

# DERIVING VALUE FROM MANAGED FIX SERVICES BI ANALYTICS

Vendors Must Transition their Offerings to Include Business Intelligence Analytics to Remain Relevant





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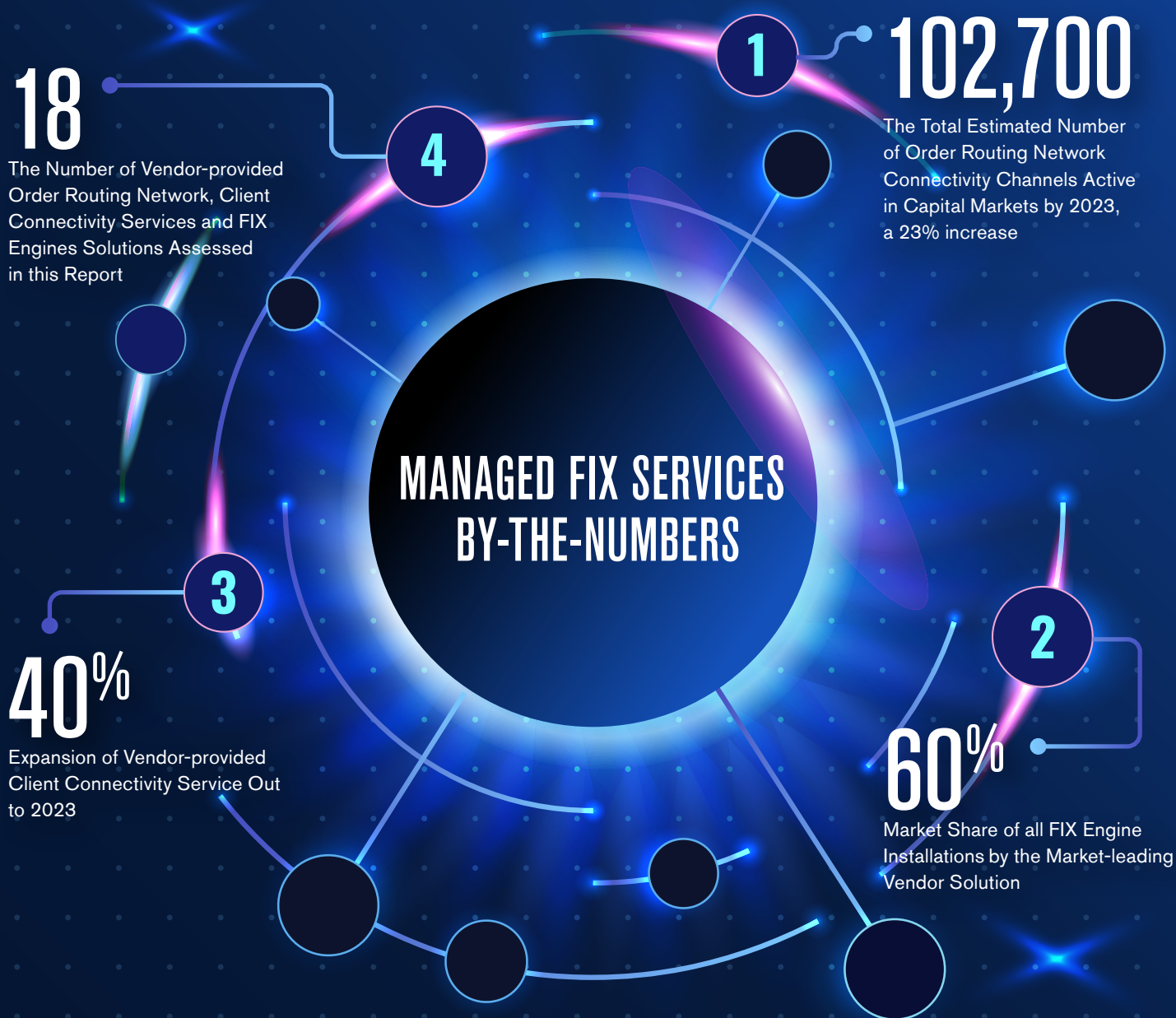
# Executive Summary

- When assessing front-office technology and deployment for client connectivity, Tier I to Tier III brokers are challenged to reduce the total spend on both in-house built solutions and on vendor-provided connectivity solutions. In working to rationalize the spend on vendor-provided connectivity solutions within the in-house built technology stack, brokers can either limit or reduce the outright number of vendor companies that they contract with, or they can work to reduce the spend with vendors whose solutions are essential and / or embedded within an otherwise monolithic architecture. Both options present an array of information technology and operations organizational challenges and often raise questions linked to the breadth and depth of the in-house platform, the cost of compliance and its future-state capabilities.
- However, in the client connectivity space, specifically, a long-established 'third way' is available in the form of vendor-provided managed FIX services. This presents brokers with an attractive alternative to the traditional rigors of the buy versus build decision-making process. Managed FIX connectivity services, which consist of order routing networks (ORNs), client connectivity services (CCS) and FIX engines software, have steadily grown in popularity with brokers over the last five years. Brokers are enticed by managed FIX providers' advanced technology and specialized resources with the added benefit of being able to reduce the broker's total cost of ownership (TCO).
- GreySpark Partners believes that vendor-provided managed FIX services are now evolving into robust connectivity ecosystems that provide brokers with rich insights into the trading behavior of their clients. As such, this report examines how the competitive landscape for managed FIX services has evolved to provide front-office personnel with insights into vast reserves of quantitative client behavioral data embedded within FIX message logs, thus optimizing the client / broker relationship through:
  - the identification of new revenue streams;
  - assessments of client profitability; and
  - the reduction of connectivity costs.
- To support this analysis, GreySpark assessed the ORNs, CCS and FIX engines vendor competitive landscapes across **18 offerings** competing for broker market share in 2019, including in-house and open source builds. This analysis was undertaken in an effort to assess the extent to which the solutions in each respective bracket effectively differentiate from one another based on criteria relevant to front-office buyers or users seeking a managed services overlay. **The competitive differentiation factors for the assessed solutions in each space included:**
  - **ORNs** – Channel count, reliability and service quality;
  - **CCS** – Customization / flexibility, scalability, reliability, value-add BI tools, innovation thinking, service quality, the number and nature of their clients, and total cost of ownership; and
  - **FIX Engines** – Reliability, depth of functionality offered, recoverability of the platform, the quality of management tools, multi-asset class support and the number of instances of the software currently live in the marketplace.

