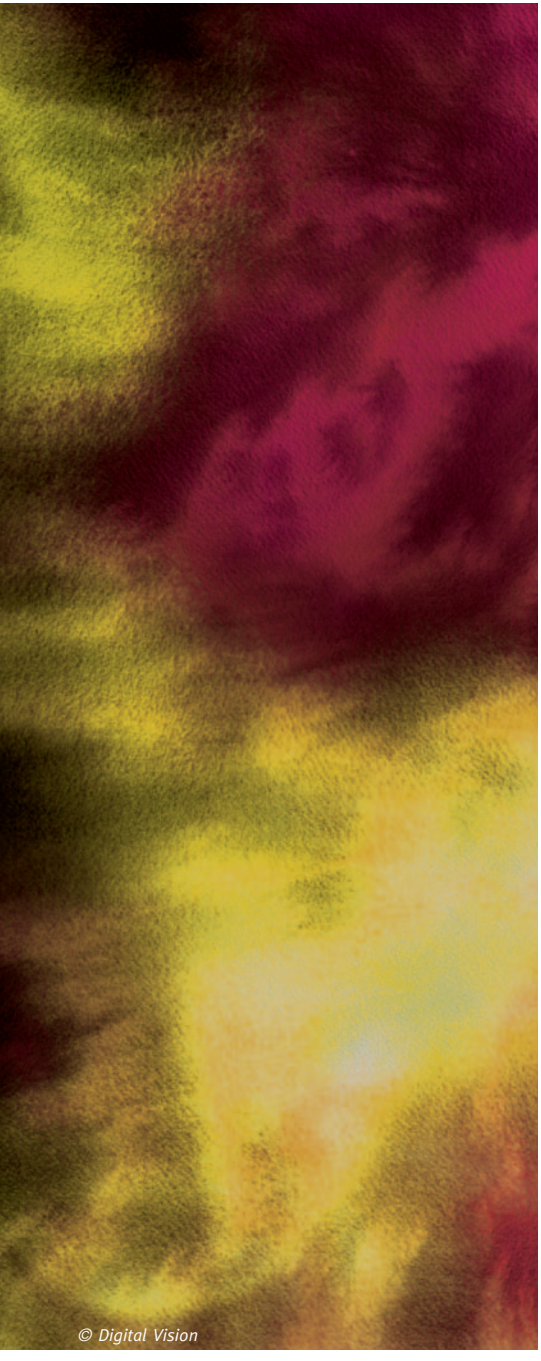
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Selection headaches

Selecting the right technology can be the most important decision a trader makes. Independent analyst Bob Giffords reviews the competing claims of vendors of order and execution management systems.

What is an execution management system (EMS) for anyway? That's the first question any buy-side firm looking for new technology needs to ask. Quickly followed by, where do algorithms and analytics fit into the picture? And what's the value of a combined execution and order management system? "In our survey of 100 buy-side traders, views were split over OMS/EMS convergence," says Kevin McPartland, senior analyst at research firm TABB Group. "Some thought it a great idea, while others were vehemently opposed. Those with higher volumes wanted a lighter EMS, while those doing fewer but larger trades looked to the OMS for risk management. There was a third group that wanted to see the EMS expand by adding compliance and risk reporting, while many wanted both OMS/EMS integration to flow into the back office in a more coherent way."

For Richard Balarkas, president and CEO of agency broker Instinet Europe, which recently added futures and options functionality to its Newport EMS, an EMS is ideally a broker-neutral platform that fires an order to an algorithm sitting in the broker's organisation, but which doesn't itself manage the execution. "For algos, you need real market knowledge, quant skills and software development," explains Balarkas. "Without intimate market experience, algos are useless."

Mixed messages

Other studies have revealed tensions between those who want direct market data feeds, and those who rely on market data aggregators. "There are really different needs and no clear preferences," says McPartland. "What is clear is that the EMS is designed very much around market data, while the OMS is structured more around reference data." Nevertheless, more OMSs are now handling real-time data while EMSs are increasingly able to handle database structures. "The old stereotypes no longer apply," concludes McPartland, "but the OMS still sits on many more desks across the firms, while the EMS is much more focused on the traders and some middle-office support functions."

