing in technology and infrastructure to support digital assets. Google has partnered with exchange platforms Paxful and Coinbase to add crypto-based transactions on Google Pay. This also allows users to buy Bitcoins and pay using them. Similarly, leading banking software firms such as Temenos recently partnered with specialist digital asset and blockchain infrastructure player Taurus to help banks bridge the gap between traditional and digital assets.

Early access to data will give FinTechs and BigTechs an edge to better understand investor profiles, investment willingness, and funding goals of a large pool of clients. These larger investor groups are also nimble enough to partner with smaller FinTechs and InsurTechs to provide specialty services through a common digital platform.

Digital assets also provide an alternative to traditional financing; security tokens are digital securities while NFTs offer alternative to traditional auctions

	Decentralized Finance (DeFi)	Security tokens	Non-Fungible Tokens (NFTs)	Utility tokens
Type of asset	Based on smart contracts, used to facilitate direct transactions. Aim to digitize and decentralize traditional financial products such as loans, insurance, savings, and trading.	Digitized assets that are backed by real physical or digital assets that can be traded. Used as liquid blockchain contracts for fractional ownership of underlying assets.	Tokens that identify a collection of digital art, domain names, virtual asset ownership records, and more digital assets as unique. Tokens are managed through blockchain-managed ownership.	Digitalized tokens, issued by firms through blockchains, used to provide benefits and access to their digital products/services to the investor.
How to trade	Traded on Ethereum-based decentralized platforms. Works without exchanges, intermediaries or banks, which provide financial intermediaries.	Traded on special platforms designed using smart contracts. Traditional security exchanges such as NYSE are paving the technology.	A digital certificate of ownership (not copyright) is traded. Cannot be traded with other NFTs. Traded with cryptocurrency on various platforms.	Not exchangeable with other utility tokens. Bought using cryptocurrency in abundance across globally.
Investment	Retail investors. Financial institutions. Financial service providers.	Individual investors. Institutional investors. Issuers of the securities.	Digital assets like photos, songs, collectibles, sports, and domain names creators. Collectors and traders.	Any digital products and services providers. Users of these products and services.
Examples	Compound – earn interest yield. Yieldster – DeFi – lending and holding stocks on crypto. Synthetix – hold real asset without holding a synthetic asset.	Open Finance, iStock, iStock, Nextdoor, and Lendax are active. At least 10 other platforms are under development including London Stock Exchange and the New York Security Token Exchange (NYSEX).	OpenSea – platform that auctions a collection of photos, songs, and other digital items to buy and sell using Ethereum cryptocurrency.	Fun Token Offerings (FTOs) by Reddit club, used to take part in team decision through polls, are a unique experience for fans.
Market utility	Most diverse use cases in financial services. Fast and steady growth in past few years.	Enjoy high liquidity due to fractional ownership of a real asset, making it easy for investors of any size.	Fastest growth in 2021. Utility limited to real asset digitalization.	Most unique utility, with potential to revolutionize global digital services, communication, and monetization.

Figure 2

OPPORTUNITIES FOR BANKS

Since banks would need to cut through bureaucracy, change management challenges, and garner huge financial resources, it is not likely they will develop these technologies quickly enough for the market's fast pace. However, we believe that increased participation from traditional financial institutions in managing digital assets will pave the way for digital assets in mainstream banking and payments systems as regulations improve.

Large financial institutions such as BNY Mellon recently invested in building a team of technology and business professionals to develop products and platforms that will allow customers to manage cryptocurrency alongside all their other assets. The custodian also received permission from regulatory bodies to offer crypto custodian services in February 2021.

Similarly, Singapore's DBS Bank received approval earlier this year from the Monetary Authority of Singapore (MAS) to launch the DBS Digital Exchange for tokenized assets. Global banks such as Deutsche Bank are also building services such as institutional-grade hot and cold storage with insured protection for custody services. Huge potential exists to tap into business segments such as wealth management, estate services, financial planning, and asset services in crypto markets since the current penetration is very low.

