



Data-As-A-Service: Delivered live and seamlessly into your client workflows



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Providers of data-driven services (E.g. Prices, IOIs, Axes, Auctions, Reference Data) are telling us that they find it increasingly challenging to integrate such offerings into their client's workflows. Dropping yet another app onto a client's desktop is meeting with ever greater resistance as available screen space is squeezed, while file-based data sharing is no longer efficient or timely. Clients are increasingly opting for data services which can be delivered into their existing workflow tools of choice so they can seamlessly integrate and automate. This may be into Excel, APIs, or increasingly into chat environments like Symphony or Microsoft Teams, with demand driven by new working practices and a greater understanding of the power of chat-based workflows. A new breed of FinTechs sit at the forefront of this new way of delivering Data-as-a-Service, through powerful fast-to-market solutions built on low/no code modules and add-ins, integrating seamlessly into your client's existing workflow tools and removing barriers to client installation.

For brokers, banks, and providers of data-driven services, effectively integrating your offering into your clients' ever-evolving workflow environment remains one of the greatest challenges but also one of the biggest opportunities.

In this Financial Markets Insights report from The Realization Group, Jannah Patchay explores the burden of the last mile of delivery, and what can be done to greatly improve the client experience, with our panel of experts – **James Tromans** of Google, **Luke Ryan** of Morningstar, **Ovie Koloko** of Parameta Solutions, **Bernie Thurston** of Ultumus and **Matthew Cheung** of ipushpull.



We live in an increasingly data-driven world. Data is now a foundational element of all parts of our lives: government, healthcare, education, social media, the way we shop and the way we consume. It drives decision-making, for policymakers, businesses and individuals. And in no industry is this more apparent than financial services, in which data drives decision-making in real-time. In this environment, the decisions made on the basis of time-critical data affect not only the firm or individual executing a trade, but also the wider financial markets and, in some instances, entire economies. Data has become both critical and integral to the effective, efficient functioning of our financial markets.

Information has always been important to financial markets, and data is now their fuel, the oxygen to their fire. In recent years, the introduction of regulatory requirements for the publication of pre- and post-trade pricing and execution data by a wide range of trading firms has led to a proliferation of data available for asset classes that have historically only traded over the counter (OTC). Whilst in the past, only exchanges and trading venues published data, regulation now demands this of every bank and investment firm. Both single-dealer platforms, once the preserve of only the largest banks, and multi-dealer platforms, have risen in popularity as greater data availability for OTC instruments has enabled more automation of pricing and execution.

An ecosystem of data providers and data service providers has evolved, both driving and supporting our increasingly data-driven financial markets. It is also becoming increasingly apparent to all players in this space that they are not just providing services to their own clients. Instead, they are part of a longer value chain, in which the services that they offer their clients in turn, gives them the ability to deliver better services onwards to their own clients. Improving data quality, accessibility and particularly that all-important “last mile” of delivery can therefore have knock-on impacts across the entire data value chain, as consumers along the chain are better able to innovate and to deliver improved services onwards.

Data-as-a-Service in a data-centric world

Data-as-a-Service is a key trend in a data-centric world, allowing clients to draw down on as much or as little as they need to consume, and to scale in capacity and breadth of data consumption as their business grows and changes. “A more data-centric view of the world, or a data mesh, to borrow a phrase, in which you have domain experts threading the needle from the data creation all the way to data consumption, is a very, very valuable way of actually realising true data value from a business perspective”, says **James Tromans**, a Technical Director in the Office of the CTO at Google Cloud. Tromans goes on to describe the role of cloud providers, such as Google Cloud, as supporting the frameworks, governance and security practices “to make it easy for firms to access the data they need and to share the data they have with their clients, as a service, either as a product in its own right or composed together with other data products.” By facilitating this type of data ecosystem, cloud providers enable their clients to realise more of the network effects and benefits of the cloud, and to make much better use of both their own data and that of others.



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The data that is consumed and used by trading firms must meet a number of criteria. Obviously, it must be of a high quality, and in the appropriate format for the task at hand. This does not necessarily mean however that it must be highly processed; on the contrary, while a pricing engine might require highly structured, standardised data, a quant might want the data as raw and close to its natural state as possible, so that they can apply their own processing methodologies to it. It must be delivered in a timely manner – in order to be used for mission-critical decision making, data has to be time-critical itself.

Data that is used for pricing, decision-making and execution must be relayed to the place where it is needed in the timescale appropriate for a given asset class. Inputs to some highly structured or bespoke trades might have a lifespan of hours, whilst for more liquid asset classes such as FX, equities and fixed income, it might lose value within seconds or even milliseconds. Historically, there is no time for this type of data to be taken in by a firm in one format, then undergo multiple transformations to the formats and standards required by different users and applications across the organisation. Decisions need to be made, fast, and data must be in the place where it is needed and in the format in which it is needed, as fast as possible.