# DERIVING VALUE FROM MANAGED FIX SERVICES BI ANALYTICS

## VENDORS MUST TRANSITION THEIR OFFERINGS TO INCLUDE BUSINESS INTELLIGENCE ANALYTICS TO REMAIN RELEVANT

Tier I to Tier III broker front-office operations are challenged to cut costs on both in-house built and vendor-provided connectivity, while simultaneously maintaining a consistent level of client services. However, in the connectivity space, specifically, vendor-provided managed FIX services provide brokers with an attractive alternative in buy vs. build, costs decision-making. GreySpark Partners believes that vendor-provided managed FIX services are now evolving into robust connectivity ecosystems, and that the competitiveness of the offerings available in the marketplace is increasingly defined by the ability of providers to supply their customers with business intelligence tools designed to optimize the broker / client relationship.



This report assesses the order routing network, client connectivity services and FIX engines vendor competitive landscape in 2019 in an effort to clarify the extent to which the solutions in each respective bracket differentiate from one another based on criteria relevant to front-office broker buyers or users seeking a managed services overlay.

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# 1. Assessing the Competitive Landscape for Managed FIX Services

Since the messaging standard was established in 1992, FIX coverage within both the buy-side and sell-side expanded rapidly, and it is now used to facilitate trading of all major asset classes, providing pre-trade, trade and post-trade messaging. From 2019 to 2023, GreySpark Partners expects that Tier I to Tier III brokers will adopt the standard across all asset classes and components of the trade lifecycle.

In light of the current wide-spread and expanding adoption of the FIX messaging standard as the de facto 'language' of the capital markets, effective sell-side FIX connectivity requires three distinct, yet interlocking, elements (see [Figure 1](#)):

- **FIX engines** are a piece of software that allows the establishment and management of FIX sessions. It facilitates bi-directional communication between financial institutions using the standardized FIX protocol format, allowing for customization of the protocol if necessary, as well as allowing for interoperability with non-FIX systems through the use of adapters and middleware.
- Access to **ORNs** that act as the pipes through which FIX messages travel between counterparties.
- **CCS** represent the normalization layer and the client onboarding service between ORNs and internal systems within a sell-side, ensuring the appropriate routing of FIX messages to and from counterparties.

Over time, vendors built comprehensive Managed FIX platforms that contain all parts of these services, effectively delivering FIX-as-a-Service. As Tier I and Tier II brokers increasingly shift from in-house built tech solutions to vendor-provided technology, understanding the key criteria for the assessment of competing offerings becomes ever more important. Banks using vendor solutions for all three elements further benefit from understanding the landscape for managed FIX services, wherein a single vendor takes on the provision and management of all three FIX connectivity-related technology components as a vertically-integrated service.

The competitive analysis of 18 vendor-provided ORN, CCS and FIX engines offerings in this chapter includes assessments of solutions offered by:

- Bloomberg;
- Fidessa;
- FIS SunGard;
- Instinet;
- Itiviti;
- SS&C;
- Thomson Reuters;
- TNS; as well as
- Broker in-house builds and open source offerings such as QuickFIX.

## 1.1 The Order Routing Network Vendor Competitive Landscape

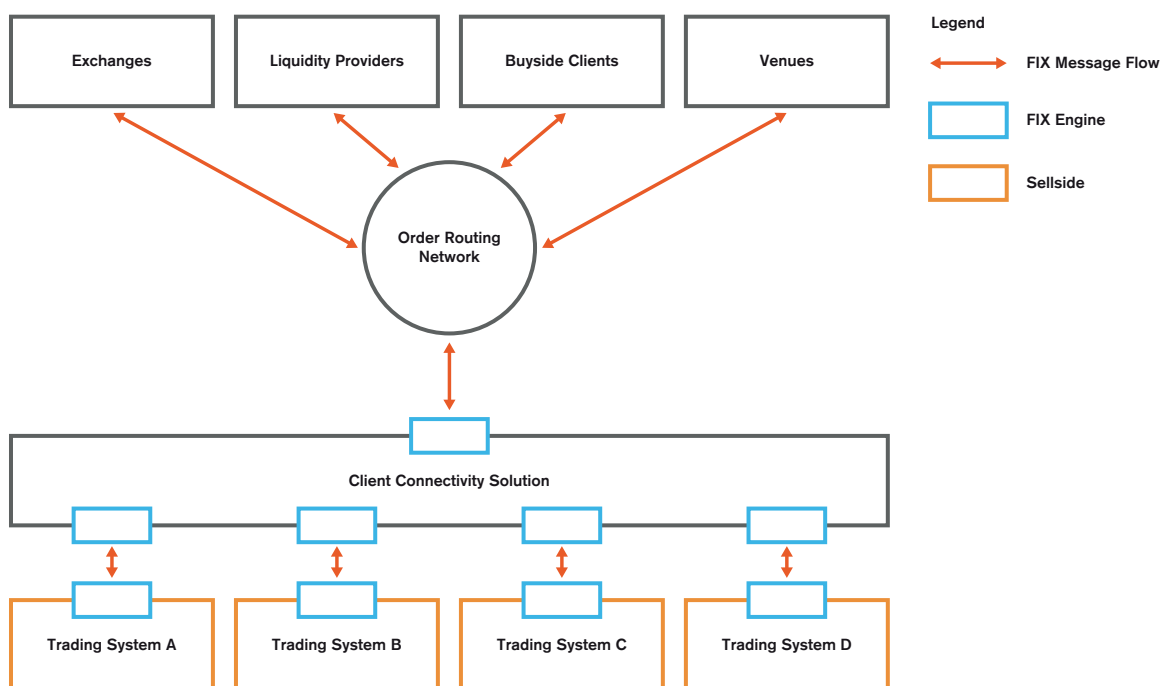
For many banks, ORNs are a first step in the shift of in-house FIX connectivity services to using vendor-provided solutions. Brokers realized that maintaining a costly array of point-to-point connections with their clients was not the most effective way to connect. These point-to-point circuits had long provisioning periods and longer onboarding timeframes. Although brokers require access to all ORNs, they tend to concentrate client connectivity **based on**:

- the characteristics of their client base or counterparties on a regional and global basis;
- the range of asset classes and corresponding instrument types that they wish to trade through the network and the manner in which they wish those orders or trades to be routed on a case-by-case or client-by-client basis;
- the onboarding time for new client connections; and, ultimately,
- the total cost of ownership (TCO) associated with the selected network type.

## 1.1 / THE ORDER-ROUTING NETWORK VENDOR COMPETITIVE LANDSCAPE

**Figure 1: FIX Connectivity Services Technology Stack**

Source: GreySpark analysis



The trade-offs associated with these key decision-making criteria are present even from the initial assessment of the technological infrastructure design of any connectivity solution. **For example:**

- **Leased Lines Connections** – Are costly on a per line basis from the outset, time-consuming to install and unwieldy from a data center management perspective or from a scalability perspective in terms of progressively physically connecting to an ever-greater number of venues, clients or counterparties over time.
- **Internet-based Connections** – Are cheap to deploy, but generate opportunity cost if the reliability of the connection and control of the message routing are insufficient.
- **Point-to-Point VPN Connections** – Are straightforward to scale in terms of adding new connections but also suffer from reliability issues and opportunity cost generation linked to the potential loss of physical connection.