To stay ahead of the curve, banks should follow this three-pronged strategy to build, partner, and acquire digital assets skillsets in the market:

- Partner and collaborate: Traditional financial institutions will face several issues in developing in-house solutions to adopt new financial technologies, such as



Banks and financial institutions will need to make enormous investments in data and technology systems to manage the Risk and Compliance around digital assets

updating legacy systems and regularly innovating solutions offered to remain competitive in the market and keep up with global regulations. These institutions can partner with FinTechs specializing in developing and servicing such solutions at a global scale in a plug-and-play model

- Build and develop: Large financial services firms are developing capabilities and skillsets to stay ahead of the competition in the crypto asset services market. Large Banking and Financial Services (BFS) firms such as Wells Fargo have introduced cryptocurrency funds focused on high net-worth individuals. Similarly, JP Morgan has already tested its stablecoin,

JPM Coin, which has been pegged against the U.S. Dollar, and offers a solution to cross-border trade between banks and corporates over blockchain

- Acquire and invest: Financial institutions can nurture and acquire FinTechs start-ups that are aligned with the future of financial technology. They can also directly acquire solutions already developed in the market to enhance their platforms in serving their customers with the latest technologies

REGULATORY AND OTHER OBSTACLES TO OVERCOME

While its potential is promising, banks still face many challenges around regulations, disaster

management, private key recovery, insurance-backed custody, and systems for fraud prevention. The biggest roadblock for BFS firms is the lack of clarity of a regulatory framework around digital assets. The process of building a regulatory framework for digital assets will take several years and be iterative. In the interim, policies that are uncertain and not applicable to digital assets should be brought to the notice of regulators and industry bodies as they continuously evaluate policies and provide clarifications.

Banks and financial institutions also will need to make enormous investments in data and technology systems to manage the Risk and Compliance (R&C) around digital assets. Financial institutions will have to adopt a compliance-by-design approach to build platforms to manage the digital assets transactions and the associated mid- and back-office operations. This will require building new data and technology systems for R&C initiatives as no commercially off-the-shelf software in the market has matured enough to manage scaled compliance workflows and operations for digital assets.

Banks must follow a three-pronged strategy to build, partner, and acquire digital assets skillsets in the market to stay ahead of the curve



Figure 3

SUPPORTING YOUR PERFORMANCE

TRADE PROCESSOR

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PLUGIT

A technology provider that looks to form longstanding and mutually beneficial partnerships with its clients

PLUGIT is a leading financial software provider which has been building an international presence. We spoke to Yulia Tereshchenko the firm's Operations Manager to learn more about the business and its future plans.



Yulia Tereshchenko

Yulia, PLUGIT was founded in 2012 and during the past couple of years the company has grown extremely fast. What is the driving force behind such progress?

I would say it's a combination of things that contributed to such outstanding results. Starting from the rebranding we did a few years back, to growing our team globally

and revamping our product line, which was very well received by our clientele. I also believe having a shared vision, the ability to create a productive and rewarding work environment, as well as constant improvement and team effort all play an important role in our company's success journey. Our team is continuously bringing fresh perspectives and bold ideas for the benefit of our clients and the continuous growth of our company.

Please remind us about the range of products and services that PLUGIT now provides?

Plugit provides a variety of tailored services for retail brokers operating on MT4 and MT5, including custom developments, integrations, and technical support. Our flagship product YOONIT encompasses a

multi-functional trading support system composed of robust solutions and back-office tools, including IB/Affiliate portal, MAM/PAMM with trade copy functionality, Bonus Automation, Dynamic Margin modules, and CRM, all of which are manageable from a centralized interface. YOONIT caters to brokers of all levels and sizes, is scalable, highly customizable and can be configured by both brokers and their clients to deliver an optimal user experience.

In what key ways has PLUGIT been responding to the changing trends in the FX industry since the company started?

In our business it is very important to keep up to date with the latest technological and business developments, industry trends, and regulations to stay ahead of competition. We invest heavily in the financial trading technology research and development to ensure that the most advanced solutions are available to our customers. As the market need for specialized trading solutions increased, PLUGIT has expanded its services portfolio to tackle all facets of the Forex industry. We are always on the look for ways to enhance our product offerings, capturing new industry trends, setting our own, finding creative ways to solve complex tasks and creating opportunities for our

clients. PLUGIT is making significant investments to expand its product range and provide a seamless upgrade path for its customers.