Indeed, some see EMS and OMS technology moving in quite different directions. "On the sell-side an OMS is becoming almost a customer relationship management system with a focus on routing orders to algos, calculating commissions and analysing client behaviours as well as performance," argues Laurent Useldinger, CEO of ULLINK. "Similarly for the buy-side the EMS is now about supplier relationships, comparing commissions and quality of execution across brokers. It's quite symmetrical." For Useldinger, the EMS today has to be multi-broker, multi-algo and multi-asset class. "That's essential," he believes, "with hundreds of liquidity destinations and millions of messages. Here we're focused on the highly industrialised, high-frequency trading segment, which is over 25% of our new business flow."

"Firms have rules for smart order routing, but not real intelligence. A lot more could be done."

Ali Pichvai, CEO, Quod Financial

Robin Strong, director of buy-side strategy at Fidessa, is not so sure about demand for multi-asset class trading. "Because it's the hub of the model, the OMS has to be multi-asset class," says Strong, "but EMSs can be more specialised, typically resulting in a 'one OMS, multiple EMS' model."

"Multi-asset trading has now been widely rolled out and is beginning to pick up some steam, but it doesn't appear to be high on the

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buy-side's priorities," says McPartland at TABB Group. "About 30% of respondents expressed interest in equities and futures and about the same for options, but FX usage is much less. There's still potential for growth, with fixed income coming up the curve for example, but the focus as of late has shifted much more to downstream integration and embedded analytics."

Meanwhile, Ali Pichvai, CEO of Quod Financial, argues that the buy-side is currently more interested in investment management and compliance in the OMS. "Aside from shops with high-frequency trading, the EMS is lower priority," concludes Pichavai. "For the sell-side, the focus is more on optimising workflow management of orders."

Once you have worked out what EMS and OMS mean to you, then there is the question of priorities. "For various reasons, including latency and upgrades, EMS solutions tend to be hosted," says Strong at Fidessa. "For the OMS, bigger firms who have lots of work-flow customisations usually want to keep it in house, while smaller, more cost-conscious firms may look again for a hosted solution."

For those on a smaller budget in particular, client service is also a factor. According to Sandra Lovric, international account manager for SS&C's Antares Trader order and execution management system, the firm's appointment of dedicated account managers has proved popular. "Our small- and medium-sized buy-side institutional clients are very enthusiastic about the total deployment and maintenance package we offer, as many of them don't have the time or resources for intricate IT work," she says.

Budget constraints abound in all parts of the industry. "Times are challenging as lower volumes squeeze margins," says Pichvai, who notes that after a strong demand in 2009, demand has declined this summer. "With cost the main driver and complexity rising, firms are looking for someone to manage the whole environment," says Pichvai, "for example an application service provider or software as a service offering. That's where we see growth, but we hear that even in the US some vendors are cutting R&D." Pichvai acknowledges that investment tends to be cyclical, but asserts, "Innovation continues, so you have to invest. We'll get through it with partners, but others may not, so choosing your partners is key."

Analytical powers

Decision support is always a key requirement. "For our buy-side clients, the key to good execution management lies in fast access to all relevant brokers and markets and sophisticated pre-, in- and post-trade analytics," says Allen Zaydlin, president and CEO of InfoReach. "Our in-trade model takes current market conditions into account, and it will track actual execution performance against the forecast intraday as well. This adjusts the unknown, statistically

Order and execution management systems

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projected portion of the market by the known, current market conditions and is a significant improvement over traditional pre-trade approaches that are based solely on historical averages." According to Zaydlin, InfoReach's transaction cost analysis models are back-tested and optimised as necessary every night to ensure they work for current market conditions, and also take into account any short-term trends in volumes or price volatility to give the best basis for choosing a trading strategy.

"Traders can then run their own execution strategies or use ours or third-party broker algos straight from the pre-trade screens," he says. "Our EMS can fire off requests to multiple brokers in parallel and then compare their execution performance in real time."

"Compliance, of course, is a growing issue," adds Strong at Fidessa, citing counterparty risks, transparency and end-investor visibility as drivers. He notes however, it takes a finite amount of time to run pre-trade checks, so hedge funds at the moment may have a small speed advantage. "Consequently, we have continued to focus development effort on streamlining the process and ensuring pre-trade checks are completed in a fraction of a second," says Strong. "Where brokers offer pre-trade analytics, we can embed these as visual cues in the trader's blotter to help traders efficiently make use of them."