In 2019, vendor-managed **hub-and-spoke FIX ORNs** are commonly understood as the most appropriate connectivity solution for all but a small share of market participants, offering brokers and their clients the most cost-effective means of connecting to many counterparties or execution venues with a minimum of technology management required. **GreySpark's market modeling confirms this trend:** the total number of connectivity channels in capital markets is expected to grow from an estimated 83,400 in 2018 to 102,700 by 2023, or by 23% over the five-year period. The growth of managed FIX services ORN channels in the same period will be even greater at above 30%.

## 1.1 / THE ORDER-ROUTING NETWORK VENDOR COMPETITIVE LANDSCAPE

Specifically, two brokerage industry trends are expected to influence this rate of ORN channel growth:

1. The expansion of low-touch trading, and therefore FIX connectivity, in non-equities asset classes.
2. The adoption of open standards for the automation of even the most manual post-trade workflows such as allocations and confirmations.

GreySpark assesses eight vendor-provided and **OEMS-neutral** ORNs of relevance in 2019 based on the following criteria:

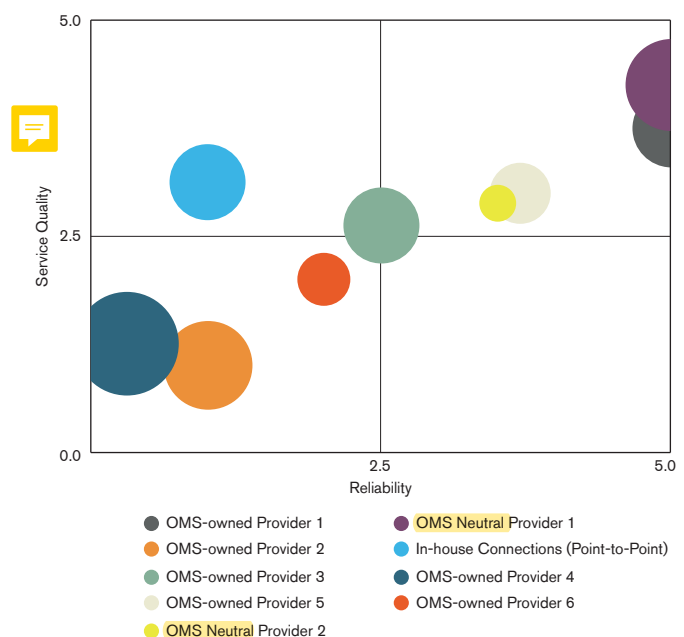
- The number of channels available through the ORN;
- ORN reliability; and
- Service quality, **itself composed of four sub-categories**:
  - Client onboarding;
  - Change management;
  - Quality of support interactions between users and vendor; and
  - Depth of expertise on the part of the vendor related to both the product and the larger market.

The results of GreySpark's ORN vendor assessment are depicted in **Figure 2**, which also includes an assessment of in-house built, point-to-point ORNs as they were historically prevalent among leading sellside institutions and remain in place to a limited degree and commanded approximately 13% of the total order routing market share in 2018. While such in-house systems vary significantly from bank to bank, overall they deliver a high degree of service quality, which is provided by in-house technology service desks around the clock, but they are less reliable than vendor-provided solutions due to their fragile infrastructure architecture and legacy technology.

In 2019, ORN offerings remain differentiated, with a number of market leaders distinguished by the reliability of their networks. The leading vendors take over 40% of vendors' total market share between them, divided almost evenly between OMS neutral and OMS-owned ORNs. It is the leading vendors that are likely to be the beneficiaries of a reduction of in-house point-to-point ORN connectivity solutions, which GreySpark expects to be largely retired within the next five years.

**Figure 2: An Assessment of the Order Routing Network Competitive Vendor Landscape**

Source: GreySpark analysis



At the other end of the spectrum, a number of ORNs suffer from reliability and service shortcomings. GreySpark understands these problems to have increased over the past two years, suggesting a reduced commitment by the vendors of these networks to support them in the medium-to-long-term.

GreySpark believes that the growth of the addressable market for the seven leading vendor offerings over the next five years will depend on the rate and number of partnerships they form with buy-side EMS vendors, and that OMS-neutral offerings stand to benefit from such partnerships over OMS-owned offerings. Additionally, an increase in broker cross-asset class trading and post-trade services expansion will fuel growth in the ORN market.



## 1.2 / THE CLIENT CONNECTIVITY SERVICE VENDOR COMPETITIVE LANDSCAPE

## 1.2 The Client Connectivity Service Vendor Competitive Landscape

As trading technology within banks is increasingly vendor-provided and point-to-point connectivity between in-house systems and trading venues, counterparties and clients are replaced with a singular in- and out-put 'pipe,' vendor-sourced CCS are increasingly prevalent. GreySpark believes potential buyers of CCS must assess the competitiveness of vendor offerings in this space according to a number of key quantitative and qualitative criteria. While the specific importance of each criterion depends on the nature of each potential buyer's needs, **the key criteria are as follows:**

### Qualitative:

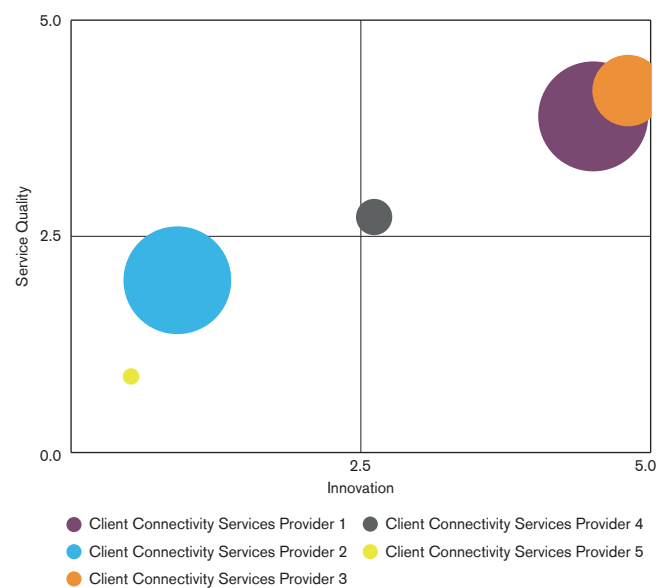
- **Customization / Flexibility** – Can the vendor solution be adapted to the current and future needs of the business?
- **Scalability** – Does the vendor solution allow the client to scale up or down as needed?
- **Reliability** – Does the vendor solution offer a level of reliability equal to or exceeding the business needs of the potential client?
- **Innovation** – How 'progressive' is the thinking that the vendor brings to the design and functionality of value-add tools? For example, can they automate the client onboarding process, provide degrees of pre-trade risk management, simplify trading strategy selection via algo wheel logic, and provide other forms of advanced data analytics?
- **Service Quality** – How well does the vendor support customers in regards to their needs to onboard their own clients and implement changes? Likewise, how well does the offering support the interactions between users and vendor and the depth of expertise related to both the product and the larger market that the vendor offers?