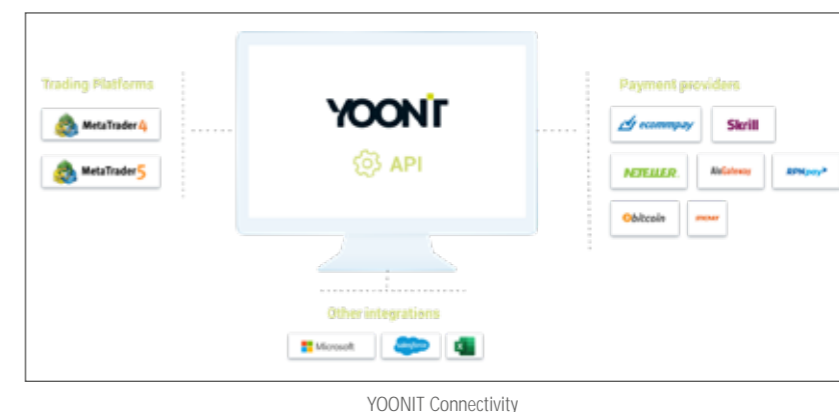
What is a top priority for PLUGIT in terms of customer service and what do clients particularly value about you as a technology provider?

PLUGIT has and will always be a customer-oriented company. We strive to drive value with everything we do, contributing to our clients' growth and success, no matter if it is a start-up or an established brokerage. We're constantly working on enhancing and improving our customer service to support our clients in every aspect, resolving any issues and queries they may have, as well as providing support in time critical situation with 24/7 availability. Our goal is to form longstanding and mutually beneficial partnerships with clients, where our customers can rely on us throughout the journey.

How does PLUGIT differentiate itself from many other FX technology providers?

We work in a very fast paced industry where competition is fierce between technology providers, with increasing number of new companies entering the space. Despite these factors, we managed to navigate the industry successfully and find ways to set ourselves apart from the competition.

We are committed to developing solutions that are innovative, cost-efficient, and offer exceptional user experience to our clients, all while fulfilling both their business needs and their customers' expectations. Transparency is something that we like to establish in the beginning of every potential collaboration, and apart from the competitive pricing



YOONIT Connectivity

of our solutions, we also offer a clear cost structure with no hidden fees. We created a solution that is stable, functional, and reliable, offering the most demanded features while keeping the costs at a more affordable level.

Another stand-out aspect is the centralised nature of our offerings, which gives brokers the ability to have multiple tools under one dashboard, with the option to choose the modules that best fit their business needs, as opposed to having to select between multiple separate plugins from different providers or restrictive all-in-one solutions.

You recently launched YOONIT v2. How has the market responded to that and what makes it such a powerful trading support system?

The response we have gotten so far is great, just as was with the launch of the very first version. The upgraded version came with major improvements to the technology infrastructure, new interface design, more modules, highly improved CRM functionality, added languages, and many other feature upgrades, granting Brokers more access and flexibility to finetune user permissions and rights, minimizing the dependency on the provider.

The system is built on and incorporates the latest technology developments, ensuring utmost

uptime, secure infrastructure, continuity, dedicated resource allocation, and a quick market access. There is the added flexibility that allows brokers to customize YOONIT in accordance with their own unique needs. Notably, brokers can connect multiple MT4 and MT5 servers and White Labels under one dashboard and have the ability to manage all elements that make up their business from one place instantly.

Looking ahead where will you be looking to grow the business further in terms of geographical footprint and even wider product offering?

We will continue to strengthen our position and expand our relations in the Europe, Middle East, and Asia regions. More specifically, we will focus on strategically growing in the MENA region and expanding our presence in South-East Asia. When it comes to our products, we will keep developing and adding new tools and solutions as additional modules to our existing YOONIT system.

