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New Plateaus for OMS/EMS Integration

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EXECUTIVE SUMMARY

New Plateaus for OMS/EMS Integration, commissioned by Eze Software Group (Eze) and produced by Aite Group, examines the current state of integration between buy-side order management systems (OMSs) and execution management systems (EMSs), the industry drivers, efficiencies gained, and the challenges and opportunities in the space overall.

Key takeaways from the study include the following:

- An OMS functions as the central hub of all trading activities for the buy-side—the de facto gateway for the trader community. The emergence of the concept of the EMS added more, but necessary, complexity into the institutional trading workflow. "FIX staging" connected the OMS and EMS to enable the trader to leverage the functionality in the OMS and route a parent order to his or her EMS, not unlike routing to a broker. This mode ensured that child orders and executions originating in the EMS were linked to a parent order that originated in the OMS. FIX staging was never a panacea though, since the trader still employed two separate workflows. In order for the systems to operate seamlessly, as if one integrated platform, work still needed to be done.

- While the industry has debated the current and future state of OMS/EMS for almost 10 years, and it was never clear as to how integration would happen, it was truly just a matter of when, not if. And it would appear that the industry's structural factors may have impeded OMS/EMS integration as much as the technological complexity of the task itself. But by 2016, the front-office financial technology space has moved into a period of profound change.

- The market for stand-alone EMSs is consolidating; EMS vendors can only get so far on their own. Rapid advancements across the technology architectures—software, network, and infrastructure—have enabled vendors to attempt OMS/EMS integrations that address ever-greater sections of the trade life cycle. Whereas limitations might have previously made such integration improbable, true integration of the OMS and EMS appears to have finally arrived.

- Different models have emerged: Integrated OMS/EMS, converged order/execution management systems (OEMSs), and OMS/EMS suites upgrade the omnipresent FIX-staging model to integrate OMS and EMS, and they have become pervasive over the past 15 years.

INTRODUCTION

This white paper, commissioned by Eze Software Group, examines the state of OMS and EMS integration. We revisit the topic against a backdrop of profound changes to industry structure and explore the drivers for the current wave of consolidation. Finally, we discuss some of the models of OMS/EMS integration that have come forth, the benefits of and challenges to the same, and briefly opine on how the industry may evolve in the coming years.

It appears the industry's structural factors may have served to impede OMS/EMS integration as much as the technological complexity itself. But by 2016, the front-office financial technology space has moved into a period of profound change. Post-2009 global financial crisis, the vendor and services industry has been overwhelmed by competitive and existential pressures, including reduced volume, stagnant growth, rising costs, regulatory changes, and shifts in client demand—all reducing industry profitability and forcing the hands of vendors to take decisive and sometimes bold actions to ensure their firms' sustainability and success.

Expect more industry consolidation. Stand-alone OMSs and EMSs that fail to innovate will lose market share to integrated OMS/EMS or converged OEMSs. And as unaffiliated potential partners become increasingly scarce, like seats in a game of musical chairs, vendors are increasingly fearful that the next time the music stops they will be left alone. This is driving acquisitions and tie-ups that fill gaps and round out offerings. The smooth operators that are able to integrate just right will secure revenue and growth. Vendors that don't reinvest or just get integration wrong will fail to compete and ultimately be displaced.

The buy-side firms are the real winners as traders finally get to realize the benefits of true OMS/EMS integration.

METHODOLOGY

This white paper is based on qualitative interviews conducted from Q2 2016 through Q3 2016 with over 50 buy-side firms, including traditional asset managers, boutique asset managers, and hedge funds, as well as vendors of OMS and EMS solutions. It also incorporates ongoing Aite Group research on front-office technology trends.

OMS AND EMS: WHY THE DISCONNECT?

Traditionally, the OMS functioned as the central hub of all trading activities for the buy-side and as the de facto gateway for the trader community. The emergence of the concept of the EMS has added more complexity into the institutional marketplace.

ORDER MANAGEMENT SYSTEMS

Buy-side OMSs were first launched in the mid-to-late 1980s as a way for asset management firms to keep track of orders negotiated over the phone, and to improve on manual paper-ticket-based record keeping. As OMS platforms gained market share and became a necessity for buy-side firms seeking to scale and stay competitive, vendors expanded their wares to cover more of the investment life cycle and integrated features for portfolio modeling, rebalancing, risk, commission management, compliance, back-office management, and order generation.