### Quantitative:

- **Hosted / SaaS Services** – Does the vendor offer delivery approaches and technology that aligns with the potential purchasers' existing and planned IT application infrastructure?
- **Number and Nature of Clients** – Does the vendor maintain adequate resources to service their client base, and does the vendor have experience managing client connectivity services for clients with similar characteristics and needs to those of the potential purchaser?

**Figure 3: An Assessment of the Client Connectivity Services Vendor Landscape**

Source: GreySpark analysis



- **Total Cost of Ownership** – What will be the TCO of the vendor solution, and how does it compare with other CCS options, not only from a cost perspective, but also from a functionality and quality perspective.

With those best-of-breed criteria in mind, GreySpark assesses that there are five vendor-provided client connectivity service offerings of relevance in 2019. These are mapped based on their service quality, ability to deliver innovation – the vendors' thought leadership and delivery track record in light of ongoing, rapid market structure changes and the associated iteration of systems deployed within the brokers – and the number of clients using the vendor's CCS (see [Figure 3](#)).

## 1.2 / THE CLIENT CONNECTIVITY SERVICE VENDOR COMPETITIVE LANDSCAPE

**Figure 4: FIX Engine Core & Non-core Functionalities**

Source: GreySpark analysis

<b>Core</b>	A messaging interface permitting receipt and sending of messages to and from other systems.
	Downstream connectivity toolset.
	Storage for FIX libraries, configuration, scheduling, session information, recovery, messaging processing and transformation.
	Message logging to create reviewable records of FIX message traffic.
<b>Non-core</b>	A GUI for system monitoring.
	User console for command line entry.
	Event-driven user notifications.
	System testing tools.
	Higher-level message abstraction capability.
	Log-file generation through packet capture and log file archiving.

Two OMS-neutral vendor solutions dominate the market in 2019, while a further large OMS-owned vendor has a significant footprint in the market. The latter is in a very different league from the OMS-neutral solutions in regards to service quality and innovation, a clear illustration of the different value propositions provided by OMS-neutral and OMS-owned solutions. GreySpark believes that OMS-neutral vendors are well positioned for ongoing relevance in a market with an ever-broader spectrum of technology solutions in production and increasingly complex technology stacks across the Tier II and Tier III sellside community and leading asset managers.

In terms of the size of the addressable market for vendor CCS, GreySpark believes that the increasing transition of vendor-provided OMS to a hosted / SaaS model stands as the primary growth driver for connectivity software revenues. Additionally, the expansion of connectivity software into FIC and into the post-trade automation arena will also further support an increase in market size as electronic messaging between systems replaces manual processes. With those three factors in mind, GreySpark forecasts that the addressable market for vendor-provided client connectivity service offerings will expand by 40% from an estimated USD 248 million in 2018 to USD 348 million in 2023.

### 1.3 The FIX Engines Vendor Competitive Landscape

FIX engines include both core and non-core, advanced functionality in 2019. While the former provides the basic functionality of a FIX engine and is largely commoditized, the latter was developed to add depth of functionality, ease of use and competitive differentiation between vendor offerings. **Figure 4** lists the functionalities associated with each of these categories.

Given the fully commoditized core features of FIX engines, FIX messaging users have a third option not available for ORNs or CCSs, where in-house built engines, typically designed using open-source software such as QuickFIX, compete with vendor-provided solutions. This open-source source code is freely available in different languages – C++, C#, Java and Go – and used both as a free-standing solution and as the foundation of some in-house built solutions.

## 1.3 / THE FIX ENGINES VENDOR COMPETITIVE LANDSCAPE

In light of these competing offerings, GreySpark believes that FIX engine decision-makers must consider the following key criteria prior to choosing an implementation pathway, particularly when evaluating vendor-provided FIX engines:

**Qualitative:**

- **Reliability** – Does the vendor solution offer a level of reliability equal to or exceeding the business needs of the potential client?
- **Depth of Functionality Offered** – Does the vendor's offering provide the full breadth of functionality the potential client seeks?
- **Recoverability of the Platform** – Given the inevitable challenges around sustaining FIX sessions, how well can the FIX engine recover from session interruptions?
- **Transparency of Tools** – What is the quality of the management tools associated with the FIX engine?

**Quantitative:**

- **Multi-asset Class Support** – Which asset classes does the FIX engine support?
- **Number of Instances in the Marketplace** – What is the prevalence of the FIX engine in the market place?

In order to create a FIX engine competitive landscape assessment, GreySpark mapped the stability / reliability of various solutions against the depth of functionality offered by the same. **These two metrics were themselves composed of subordinated assessment criteria:**

**Reliability:**

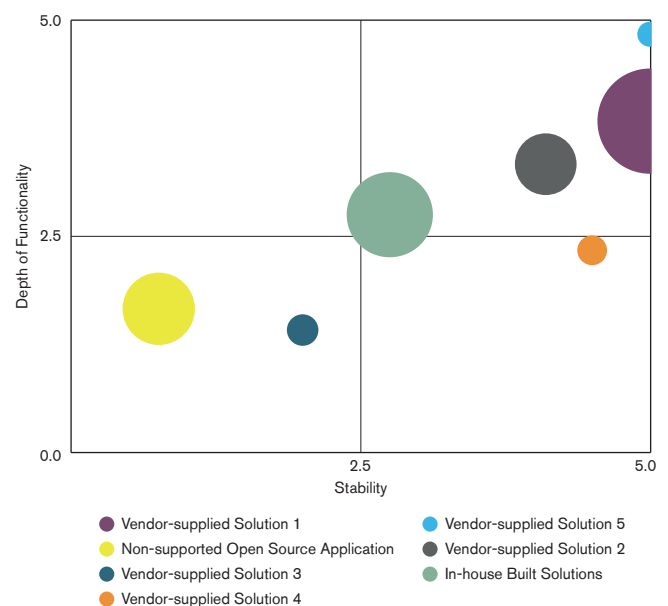
- System up-time; and
- The level of automation in restoring a broken FIX session.

**Depth of Functionality:**

- End-user transformation rules;
- Message normalization layer;
- The GUI UX;
- The quality of notification functionality;
- The quality of audit trails; and
- The support for user permissioning, in particular, the presence of the lightweight directory access protocol (LDAP).

**Figure 5: An Assessment of the FIX Engine Competitive Landscape**

Source: GreySpark analysis



A third dimension was added by considering the number of client installation instances and the results are illustrated in **Figure 5**.