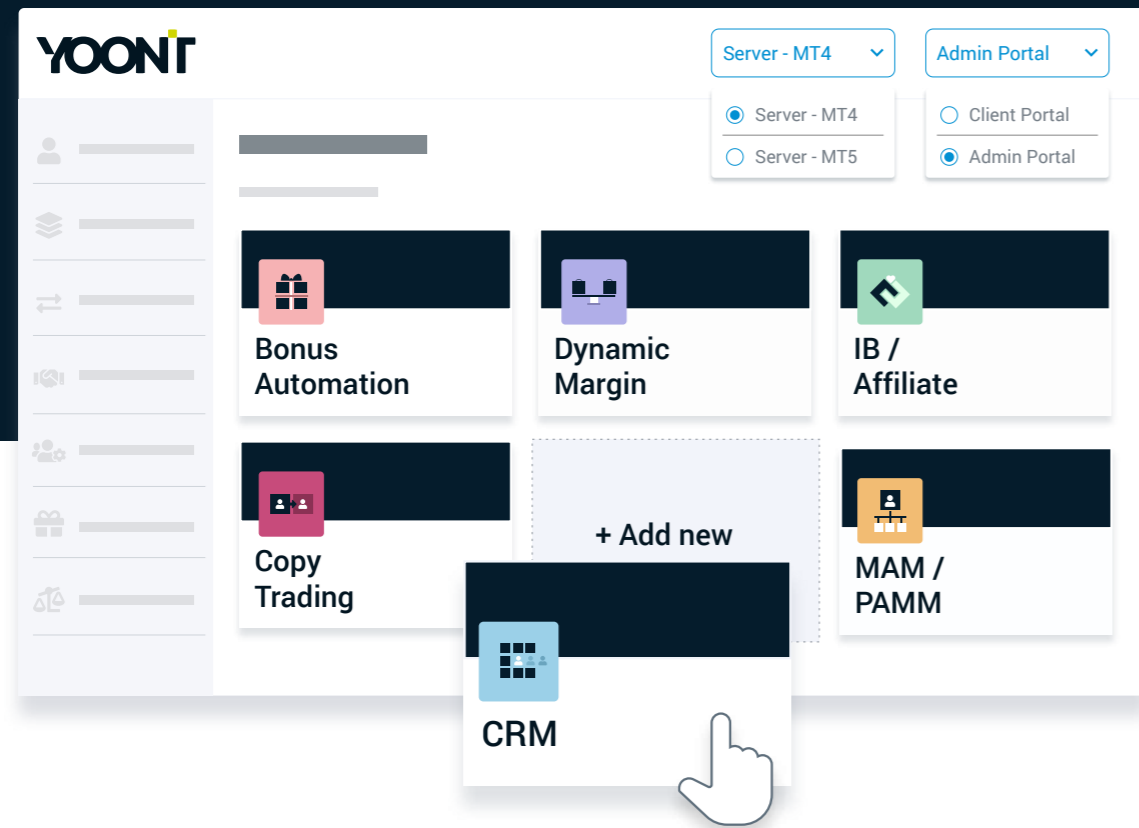
We never stop on what we have achieved, as there is always room for more, and I believe that our frequent releases of new features reflect that. The capabilities of the system are countless. Something we are excited about to be releasing soon and have been working on for a while is our anticipated YOONIT mobile app that will allow our clients to manage their business on the go.



YOONIT Dashboard



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Disaster Recovery strategies for brokerages and other trading firms

By Evgeny Sorokin SVP of Software Engineering at Devexperts.



“If you fail to plan, you’re planning to fail,” so goes the famous quote by Benjamin Franklin that was later paraphrased by Winston Churchill. Far from just being a call to general preparedness, it’s also an appeal to protect the progress you’ve already made. To keep what you’ve built secure. The idea of insuring against unexpected events is now almost universal, but in our increasingly interconnected world, disaster recovery strategies for certain classes of businesses, particularly small-to-medium financial services firms, is still sadly lacking.

So, what if you turn up for work tomorrow to find your headquarters a twisted pile of rubble? This is probably

the worst case scenario (barring alien invasion or thermonuclear fallout), but it’s also where disaster recovery planning begins. Other possible calamities include outages, cyberattacks, internal system failures due to hardware or software failures, and even de-platforming from app stores for companies that are overly reliant on the Apple and Android ecosystems.