As the Financial Information eXchange (FIX) protocol matured in the early-to-mid 1990s, most OMSs added features for electronic order routing to brokers. The continued growth of the asset management industry and "electronification" of markets helped fuel firms' demand to adopt investment technology to scale and efficiently manage their increasingly complex businesses.

Typically, the OMS represents the most important piece of IT to asset management firms. It serves as the central reference point for position tracking, trading, order management, allocations, profit and loss (P&L) calculations, and more. The OMS's mission criticality makes IT managers extremely averse to system disruption or downtime. This can result in users experiencing long waits for new features and software updates. Installed versions of OMSs can sometimes lag months to years behind a vendor's latest release. Table A lists some of a typical OMS's key functionality.

EXECUTION MANAGEMENT SYSTEMS

EMSs started to hit the scene in the late '90s, almost 10 years after OMSs came to market. Technological advances, competitive pressures, and regulatory reforms of the late 1990s and early 2000s—and their consequences on U.S. equities market structure—fertilized their rapid growth. While a bit counterintuitive, many of today's EMSs did not originate as trading tools geared for the buy-side but rather emerged for sell-side brokers and day traders to facilitate participation in an evolving electronic marketplace. These systems were not branded as EMSs but as front-end order-entry tools distributed by pioneering electronic communications networks (ECNs) or other third parties as a way to electronically post limit orders and participate in electronic trading books.

These platforms continued to evolve during the mid-2000s as exchanges and ECNs merged in order to become fully electronic and consolidate market share. Order-entry tools, once tethered to just one venue, expanded their capabilities to allow routing to alternate and competing venues, and accordingly, rebranded themselves as liquidity aggregators. Vendors layered on

functionalities, such as consolidated market data displays, real-time news feeds, and automated smart order-routing engines, to improve trader workflows.

While the sell-side businesses and equities market structure—particularly in the U.S.—underwent transformative changes, the buy-side was experiencing its own pressures and reforms. Compelled to take more control of the trading process, seek ways to reduce trading costs, and improve performance and better achieve execution quality, the buy-side sought out new tools. Buy-side OMSs were not designed to support the micromanagement of real-time and rapid order trading. The OMS's underlying technology was not architected to support the volume of market data messages or perform at the required speeds. In addition, changes to market structure and tweaks to algorithmic trading tools were frequent, and traders needed immediate access to and support for new features. This is not an indictment of the OMS software architects but an inevitable result based on what the OMS was originally intended to do.

Still, the new functionality traders needed was readily available in the tools already in use by the sell-side. The vendors were able to pivot sell-side trading tools to support buy-side workflows and quickly filled the void. Most systems were designed and deployed as Software-as-a-Service with thin desktop client applications, and upgrades were automatic and immediate. So, by default, the buy-side adopted these tools to support its trading workflows. Functionality that was once reserved for brokers and dealers was now in the hands of buy-side traders.

This trend gained momentum during the mid-2000s, and these tools were said to provide direct market access (DMA). The adoption of DMA tools by buy-side traders reflects their increased willingness to access the markets without a middleman and to take full control and responsibility for the working of orders. Brokers simply lent their exchange memberships and sponsored their buy-side clients into the marketplace while still collecting a commission, albeit at a much discounted rate.

Each DMA platform followed its own unique and circuitous developmental path over the years in terms of target clientele, regional focus, product roadmap, and, notably, corporate ownership. Large brokerage firms acquired most of the independent electronic platforms to solidify their abilities to deliver electronic trading tools to their buy-side clients. This helped to secure real estate on their clients' desktops and to form a strategy to respond to the shift from high-touch sales and equities trading desks toward low-touch electronic trading.

And as the buy-side industry evaluated its options for trading technology, marketers rebranded their systems again and affixed the "EMS" label. This signaled to the industry that these tools were best-of-breed, requisite, and complementary to the OMS. No self-respecting buy-side trader worth his salt could execute the duties entrusted to him without adding flat-panel screens to make room for one, two, or more EMSs. Table A lists some of key functionality that came to be expected from a competitive EMS solution.