The largest vendor-supplied solution, in-house builds and QuickFIX installations dominate the FIX engine market, comprising approximately 79% of all free-standing FIX engine installations between them. Even this underplays the dominance of the market-leading vendor solution, which comprises over 60% of total vendor installations, according to GreySpark analysis.

While GreySpark believes that the client connectivity service offerings will expand by 40% out to 2023, despite the current dominance of a single vendor in the FIX engine space, the market for FIX engines will likely slow due to the transfer of ownership and maintenance from in-house to vendor managed.

## 2. Extracting Business Insights from Managed FIX Services

Managed FIX services are evolving from infrastructure service solutions into robust connectivity ecosystems that provide brokers with rich insights into the trading habits of their clients. Embedded within the FIX message logs are vast, and mostly untapped, quantitative client behavioral data that – given the right tools – can be used to optimize the client / broker relationship. Insights drawn from this data can lead to the identification of new revenue streams, assess client profitability and reduce connectivity costs and risk. GreySpark believes that the objective for trading desk managers, in 2019 and beyond, is to leverage this data via BI toolkits to garner timely insights that enhance the efficacy of their trading operations.

Historically, a broker's ability to have a bird's-eye view of client activity across the enterprise was limited. This was primarily because, over time, as the broker's client base scaled and their asset class and instrument coverage broadened, firms typically resorted to using multiple vendor-provided sellside OMS platforms to trade on a diverse range of global execution venues. As analytical tools were incorporated into the OMS, insights only encompassed the universe of client trades flowing through each individual OMS.

To connect to trading counterparties, brokers typically built or licensed their own connectivity platform. A broker's connectivity platform receives FIX messages from various external trading counterparties and routes the messages to one or more sellside OMS platforms based on asset class, region or other predefined criteria. These legacy platforms did not incorporate the necessary set of tools required to analyze the data flows. The result is that brokers are virtually blind to the overall message flow from their clients and external trading platforms. For this reason, brokers are increasingly turning to managed FIX providers that are uniquely positioned to offer much needed insight and transparency. GreySpark assesses the benefits for brokers of using next-generation managed FIX services that are augmented by a BI layer that will enable brokers to:

- **Acquire a Comprehensive View of Client Flow** – Improve low-touch customer relationship management and open new revenue stream possibilities.
- **Reduce Costs** – Empower business heads and IT operations teams to reduce OMS and ORN vendor costs as well as to determine the true net profitability of client relationships.
- **Facilitate Real-time Business Transparency** – Provide an analysis of client order flow to better understand client trading behavior and direct technology resources accordingly.

**“The transparency of client flow and the insights afforded by the detailed analysis of FIX messages is a game changer for everyone touching the client trading workflow process ...”**

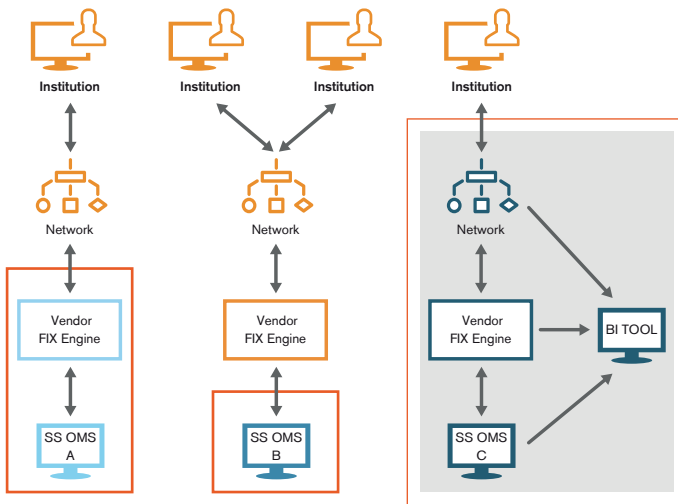
## 2.0 / EXTRACTING BUSINESS INSIGHTS FROM MANAGED FIX SERVICES

**Figure 6: Illustrating (a) the Fragmented View of Client Flow via Traditional OMS Vendor-provided Client Connectivity Networks & (b) the Consolidated View via a New Generation of Managed FIX Provider**

Source: GreySpark analysis

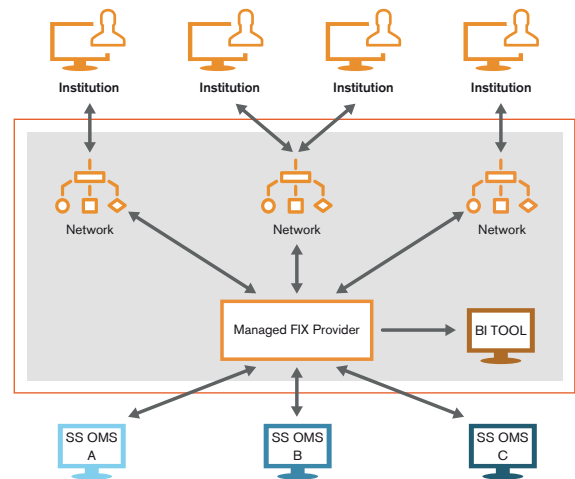
**(a) Scenario 1 - Fragmented**

Broker has limited transparency into what their buy-side institutions are doing.



**(b) Scenario 2 - Consolidated**

Broker has full transparency into what their buy-side institutions are trading and use a single BI toolset.



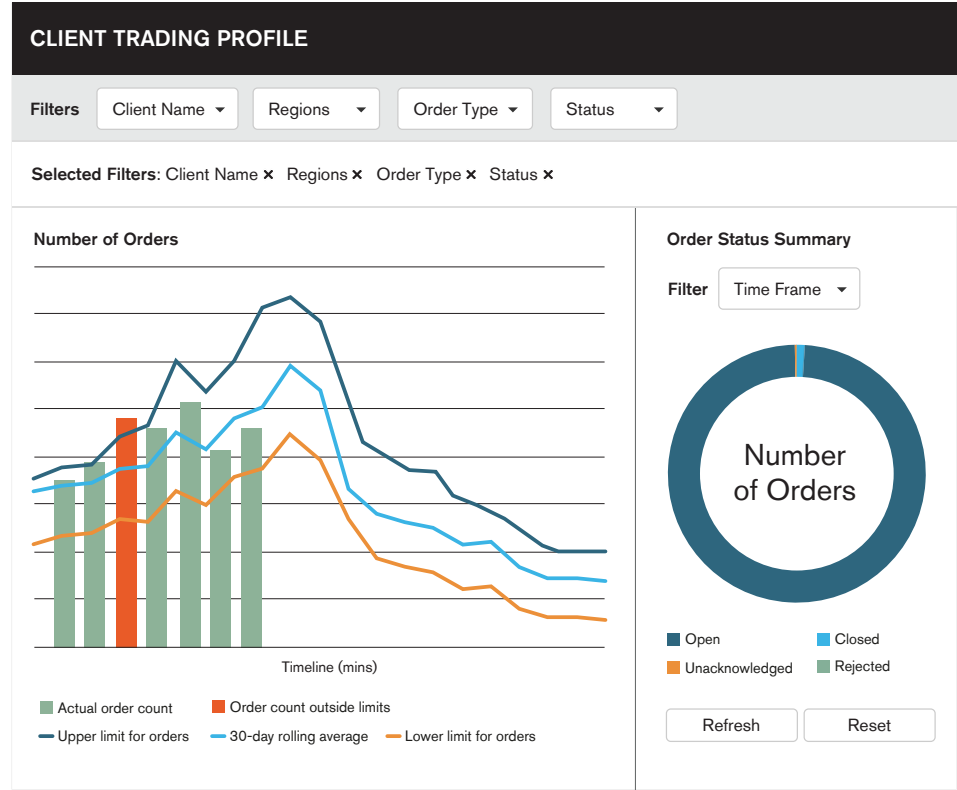
Sell-side Vendor Tech
  Transparency Reach