WHAT IS DISASTER RECOVERY?

The idea is to have a disaster recovery plan with well defined protocols that allow your organisation to bounce back as quickly as possible, no matter how severe the hit. Every minute a company’s systems are down it haemorrhages money. Every second clients can’t access their accounts, or fail to get meaningful answers and solutions, it suffers irreparable reputation damage.

In the above worst case, we assumed the destruction of property as well as equipment and records. Further down the list we had outages to power or network services, which can also cripple a company

without affecting it physically. For all unforeseen events that lead to a business not being able to serve its clients online, a number of general recovery strategies exist that apply broadly to many types of business. They



Disaster Recovery strategies for brokerages and other trading firms

involve routine data back-up to a remote storage as well as the remote hosting of a duplicate website that can be switched to in the event of an emergency.

DISASTER RECOVERY FOR FINANCIAL FIRMS

At Devexperts, our focus is specifically on financial services firms, which are a unique class of business where the stakes are naturally higher. Firms involved in financial markets not only have to contend with all the hosting and backup issues that affect other types of businesses with an online footprint, but they have a host of much stricter connectivity requirements to both clients and liquidity providers. Furthermore, the very nature of financial markets makes any downtime extremely problematic. Consider clients with open positions that can't be closed as the market turns against them, pending orders that can't be modified, or trading algorithms that can't be shut down.

AVOIDING SINGLE POINT OF FAILURE: BACKUP SITE

To protect against the absolute worst case scenario where a company's physical location comes under threat, a dedicated standby system running in parallel to the primary one can be deployed at a remote location. This standby system is also running broker's applications that work in a read-only mode and do not process client requests. It becomes active in the event of an emergency. Requests are routed to this standby system, which is up-to-date with the current state of the primary system up until the point it ran into trouble.

This allows for business continuity in the event of a disaster affecting the physical location of the primary system, or for the primary system to be taken offline in the event of maintenance, or a hardware or software failure for troubleshooting and repair. The systems are kept up to date in a bi-directional manner, so

when the primary system is active the standby is updated, and when the standby system is active, the primary one is updated with the new up-to-date state of the standby system.

REDUNDANCY OF PROVIDERS

Many financial services firms, especially smaller ones, could not afford complete system redundancy in the manner outlined above. This leaves them vulnerable to severe disruptions such as those caused by natural disasters or extreme weather conditions. However, the cost of implementing and maintaining such systems can be prohibitive as it essentially involves completely duplicating the trading infrastructure at a second location.

In order to mitigate the risk of an LP not accepting the trades, or the incoming feed serving stale quotes, brokers can add specific solutions to their setup. They can work with multiple liquidity providers via an aggregator, or use professional data vendors such as dxFeed, allowing them to continue serving price data even in the event of a problem with one or more of their feeds. This, of course, only addresses issues affecting LPs and fails to address internal hardware and software issues, network problems, DDOS attacks or other cybersecurity threats. The above should be regarded as the bare minimum in terms of disaster readiness.

FALLBACK TRADING APPS

An underestimated but highly-effective middle ground between full off-site redundancy and no fail-safes at all, is the creation of a basic platform to be used only in the case of emergencies. The solution is not intended to replace existing brokerage systems in the event of failure, but rather to provide a temporary means for clients to



A chatbot like Devexa can provide access to manage positions in case of downtime

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Disaster Recovery strategies for brokerages and other trading firms



Devexa is also plugged directly into the trading servers which means no human-related bottlenecks in cancelling trades and pending orders in the event that systems are down or under attack.

access their accounts so that they can manage positions, or to provide staff members with the ability to do so on their behalf.

It prevents brokerage businesses from grinding to a halt when a failure occurs. More importantly, it allows clients to be able to do something

while they await the resumption of normal service. Anyone who's had the experience of their trading venue going down will tell you what a stressful time this can be, particularly when the failure occurs at moments of high volatility. Traders will punish brokers that let them down in this manner by taking their custom

elsewhere and reward reliable ones or those with proven fail-safes.