Not all EMSs are created equal, and there can be stark differences among them. Generally, EMSs fall somewhere along a spectrum: from EMSs that support U.S. equities, listed options, and futures on a single-broker platform for point-and-click traders to broker-neutral, multi-asset EMSs with global access and features for custom design of algorithmic, contingent, and program

trading workflows. Most fall somewhere in the middle, and the odds are that the days of single-broker EMSs are numbered.

Table A: Key Functionality for OMSs and EMSs

OMS	EMS
Position management and P&L	Order staging and monitoring
Pre-trade and post-trade compliance	Single stock and list/program trading management
Allocation processing	Real-time market data
Portfolio management functionality	Charting and trade analytics
Custodial/accounting connectivity	Advantaged filtering
Risk management functions	Transaction Cost Analysis (TCA)
Portfolio modeling and rebalancing functionality	Basic order risk controls (e.g., fat-finger checks)
Real-time P&L	Conditional orders

Source: Aite Group

OMS and EMS vendors generally respected each other's market share and role in the investment trade life cycle and would mostly avoid head-to-head competition. And until recently, it was uncommon for an OMS and EMS vendor to engage in any sort of exclusivity arrangement, in part because buy-side clients were unlikely to settle on one trading platform to satisfy all their needs. Secured by an industry environment characteristic of stable or growing profitability and the reality that clients were likely to maintain multiple vendor relationships, OMS and EMS vendors cooperated more than they competed.

A few subsets of EMS features, such as transaction cost analysis (TCA) and order entry for algorithmic trading, cross-pollinated into the OMS, and most EMSs attempted some lightweight OMS functionality to cater to clients too small to adopt a full-fledged OMS. But overall, important distinctions remained. While many systems marketed themselves as converged OEMSs, practically, these tools are rarely able to provide the full suite of features that a dedicated best-of-breed OMS or EMS is able to offer.

EARLY OMS/EMS INTEGRATION: QUICK FIXES

Initially, technologists quickly moved to implement "FIX drop copy," whereby orders would originate in the EMS and the OMS would receive unsolicited executions via FIX connections from the EMS. While this model served to quickly establish connectivity and get the executions into the OMS after a trade was made, it was inherently risky and noncompliant. Since there was no link in the EMS, there was no way to convey and enable portfolio and order rules as well as limits to prevent noncompliance and errors at the point of order entry. Overselling a position or violating a compliance rule and not discovering the issue until after the order is executed is highly probable.

Consequently, the next and most impactful upgrade came from the introduction of FIX staging. This workflow allows the trader to leverage the functionality in the OMS and route a parent order to his EMS, in a way not unlike routing to a broker. This mode ensured that child orders originating in the EMS were linked to a parent order that originated in the OMS. Child executions that electronically flowed back from the EMS are linked to the parent order in the OMS. This workflow reduced, but did not eliminate, workflow inefficiencies. Still, FIX staging did prove to be effective, remains the easiest approach, and is the standard method by which buy-side trading desks connect their OMS with one or more EMSs. The buy-side trader is able to manage all execution functions on the EMS side but relies on the OMS for basic order management, compliance, and confirmation and settlement.

FIX staging was never a panacea, though. While the FIX protocol helped to integrate the investment trade life cycle and allowed data to flow between the OMS and EMS, it had its limits and challenges. Table B itemizes some limitations of FIX staging.

Table B: Limitations of OMS/EMS FIX Staging

Limit	Summary
Swivel-chair effect	By committing the order from the OMS to the EMS, the trader needs to switch his workflow to the EMS at the expense of any advantages afforded by the OMS. Any additional analysis or liquidity that is available directly from the OMS is inaccessible unless the trader cancels the staged order in the EMS to return the uncommitted shares back to the OMS. The same workflow applies if the trader desires to use another EMS and would require the trader to issue a cancel in the first EMS and then reissue an order from the OMS to the second EMS.
Compliance and risk monitoring becomes less effective	The OMS maintains the compliance rules to apply to the portfolio and every order and execution in real time. Within the FIX-staging model, however, compliance and risk monitoring is ineffective. Rule checking is performed when the parent order is staged from the OMS to the EMS, which does not reflect a change in the portfolio at all. And checks that were applied at the time of FIX staging may actually fail by the time a child order is released into the marketplace from the EMS, and the OMS's compliance engine is completely unaware of any activity occurring from the EMS. While a small subset of constraints can be attached on the FIX-staging message from the OMS to the EMS to put guiderails on the order inside of the EMS to avoid errors, it still is not the intended workflow, and it really irks the persnickety compliance officers.
TCA is skewed	For those traders benchmarking trading alpha to arrival time in either the OMS or the EMS, the FIX-staging workflow skews the analysis. EMS-based analysis does not capture the true arrival time the order was sent to the OMS by the portfolio manager. And the OMS is typically unable to capture the complete activity happening inside the EMS and link it to the parent order. It becomes difficult to assess the performance of the trade without a combined audit trail.
Latency	The additional FIX gateways that messages traverse between the OMS and EMS can add latency into the system depending on the connections' performance, distance, and congestion.