Data integration and the “last-mile” challenge

For brokers, banks, and other providers of data-driven services, effectively integrating their offering into their clients’ ever-evolving workflow environment remains one of the greatest challenges but also one of the biggest opportunities. It is a particular challenge for brokers and banks as they are typically not set up with the same capabilities as market data vendors, particularly in these cost-constrained times. This “last mile” of delivery – the integration of data into the workflows of the clients who consume it – is often the last thing on the minds of data producers, but amongst the first on the mind of data consumers. From a client’s perspective, it can be the key differentiator, the feature that drives them to choose one execution or data service provider above another.

Providers of data driven services such as pricing, indications of interest, requests for quote, axes, matching, auctions and reference data, are finding that the new challenge they face is how to integrate their offerings into their clients’ workflows in real-time. It is no longer sufficient to provide data out via an API, a spreadsheet or a CSV file. Clients now want data delivered to them in the format, structure and mechanism by which they need to consume it – which can vary across different parts of the organisation, different applications and different users. Dropping yet another app onto a client’s desktop is meeting with ever-greater resistance, as data sources multiply and available screen space is squeezed – a trend not particularly helped by the shift to remote working, in which the number of monitors available in a home office is seriously constrained!). File-based data sharing is no longer efficient or live enough and connecting to widely used FIX APIs is often cost prohibitive for consumers of data.

Solving for the “last-mile”

Clients are increasingly opting for data services which can be delivered into their existing workflow tools of choice so that they can seamlessly integrate and automate. This may involve integrating into Excel, REST APIs, or into chat environments such as Symphony, Microsoft Teams or Slack, with demand driven by new working practices. Data needs to be transformed into the format that the client wants, and which enables firms seeking to leverage the power of data, in conjunction with frontier technologies such as artificial intelligence and machine learning (AI / ML) to automate their interactions with their own clients and with the market. There is now a greater understanding of the power of chat-based workflows, and the ways in which these can help to augment time and resource-constrained Sales and Trading teams. Standardisation of messaging, structured objects containing metadata and real-time data transformation are key enablers of turning unstructured chat into structured real-time workflow.

A new breed of FinTechs sit at the forefront of this new way of delivering Data-as-a-Service, through powerful fast-to-market solutions built on low/no code modules and add-ins, integrating seamlessly into their clients (and the clients of the clients') existing workflow tools and removing barriers to client on-boarding and integration. ipushpull, for example, is a real-time data sharing platform with a set of add-ins, integrations and workflow tools that enables data providers to simplify and automate their data-driven workflows, freeing them up from the "last mile" of delivery to focus on their core value propositions. ipushpull directly connects data sources with existing applications such as Excel, chat clients (e.g. Symphony), databases and APIs to deliver real-time interoperability between incoming data and a clients' applications and user base.

The data vendor's perspective

It's not only data manufacturers and providers who can benefit from greater flexibility in data delivery and integration. For banks, brokers and data service providers, data must first be consumed and integrated within their own organisations before it can be used by applications and users to produce data for onwards publication to their clients. The market data team within Morningstar is responsible for the collection and normalisation of exchange content and third-party money market content, and then making this normalised data available onwards to clients via five well-established data products. Each data product is intended for a specific purpose and has a set delivery method and format for data publication. For example, there's a TCP-based traditional market data product that pushes streaming feed data out to clients, a Web API product with a JSON interface via which clients can interrogate a data cache and a database of historical market data, and a cloud-based tick-by-tick database which can be accessed via API. Morningstar's clients are very much a part of an onwards data value chain, with many being retail brokers and data vendors themselves, who repackage and sell Morningstar's data onwards in the form of their own data products.

For Morningstar, Market Data is the ingestion and integration of data from external sources – whether exchanges or other third parties – into their own environment, so that they can produce their own data services. "The biggest challenge for us, as a vendor, is not so much about how we sell our data, because we're an established provider normalising that across our products. Instead, it's how do we collect data from well over 260 sources, without having 260 different data collection mechanisms and 260 different versions of code? Can we have one application that can go to all sources, be configurable, normalise the data, transform it and load it into our systems? We're looking for a solution that can enable us to streamline our processes, rather than having lots of different applications to maintain across lots of different sources", says

Luke Ryan, Market Data Product Manager at Morningstar.



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For Morningstar, a solution such as ipushpull opens up opportunities to deliver greater value to clients by removing the barriers to accessing more data sources. Whilst in the past, they may have been constrained by the maintenance overhead of connecting to each new data source, they can now scale to access as many data sources as they or their clients might desire. They can focus on their core value proposition – developing data products and solutions to better serve their clients' needs. Removing barriers to data access also enables them to focus more resource on product innovation and expanding their market data business to different client segments.