The transparency of client flow and the insights afforded by the detailed analysis of FIX messages is a game changer for everyone touching the client trading workflow process—be they business, risk or technology focused. **Figure 6a** shows how a broker's understanding of activity is fragmented when viewed through multiple OMS' that do not provide a consolidated picture of client trade flow. **Figure 6b** shows how a managed FIX provider can aggregate data from across the enterprise, and an associated BI toolkit can be used to visualize insights from that client data. Because the managed FIX provider is vendor agnostic and offers access to all OEMS providers and ORNs, they are perfectly situated to provide a global view of client connectivity along with increased analytics and transparency.

2.1 / CLIENT ORDER FLOW INSIGHTS TO ENHANCE CUSTOMER RELATIONSHIP MANAGEMENT & GENERATE NEW REVENUE STREAMS

**Figure 7: A Sample Dashboard Showing Client Trading Profiling Tools to Enable Real-time Benefits for Broker Business Lines & Technology Teams**

Source: GreySpark analysis



**2.1 Client Order Flow Insights to Enhance Customer Relationship Management & Generate New Revenue Streams**

The trend for trading desks is to combine high-touch and low-touch services into a converged order / execution support model. This is driven by the increasingly commoditized nature of low-touch trading systems. By leveraging BI tools that analyze FIX messages using low-touch channels, brokers can tailor their order / execution services to each client's specific objectives. The business insights uncovered can identify new trading opportunities with clients. Identifying low-touch client trading patterns and behavior, leads to stronger broker / client relationships and, ultimately, enables brokers to defend and grow low-touch client market share (see [Figure 7](#)).

**2.2 Optimizing Client & Vendor Cost Management**

As brokers grow their electronic businesses and expand their client base, the level of client quality may fall. To strategically optimize the business growth vs. business effort trade-off, brokers must be able to rank clients based on overall client profitability (commission minus expenses) to distinguish between the client relationships they should nurture versus those they should discontinue. To achieve this, they must understand all of the costs associated with each client's trading activity. GreySpark believes that having the tools to analyze client profitability will lead to better margins and more focused client support.



## 2.2 / OPTIMIZING CLIENT &amp; VENDOR COST MANAGEMENT

The variable component of order, execution and connectivity pricing is generally based on the level of trading activity. The complexity of charges relating to network channels and EMS/OMS fees are high and, therefore, is an area where a lack of transparency can be especially costly for brokers. Currently, there is no easy way for the broker to reconcile and validate vendor invoices. To reduce instances of overcharging, and to ensure that payments are only made for services rendered, back-office operations staff have to manually reconcile the connection charges against a tally of the FIX connections enabled or volume traded – this is a time-consuming, labor-intensive and highly fallible process. Session data garnered by a managed FIX service can be analyzed using BI tools to enable brokers to easily validate vendor invoice charges and – crucially – to allow them to challenge vendor invoices where overcharging may have occurred.

### 2.3 Real-time Business Transparency to Enable IT Operations Teams & Risk Managers to Support Front-office Trading Activities

GreySpark believes that broker risk managers and IT operations personnel can benefit from the ability to observe client FIX message logs comprehensively, and in real-time, through the lens of BI tools linked to a managed FIX platform. Specifically, those BI tools should be designed to provide broker IT operations with the insight required to ensure client trading operations are functioning at an optimal level across a variety of scenarios.

For example, those types of BI tools can provide broker trading desks with benefits related to:

- **Connectivity Problems** – Are there connectivity issues between the institution and the broker, and if so, what is the most recent properly processed message between the two counterparties?
- **Unexpected Changes in Client Environment** – Did something change in the client environment that is causing abnormal trading behavior?
- **Fat Finger Errors** – Based on historical trends, is the client sending in unusually large trades, and if so, does it breach the predefined, broker-set thresholds?

Those types of scenarios in which a BI tools layer is used in concert with a managed FIX platform facilitate the creation of transparency of all client trading flow within the broker's operations from front to back.

### 2.4 Enabling the Digital Transformation of the Client / Broker Services Paradigm

Visualizing the BI toolkit's analyses via a shared Web interface allows the broker's sales, CRM, connectivity risk and operations teams to enable the creation of:

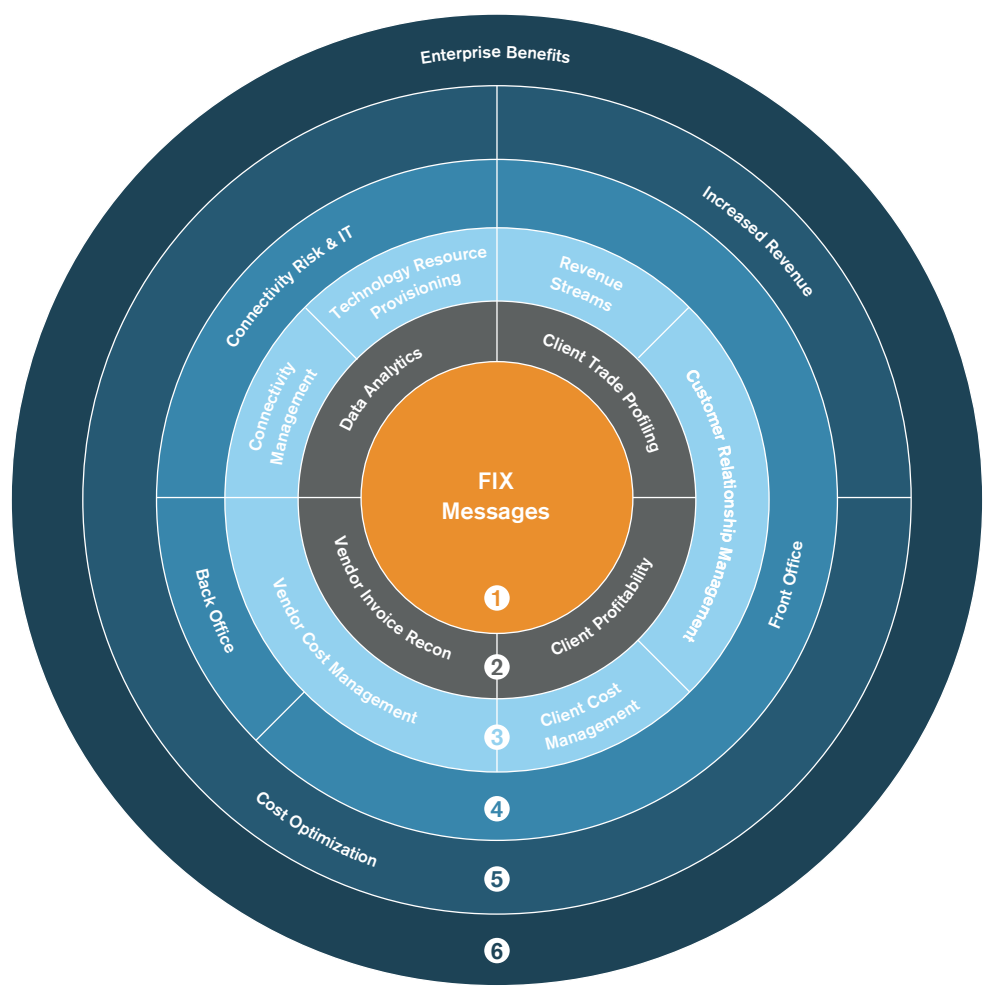
- **Client Trading Profile Analytics** – To analyze client trading activity forensically in real-time versus historical benchmarks to identify abnormal trading behavior.
- **Net Client Profitability Analytics** – To ensure that the OEMS, ORN and execution / clearing charges are justified for each connection.
- **Vendor Invoice Reconciliation Analytics** – To enable reliable and timely reconciliation of vendor invoices with actual client connectivity and session data.
- **Data Analytics** – To provide robust business and technical level transparency of client trading activity.

As such, managed FIX platform vendors stand apart from their competitors due to their ability to amalgamate FIX message traffic into an intuitive business focused, web-based dashboard. The benefits of such an analytical toolkit combined with a proven and mature global service, can ripple through the firm to enhance trading strategy and operation (see [Figure 8](#)). GreySpark believes that a BI toolkit that can analyze and draw insights from FIX messages relating to all trading across the firm is an example of the next generation of managed FIX services.

2.4 / ENABLING THE DIGITAL TRANSFORMATION OF THE CLIENT BROKER SERVICES PARADIGM

**Figure 8: Benefit Paradigm for a Business Intelligence Toolset Layer of a Vendor-provided Managed FIX Network Ecosystem**

Source: GreySpark analysis



- 1 FIX messages aggregated from all client connectivity networks & broker order-routing networks.
- 2 BI tools generate insights that create benefits that ripple through the firm.
- 3 Operational areas that will benefit in terms of effectiveness or efficiency of operation.
- 4 Functions that directly benefit as a result of BI toolkit insights.
- 5 Bottom line impacts of the insights on cost and revenue lines.
- 6 Enterprise benefits created by the transparency of client trading activity.

### 3. Next Generation Managed FIX Services

When undertaking front-office technology assessment and deployment decision-making in 2019, many financial services firms, particularly Tier I to Tier III brokers, typically pursue two different approaches simultaneously that, on the face of it, appear antithetical to one another:

- On the one hand, brokers seek to reduce the number of vendors from which they procure software and IT services in order to reduce the overhead cost associated with vendor management. Consequently, dealers look to meet their IT needs with vendors that can provide the most comprehensive range of services.
- On the other hand, brokers want to reduce the pricing power of entrenched vendors that have successfully embedded themselves within broker technology stacks. Removing and replacing these entrenched vendors requires a discouragingly colossal effort that, in some cases, can mean replacing a single vendor's comprehensive suite of solutions with a patchwork of solutions sourced from a range of vendors and / or developed in-house.

In practice, addressing the drivers for both trends encourages brokers to engage with flexible, hosted managed service providers. Consequently, managed services – where a technology vendor operates its own software on behalf of the customer, providing full operational support and taking direct responsibility for some of the business workflows and operations that are outsourced to it – are becoming commonplace across financial services organizations.

Managed FIX services can take several forms, but the two most common forms are:

- the service can be run in the vendor's own data center (SaaS solution); and
- the service can be run in a public cloud (for example, in Amazon Web Services or in Google Cloud).

Managed services are popular, not only because they relieve the customer of having to devote resources to non-revenue generating activities, but also because this service model frequently reduces capital-intensive investments in application and IT infrastructure.

**“A key benefit of using a managed service provider is that they keep their clients on the leading edge of capital markets technology innovation.”**

### 3.0 / NEXT GENERATION MANAGED FIX SERVICES

When processes outsourced to managed services providers are critical to the broker's continuing operation, dealers view these vendors as strategic partners capable of delivering technology and providing operational support that is built on deep business domain knowledge and experience. As financial services firms grow, they must not only increase the scale of their operations and systems to accommodate additional clients, but ensure that there is no loss of system stability, availability or performance at the increased scale. This technological scale challenge, coupled with changing user requirements, mandates within incoming regulation, and the rapid pace of technological development, challenges brokers to find a way to minimize disruption to services and reduce costs driven by IT change. Managed service providers, whether they run their managed service using their own data center or the cloud, place a heavy strategic emphasis on the ability to scale. The ability to scale with no performance issues for their clients is not only how they add to the scale of the operations of their existing clients, but also how they attract new clients, and is therefore central to their business model – to the advantage of clients that wish to grow.

Managed service providers' value proposition to clients goes beyond scaling the business' IT services. A key benefit of using a managed service provider is that they keep their clients on the leading edge of capital markets technology innovation. A managed service provider can tailor and optimize the services they run for brokers in line with the broker's changing requirements. Upgrades and changes are managed by the service provider with minimal disruption to brokers, who can expect a concentration on service quality, reliability and stability from such a provider. As a managed service is, by design, not embedded deeply into a client's technology stack, the emphasis of its customer retention strategy must be on quality of service in order to not have its services discontinued by its client. As such, established and successful managed service providers will have mechanisms in place to ensure that service is not disrupted or performance reduced when upgrades are needed to their software. Typically, managed service providers utilize an Agile approach, and the related concepts of continuous development and continuous integration to enable updates to be made without disruption of the service to clients.

### 3.1 The Benefits of Managed FIX Services

Broker FIX connectivity is an area ripe for outsourcing to third-party managed service providers as the mishmash of FIX software used by financial institutions to facilitate trading is rarely optimized. Numerous technology providers offer constituent parts of the FIX connectivity service, and large brokers often incorporate an internal solution in their portfolio of FIX components. The cost of maintenance and support for the hybrid systems typically in place can be large in terms of capital and human resources.