Limit	Summary
Data replication and configuration mismatches	The primary database for fund account configuration is the OMS. If a configuration change is required, a commensurate change is often required in the EMS. This typically involves dual entry into front-end systems by the trading or middle-office staff or the enlistment of vendor support to perform this task.
Additional points of failure	This approach comes with higher potential for losing trade details in the event of system or network hiccups and outages.
Vendor risk, increased onboarding time, and support complexity	As with any vendor solution, exposure to vendor risk and dependencies on vendor resources and support introduces exposure and an additional risk to business continuity.

Source: Aite Group

With FIX staging, the user still employed two separate workflows. For the systems to operate seamlessly, as if one integrated platform, work still needed to be done.

ATTEMPTS AT STRATEGIC ALLIANCES

Our research uncovered several vendor attempts at strategic alliances over the past 15 years. Some tried to couple two separately owned OMS and EMS platforms in a more tightly integrated fashion than FIX staging would permit. Using custom-designed application programming interfaces (APIs), vendors attempted to synchronize the OMS and EMS trading blotters in real time and enable the EMS to "ping" the OMS for just-in-time compliance approval when sending an order from the EMS. Some of these API customizations based themselves on FIX, while others attempted to jury-rig together desktop APIs to integrate the two systems when running together on the trader's workstation. Server-side and FIX-based approaches offered the most promise, but latency and the fragility and complexity of the system architecture prevented widespread success and adoption of integrated systems maintained by two different vendors. Importantly, as we learned, the attempts to align strategic priorities, product roadmaps, sales efforts, release cycles, and software development teams proved to be just as challenging.

OMS/EMS INTEGRATION: IT TAKES A VILLAGE

The market for stand-alone EMSs is consolidating; EMS vendors can only get so far on their own. Still, client loyalties are to their OMS, and switching costs remain high. Moreover, the rising risks associated with regulatory noncompliance at any point along the investment life cycle makes it challenging to justify a complex and sprawling technology stack. Technological simplification is now all the rage, despite the regulatory regimes themselves growing in complexity.

It's not all doom and gloom, though—there are puppies and sunshine too. Rapid advancements across the technology architectures—software, networks, and infrastructure—have enabled vendors to attempt OMS/EMS integrations that address ever-greater sections of the trade life cycle. Whereas limitations might have previously made such integration improbable, true integration of the OMS and EMS appears to have finally arrived.

The following section discusses some of the industry drivers for change.

INDUSTRY COMPETITION

Several competitive pressures in the investment-technology industry are forcing vendors to seek vertical integration and consolidation.

- **Maintaining competitive advantages**: The arms race among vendors to remain competitive continues to heat up as core features have become commoditized over the past 10 to 20 years. Clients have an insatiable appetite for additional functionality to help them be even more effective and efficient, and these need to be integrated in their tools. Every newly introduced step needs to add value. There is a decreasing tolerance for non-value-added tasks, such as manual importing, exporting, and data mapping. But integration is never easy, and those vendors that are able to provide value and offer a streamlined and seamless workflow gain sustainable competitive advantage.

- **Volume remains down**: During the period leading up to 2008, there was sufficient demand and growth in the industry to sustain the large number of market entrants and attempts to capture market share. But volume is still off 2008 highs, and profits have suffered. Many EMS vendors find themselves competing to capture away market share from competitors rather than going after new opportunities. The pie is getting smaller, and industry revenue is shrinking, yet vendors have mostly fixed costs.