A brave new world for OTC data

Ovie Koloko is the Global Head of Product Management for Parameta Solutions, part of the TP-ICAP group of companies. Ovie's team is responsible for devising the propositions that comprise Parameta Solutions's data-led solution suite, managing and owning the product strategy, executing and building those propositions alongside the development teams, and facilitating and assisting the sales team in their interactions with existing and potential clients. Parameta Solution's core data relates to its "scarce and independent OTC derivative market pricing" – data which is derived either directly from the OTC execution venues operated by TP-ICAP, or data that has been analytically created by the firm itself for specific purposes. As one of the largest OTC derivatives venues and inter-dealer brokers, TP-ICAP Group's goal is to mirror the firm's execution capabilities with its data and content production. This includes OTC indicative or transactional OTC derivative data across a range of asset classes, from FX to interest rate options, futures and other derivatives. Additionally, the firm is moving into the provision of benchmarks and indices and has recently launched an evaluated pricing service for bonds. Strategically, Ovie's team is also looking at ways in which Parameta Solutions can combine its proprietary data, client data and analytics, to be able to offer other types of analytics-led services and solutions to customers. They are exploring opportunities for clients to potentially introduce their own content to Parameta Solutions and to then transform that data to create new offerings for end-clients.

It's clear that Parameta Solutions is sitting at the very heart of the data-driven financial markets paradigm. There's a recognition within the firm that "last-mile" delivery is core to enabling clients to access and action Parameta Solution's time-critical OTC data, and to gain results more quickly, and that FinTechs that can augment Parameta Solution's offerings by providing that "last-mile" boost into the clients' organisation have a key role to play in their data ecosystem. "We work with large, medium and small-sized corporate treasurers who will be using our information in order to manage their own asset and liability outlook, but we also work with the world's most sophisticated banks and asset managers, whether that be a hedge fund or a traditional institutional investor. All of these customers act as intermediaries as well, servicing some downstream customers somewhere else. We recognise that our data and content are used not only to understand when they should trade or what to trade, or to manage risk and regulatory obligations, but also across a wider lifecycle. If we can work with technology providers or provide enhanced technology solutions ourselves, which improve and enhance and make that process smoother, we will ultimately benefit both our direct customer and their downstream customers as well", says Ovie.



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Meeting the needs of a still-developing market

Bernie Thurston is Founder and CEO of Ultumus, a firm specialising in ETF and Index data, which captures, normalises, enriches and distributes global ETF and index composition data to a range of both buy-side and sell-side customers. Ultumus was established to address a range of data quality and consistency issues associated with the still-nascent and evolving ETF space. The firm has taken an active lead in finding solutions to these issues, for example in developing a data model specifically designed for ETFs, which has since been adopted by several large institutions as their own internal ETF data model. Ultumus’ business model focusses on sourcing data, using it within their own models, transforming it, and ultimately producing highly standardised, consistent data outputs as the end product. Collation presents obvious challenges in itself, with data taken in via FTP, email and other sources.

To simplify matters on the data delivery side, the firm has now settled on JSON as its delivery mechanism. “The bank wants to take in the JSON, as it’s ideal for pulling data into big databases, risk systems, trading systems etc. However, at the end of the day, the traders still want to play about with data in Excel, to model and change things outside of the main systems. That’s where the disconnect between enterprise data delivery and end user requirements arises. We provide Data-as-a-Service, but aimed at the enterprise, and a solution such as ipushpull gives us the capability to provide the data functionality in a way that meets the needs of traders as well, but within a licensed and permissioned structure”, explains Bernie. From his perspective, it also opens opportunities across the data value chain: “The next stage is, how do we make our data available over chat tools like Symphony, in response to our clients’ queries and also so that our clients are able to send it on to their clients via Symphony as well?”.



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Bringing it all together

In the data-driven financial markets of today, we have seen that availability of and access to data on its own is only part of the challenge. “That “last mile” of data delivery – enabling data to be efficiently, effectively and most importantly, consumed in real-time by the applications and users across an organisation when they need it – can be the competitive differentiator for a data service provider. When developing their services, it can break down the barriers to accessing new external data sources. When providing those services to clients, it can enable data to be delivered in ways that further enhance the data value chain, opening up further opportunities for innovation along the chain”, says **Matthew Cheung**, CEO of ipushpull. For data service providers, the trick is getting the “last-mile” right, finding creative and innovative ways to deliver data directly into the customer organisation where it’s needed the most, whilst retaining focus on their own core value propositions.



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Financial Markets Insights from The Realization Group, is a series of interviews with thought leaders in financial and capital markets. The purpose of the series is to provide exclusive insights into industry developments, through in-depth conversations with C-level executives and key experts from banks, exchanges, vendors and other firms within the financial markets ecosystem. For more information, please visit www.financialmarketsinsights.com

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