As in-house development fell out of favor over the last five years, brokers turned to vendors to solve their FIX connectivity problems. In 2019, the maturity of the CCS, ORN and FIX engine solutions means that vendor products developed various degrees of performance, stability and reliability, and it is indeed possible for brokers to combine best-of-breed solutions for each component of a completely multi-vendor provided FIX connectivity environment. However, this leaves brokers in the unfortunate position of needing to maintain business relationships with multiple vendors. GreySpark believes that, as a concept, managed FIX connectivity service providers that offer a seamless and comprehensive FIX connectivity service can deliver a whole host of business benefits to the broker without compromising on functionality and service quality.

In 2019, brokers are refocusing on increasing their IT agility, which allows them to grasp business opportunities when and where they arise. For Tier I brokers, whose size and complexity work against them in respect to agility, the managed service is an ideal solution. Being attuned to the needs of their client base means that managed FIX service providers heavily emphasize their flexibility.

This flexibility is primarily achieved as a result of the hosted aspect of the service. Vendors spin up instances of their software, which can be configured specifically for each client, and provide a Web interface through which the broker can monitor the FIX infrastructure. Tools are incorporated that are designed to help both the vendor and the broker minimize the time devoted to installing, migrating, testing and deploying the FIX solutions. Not only do managed FIX service providers deliver technology infrastructure that is often more future-proofed than the technology developed in-house by brokers, but they will provide flexibility to clients both technologically and contractually.

In an increasingly competitive capital markets landscape, brokers must focus their limited resources on creating competitive differentiation in their lines of core business. Contractually, the managed services provider takes responsibility for the entire FIX connectivity service – the ORN, the FIX engine and the CCS – and must implement the service, manage connections and operate and maintain the FIX connectivity, none of which are a core banking competency. Leveraging specialized managed service providers also unlocks access to specialized skill sets that are honed for that particular business line. Using those specialized resources as part of the overall service means brokers do not need to retain costly specialized staff.

Handing over responsibility for this service to a third-party frees the broker to capitalize on market opportunities as they appear, rather than becoming distracted by operational software support and IT decisions. Under the managed FIX services model, brokers' organizational IT functions – often under-resourced due to cost cutting since the financial crisis – carry a reduced burden as the need to hire and train a team to manage vendor FIX software is eliminated. The only aspects of FIX services that constitute core broker competencies are the on-boarding of clients and the maintenance of client relationships, and brokers must meaningfully engage in these activities to differentiate themselves from the competition. Certain business lines within organizations are more sensitive than others about the initial interactions with their trading counterparties – they prefer to own that full client experience instead of the vendor being the first point of contact. Consequently, GreySpark believes that successful managed FIX service providers are those that offer their broker client base a flexible service that incorporates the FIX technology, maintenance and support, but which ensure that the brokers continue to own the client relationship.

Once taking into account the need for a vendor to offer all the components of a FIX technology stack and the availability of those solutions as a managed service, GreySpark finds only a handful of vendors with a highly sophisticated technology offering that is both technologically mature and maintained at the leading edge through ongoing vendor innovation. Many vendors offer more than one of the critical components of FIX connectivity, or even, all three components, but few vendors offer all three components as a single service.

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**“The intriguing concept of using a managed FIX service with its holistic view of trading ... allows brokers to leverage the data going into and coming out of the service, and ... empower business analysts to perform their jobs more effectively and more profitably.”**

Given the compelling nature of a unified managed FIX service for the broker community, GreySpark believes that the following two factors are relevant for sellside users of vendor-provided offerings going forward:

1. **Heightened Vendor Competition** – Recently, small technology vendors have developed offerings across the three component areas of managed FIX services. Growth in this space can largely be attributed to the increasingly commoditized / standardized nature of brokers' in-house built technology stacks, which are now architected to support FIX message flow. However, GreySpark believes that brokers will increasingly move toward implementing solutions from large technology vendors due to the more comprehensive nature of their offerings and their ability to develop and deploy business intelligence analytics tools designed to optimize the broker / client relationship.

### 3.1 / THE BENEFITS OF MANAGED FIX SERVICES

**2. Vendor Offerings Consolidation** – If broker uptake of managed FIX services offered by large, established technology vendor companies grows over time, then the historically consistent narrative surrounding the consolidation of smaller vendor company managed FIX components into their larger competitors would likely play out. This narrative would then result in a lessening of FIX services vendor selection optionality for brokers while simultaneously incentivizing those companies competing for client market share to deepen the breadth and sophistication of their existing offerings in an effort to enforce consumer understanding of competitive differentiation.

The entry of new players into this space is challenged by the advantages of existing managed FIX services vendors. The significant market presence of the most established players confers the advantage of network effects, which are difficult to replicate from scratch. However, established vendors cannot rest on their laurels – no small measure of innovative thinking is needed to ensure that they remain attractive and relevant to a growing community of potential clients for their services. One such approach is to create value-add that has touch points across the brokerage – and not just in the IT department.

### 3.2. Business Intelligence Toolkits for Business Analysts Bundled into a Managed FIX Service

Many products offered by vendors in the FIX connectivity space provide dashboards that can deliver useful information derived from FIX traffic to IT teams. Some dashboards can be used by the broker's IT teams to monitor traffic through the FIX component or show where sessions were dropped. While this is useful to those managing the connectivity for the broker, there is more to be gleaned when data can be analyzed across all three components of the FIX connectivity technology stack.

The limitations of the multi-vendor solution fragmented view are as follows:

- FIX messages transmitted from the buy-side through an ORN directs the message to the correct sell-side, and it lacks any disaggregated information about the broker's business line handling the order in question. There are useful dashboards available that incorporate some analytics to garner insights from the FIX message traffic passing through the ORN, particularly regarding FIX message volumes and session failures. These, however, rarely provide any detailed information about the trades themselves.
- The OMS GUI can provide information on trading – as FIX messages have been enriched with reference data as they pass through the CCS, and again in the OMS itself. However, the trading information only pertains to the particular desk that the OMS serves, but gives no visibility of client flow to and from other desks within the client's enterprise.

For a broker to unify, clean and manage data from the FIX messages and use it across their business is a technically challenging and error-prone task. However, with a hosted managed service, this pain-point is removed. The intriguing concept of using a managed FIX service with its holistic view of trading – provided by data from the trade messaging – allows brokers to leverage the data going into and coming out of the service, and with the help of some powerful analytics offer insights that empower business analysts to perform their jobs more effectively and more profitably.

As more brokers embrace managed connectivity providers, the BI toolkits will evolve allowing for more detailed analytics on which clients are trading, what they are trading and how often. Integration with back-office systems allows for further insight into the overall profitability of clients and will ultimately enable brokers to be more effective servicing their clients.



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