- **Costs are increasing**: The regulatory environment shows no signs of easing, and the demand for more reporting, increased transparency, and additional compliance checks continues to go up. Clients expect their vendors to keep up with the regulatory changes, educate them on the developments, and provide the solutions to maintain compliance. Clients expect these as bundled services, yet it always costs the vendor to provide them. While the vendors could outsource these services to specialized providers, the reality is they need the technology solutions to be integrated and the expertise to reside in-house. The only way to do this cost-

effectively is to spread costs across more customers. Consolidation serves to reduce average fixed costs per output.

REGULATORY DISRUPTION

The risks associated with noncompliance as well as investor demands for transparency continue to raise the bar for vendors.

- **Influence of operations and compliance:** Technology choices are no longer made by traders alone. Operations, compliance, and risk officers are finally getting an equal vote in the technology decisions and purchases. True, the trader will still need to endorse it. But self-concerned traders increasingly find themselves having to cooperate with operations and compliance officers who have dwindling patience for one-off, nonstandard configurations that add marginal benefits and unnecessary complexity.

  In particular, there is a lack of real-time pre-trade compliance associated with FIX staging. The model has overstayed its welcome, and compliance officers have had it in their sights for obliteration.

- **Renewed focus on best execution:** Global regulations are placing more focus on the buy-side's responsibility to its asset owners. In Markets in Financial Instruments Directive (MIFID II) terms, this means an upgraded responsibility from taking "all reasonable steps" to "all sufficient steps" to obtain the best possible result for the client—and be able to demonstrate it on every order. As MiFID II begins to roll out as expected in early 2018, compliance officers will be honing in on the trading desk's ability to demonstrate best execution.

  TCA is an important component of the demonstration of best execution. A complete and accurate electronic audit trail is a requirement. As more focus is placed on TCA, the more necessary an integrated OMS/EMS will be in order to capture accurate order arrival time from portfolio manager to trader and the entire workflow from then on.

CHANGING CUSTOMER DEMANDS

The buy-side is poised for net inflows over the next two years, and traders need, or expect to need, enhancements and upgrades to their trading technology to keep up with the growth in their business with the same or a reduction in resources. And some OMSs and EMSs are struggling to stay relevant and are starting to show their age. They will require significant reinvestment to refresh their technology stack and upgrades to support global and multi-asset-class trading through a normalized workflow in one system. The technology debt of some systems may be too deep, and these systems may need to seek alternative paths for growth.

- **Electronification of markets:** Most order management features of OMSs and trading features of EMSs evolved around the electronification of equities trading. While

electronic trading of non-equities asset classes has lagged, calls by regulators have encouraged entrepreneurs and firms to apply electronic trading paradigms to new markets. Growth in electronic trading of fixed income and exchange-traded and over-the-counter derivatives will continue, and traders will seek the similar tools, analysis, and straight-through experience that they have come to expect in equities.

- **Increased adoption of multi-asset and global trading**: The EMS tended to be more specialized for certain asset classes or regions than was the OMS, and firms typically adopted the "one OMS, multiple EMSs" model. However, over time many EMSs have increased their capabilities to trade across more asset classes on a global, 24/7 basis, so the need to maintain multiple EMS systems has dissipated.

- **Workflow efficiencies:** As more responsibilities land on the trading desk, the need to streamline workflows and seek efficiencies becomes even greater. Traders are constantly seeking ways to speed up the order management process and reduce friction among their operational processes. Navigating market fragmentation among multiple asset classes is becoming even more of a challenge for the trading desk. Smart order routers have therefore become integral to the desk workflow and the trader's ability to customize routing rules has become a prerequisite to sit at the table.

  Vendors are shifting their focus toward finding ways to customize and optimize to clients' workflows. While improving the user's experience inside the application provides the lowest-hanging fruit, vendors have (finally) shifted their sights to the next plateau for improved user experience, which is improving workflows among and between systems.

- **Evolution of the buy-side trading desk:** Institutional buy-side trading desks grew quickly during the past 15 years by adopting trading specialists, often poaching talent fleeing the sell-side. These specialists sat down on buy-side trading desks with their own predilections for whatever tools they were comfortable with and little patience to learn new ones (or wait for the current selected vendors to replicate their preferred environment). Consequently, this contributed to a proliferation in the number of tools on institutional buy-side trading desks.