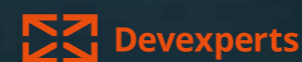
At Devexperts we have developed several such fallback systems in the past, and they have provided notable advantages to the companies that have deployed them. The briefs have usually called for the creation of stripped-down trading interfaces that allow clients to login with their existing credentials. The software integrates with the most recent backup of the production database and allows clients to view all their trading activity such as open positions, pending orders or social trading preferences.

These fallback platforms are not usually intended for full trading, as such, but just as a means for clients to close open trades or pending orders until the main platform comes back online. During 2020 alone, household name brokers suffered long lasting outages that took their systems down for hours..

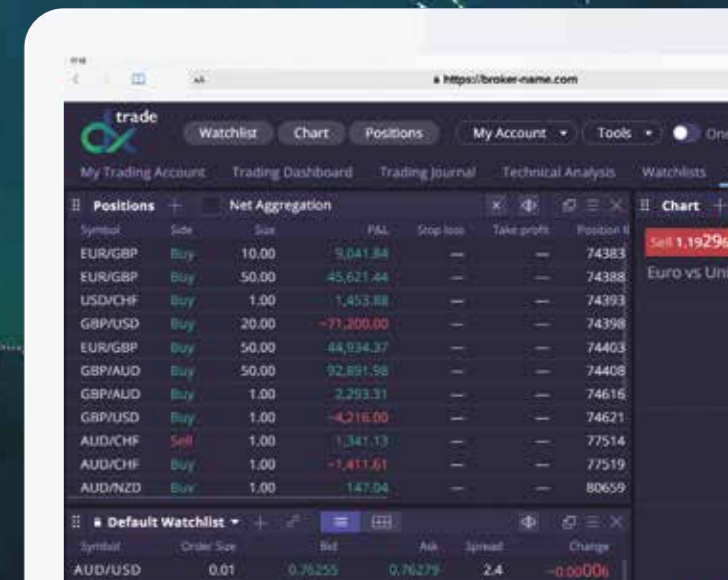
Firms involved in financial markets not only have to contend with hosting and backup issues but they have a host of much stricter connectivity requirements to both clients and liquidity providers



Retain existing clients: rewards & in-platform benefits



DXtrade is a SaaS trading platform for FX & CFD brokers ready to be deployed in a very short time. Learn more on dx.trade



Disaster Recovery strategies for brokerages and other trading firms



The costs of not having reliable fallbacks in place and disaster recovery protocols is becoming too great to bear

Solutions such as this can also be used as backups in the case of de-platforming, i.e. suspending broker's app from the stores, as they allow clients to access an alternate web-based platform, until the decision to have the primary application removed is appealed.

THINK OUTSIDE OF THE BOX

Our Devexa smart assistant allowed brokers to open a further line of communication with their clients that's both efficient and scalable. The same benefits it confers to busy customer support teams inundated with calls, emails and live chats, can also be a leverage in a disaster recovery scenario. For any disruption that does not directly affect a company's trading servers, Devexa can be used as an alternative method for sending trading instructions. Much like the practice

of calling your trades in directly via phone, Devexa allows positions and pending orders to be placed, modified or cancelled simply by texting or voice messaging.

Removing human support from this process brings scalability. The difference with trading over the phone is that Devexa is plugged directly into the trading servers, so she can handle far more than one instruction at a time. This means no human-related bottlenecks in cancelling trades and pending orders in the event that web terminals, web servers, or data centres are down or under attack. The same goes for issues with desktop platforms, or in the event that a mobile app removed from iOS or Android app stores. The key here is to have workarounds for every conceivable type of disaster

that inspire confidence in your clients.

FINAL THOUGHTS

Striving to stay competitive, brokers are trying to move fast but break things: marketing can come before product or business development, budgets can be overstretched in the interests of causing a splash, and adequate headroom is rarely in place even when it comes to peak server loads, let alone disaster recovery.

As the space grows evermore competitive, the cost of not having reliable fallbacks in place and disaster recovery protocols is becoming too great to bear. Especially as cybercrime becomes a greater part of our daily lives and even the physical world around us doesn't seem as predictable as it once was.



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