However, relative to today's environment, buy-side trading desks were much more liberal about technology adoption prior to 2008. Trading desks welcomed multiple, sometimes overlapping EMS systems in the hunt for competitive advantages and at the behest of asset-specific traders demanding best-of-breed trading tools. Often, each EMS was optimized for an asset class or instrument type and configured to specifications outlined by the responsible trader. But traders no longer have free reign to install an EMS from just any vendor. The benefits, efficiencies, and simplifications an integrated OMS/EMS provides are likely to outweigh any perceived benefits of multiple, disparate EMSs.

RISK/COST REDUCTION

Firms are driving their operations and technology organizations to transform their processes and technology to reduce the risks and costs associated with outsourced solutions.

- **Operational risk reduction:** Trading desks are under continual pressure to reduce operational risks while complying with increasingly strict regulatory and compliance norms and taking on additional responsibilities. Operational risk is one of the most significant risks these firms face. Multiple touch points with separate vendor-provided systems leads to duplicative levels of coordination when dealing with day-to-day operational issues.

- **Reduction in technological complexity:** Leading OMS and EMS vendors are increasingly able to support clients' scale, scope, and global footprint, and asset managers are realizing that most technology is no longer a differentiator in many parts of the investment trade life cycle. Therefore, the buy-side is seeking to reduce infrastructure complexity and costs. This entails rationalizing the number of applications across the trading desk and decommissioning legacy and custom applications with vendor-provided solutions. For small-to-midsize firms, the increased availability of hosted or cloud-based solutions is accelerating the shift to integrated systems.

- **Relationship simplification:** Overall, buy-side trading desks have improved their ability to adopt outsourced technology. However, the unchecked proliferation of trading tools and costs associated with the infrastructure and support required to maintain them has reached the point at which they outweigh the benefits of diversification. Managers are seeking to consolidate their vendor arrangements to one or two strategic partners.

TWO SYSTEMS ENTER, ONE PLATFORM LEAVES

Different approaches to application development for this space have led to confusion over the real differences between an OMS, an EMS, an OEMS, and an integrated OMS/EMS. Regardless of the approach, client requests continue to grow for tighter integration between the two applications to ensure that a single trading application can not only support rapid-fire trading but also meet all of the difficult compliance and trade-processing needs. The market has clearly shown movement toward three types: convergence, integration, and a suite of products.

MORE THAN ONE WAY TO SKIN A SYSTEM

As the industry looks for solutions that improve upon the FIX-staging model of integration between the OMS and EMS, there are generally three types:

1. **Converged OEMS:** A single system that brings together the OMS and EMS into one solution: one blotter and common functionality with a consistent look and feel. For example, when a trader enters an order directly in the montage of a single-system solution, the order is seamlessly checked through the system's compliance and position trading logic; when the trader modifies the order anywhere in the system, it is instantly updated throughout the system. This is possible because it's all one system and one front end, eliminating the challenges of passing information between two different systems that were potentially created by two different companies. Often, this model either originated as a traditional OMS and had EMS features blended in over time or, less frequently, the system was designed to deliver a blend of both from the start.

   The potential benefit of a converged OEMS is that it may provide a more unified user experience than a solution that was created by fusing two separate systems together. A potential drawback is that the vendor may not be able to keep up with best-of-breed systems singularly focused on their particular responsibilities for the trade life cycle.

2. **Integrated OMS/EMS**: Once rare, this has now become more commonplace, as the recent wave of industry consolidation among OMS and EMS vendors has enabled providers to bring the two code bases under one roof. This model may provide a more sustainable trading platform, since it generally allows the trader to manage all execution functions on the EMS side but rely on the OMS for basic order management, compliance, and confirmation and settlement.

   This approach solves for many of the challenges that linger from FIX staging. Integration is not an easy task, though, as it requires detailed knowledge of the EMS and OMS on a code level. But when orchestrated by the same conductor, product roadmaps, priorities, release cycles, and product strategy can be aligned, and the chances for success and differentiation are markedly higher.

3. **OMS/EMS suite:** A select few vendors offer separate OMS and EMS platforms that were developed in-house and were not the result of a strategic acquisition. This

model offers a blend of both of the others. It typically results in a user experience quite close to that of the OEMS, since both tools were developed on top of the same technology stack but run as separate and independent applications from the same back-end infrastructure. Here, benefits and challenges are present from both of the prior models. As separate applications, the OMS and EMS and their product roadmaps are able to focus on their core responsibilities in the trade life cycle and still benefit from a common codebase. On the other hand, there remains a risk that the EMS component may lag a best-of-breed EMS.

BENEFITS

No two integrated systems are likely to provide the same exact upgraded experience. Still, some benefits have become table stakes and should be almost ubiquitous in any of the three models:

- **Synchronized data structures:** There are three negative consequences to the OMS and EMS operating from different data models: (1) not all of the data is captured in both systems; (2) interfaces are required to perform translations between the systems, introducing latency and complexity; and (3) developers need to maintain two separate data structures and keep them in sync. Once systems are integrated and reading and writing to the same data structure, more interesting things can be accomplished, like custom multi-legged and bespoke products, enriched analytics, and straight-through end-to-end reporting without requiring reconciliation.

- **Plugging the pre-trade compliance hole**: By moving beyond the FIX-staging model, the potential risk of failing to properly perform pre-trade compliance checks is eliminated. Rules for portfolio and counterparty exposure, ownership disclosure, and security restrictions are performed at the time of order entry, not order staging (or both). And since the systems have been fused together at the code level and are sharing a common database, infrastructure, and networks, latency in order routing is minimized.

- **Seamless workflows:** Traders should no longer have to switch from the OMS to the EMS and back to perform their minute-to-minute tasks. Smart vendors have inventoried the most frequent actions that the trader needs to perform, pre-trade, intra-day, and post-trade, and have brought them together into one system—in most cases embedding OMS functionality into the integrated EMS—so the trader is able to stay focused on one application instead of two to perform his or her job.

- **Real-time product resolution:** In an unintegrated workflow, symbol synchronization and product resolution can cause delays until the product has been set up in both systems. In an integrated solution, traders are able to take action immediately from the EMS, and the product will automatically resolve in the OMS as an order is worked. Any necessary product enrichment beyond what is entered in the EMS can be performed after the order is sent to market.

The market shift toward a fully integrated electronic trading platform has become a reality and will drive most leading third-party OMS vendors' development efforts over the next few years.

CONCLUSIONS

- Firms will continue to develop platforms and integrate products and services across the investment trade life cycle to provide an even more integrated and seamless workflow to clients. The more integrated vendors become, the more challenging it will be for new market entrants to capture or for Tier-2 vendors to preserve market share, as economies of scope are strong in the industry.
- Integration of the OMS and EMS was always a matter of when, not if. The industry is in the midst of profound change; competitive industry pressures are creating opportunities for vendors to bring together disparate platforms into what will become (or will continue to develop into) a differentiated product offering. Not all integrations will be OMS/EMS, but expect to see data, reference, and portfolio management systems fold into an integrated workflow as well.
- The ideal model for integration will vary by firm and each firm's needs. Clients are unlikely to relinquish all EMSs in favor of the integrated model, so FIX staging is likely to persist, at least for business continuity and niche trading situations.
- OMS/EMS integration will likely become the benchmark, not the exception, as heads of trading desks that lag competitors recognize they are losing their trading edge and as compliance departments realize existing and older solutions expose the firm to unnecessary risk. Firms will be able to finally consider integrated OMS/EMS offerings once their technology refresh cycle comes due and it becomes time to revisit strategic technology decisions for the future.
- The benefits of an integrated OMS/EMS will improve the trader's workflow and reduce operational risk by reducing the number of systems deployed on the trading desk and the number of steps required to perform tasks. Integrated OMS/EMS may actually provide early adopters short- to medium-term competitive advantages, as laggards will likely need an additional 12 to 24 months to conduct vendor due diligence, select a platform, and upgrade or migrate new solutions.

ABOUT AITE GROUP

Aite Group is a global research and advisory firm delivering comprehensive, actionable advice on business, technology, and regulatory issues and their impact on the financial services industry. With expertise in banking, payments, insurance, wealth management, and the capital markets, we guide financial institutions, technology providers, and consulting firms worldwide. We partner with our clients, revealing their blind spots and delivering insights to make their businesses smarter and stronger. Visit us on the web and connect with us on Twitter and LinkedIn.

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