Instinet too has put a lot of emphasis on charting, real-time analytics and customisation, but usage varies. "Each client has to feel that they can mould the product rather than the product mould them," says Balarkas. "The real focus should be on customising algorithms and easy integration with the EMS using FIX ATDL (algorithmic trading definition language) to give traders access to new control parameters, like the percentage of an order to be left in dark pools, for example. The EMS should support ATDL 1.2, which is a big improvement, and interoperate with a wide range of broker algos and OMS platforms."

"What is still missing is intelligent routing: find me liquidity across brokers," argues Pichvai. "Firms have rules for smart order routing, but not real intelligence. A lot more could be done, but neither buy- nor sell-side wants to pay for it."

This challenge of mobilising investment is a frequent refrain. "Rather than just passing control to the sell-side, the buy-side now wants its brokers to host algorithms deep into the back-end systems that the buy-side can control," says Harry Gozlan, founder and CEO, smartTrade Technologies. "They also want to smart route their orders to other smart order

routers across all the different brokers. While we could easily develop such functionality with our tool set, the buy-side does not appear ready to pay for it."

Some new forms of intelligence are, however, starting to appear. "If traders want to upload allocations to individual accounts they can do so, to ensure balanced executions such as dollars against euros, for example, or cash-neutral contingent trades," says Zaydlin at InfoReach. "Any special requirements can of course be built into their own algorithms."

Innovation acceleration

"Our vision was to create a comprehensive, open and highly flexible EMS platform that would give clients the widest possible choice with respect to execution strategies and trading destinations," says Ary Khatchikian, president and chief technology officer of Portware. "As a result, we have integrated hundreds of broker algorithms in Portware Enterprise. However, the ease with which we can update these algorithms and introduce new ones is something that really sets us apart from other vendors. When brokers send us an updated specification for their algorithms, we can push these updates out to clients in real time without having to shut their trading systems down. In addition, Portware was one of the first trading systems providers to fully adopt the new FIX ATDL specification, which has further reduced implementation times for broker algorithms.

"For buy- and sell-side firms that write their own algos," continues Khatchikian, "we offer an ultra-high-performance trading engine called Strategy Server which includes a flexible development environment that allows users to create proprietary strategies and back-test them using live or historical data and simulated fills. Some brokers are using Strategy Server to run their entire suite of algorithmic offerings, which represents a major departure from the traditional in-house development strategy that brokers have traditionally embraced."

Khatchikian notes that once clients have developed algorithms in Strategy Server, they can be co-located in any data centre worldwide. "The system's flexibility allows it to work off of multiple data feeds simultaneously, support various clustering strategies, trade multiple assets, and conform to market-specific regulations and reporting requirements," he adds. "All of this comes with the added benefit of centralised latency and performance monitoring."

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Useldinger at ULLINK also emphasises distributing the load across servers, multiple co-location sites and optimising on latency

and throughput. "That's built into our pre-trade analytics as well as our centralised monitoring of what's going on," says Useldinger. "Hedge funds want their algos to collaborate. They build them centrally but then deploy them across the network and tune them for each market. So in the US we might have three to four data centres for 12 to 15 exchanges. The reporting needs to be sensitive to this diversity."

Gozlan at smartTrade also sees split co-location as being important to market makers, but less so to the traditional buy-side who are not motivated by gaining the odd half-millisecond of latency. "Electronic liquidity providers are however starting to orchestrate their distributed trading engines and our peer-to-peer model works well in this context," says Gozlan. "For the sell-side though, complex co-location appears to offer few revenue opportunities, so progress is likely to be slow." On the other hand, Gozlan sees indications of interest becoming much more of a priority for the sell-side, giving dark or grey pools a second breath by improving crossing rates. "Again control is the operative word," says Gozlan, "so the buy-side will need to work harder to really make use of them."

"Performance scalability is another issue," adds Strong from Fidessa. "On the last day of a quarter there can be a lot of activity in a large index such as the Russell 2000. We can dynamically increase the number of server instances to get better performance. These technical issues can have a big impact on overall throughput but very few systems are as dynamic as ours. We have clients with huge numbers of fills, hundreds of thousands of orders per day, so keeping up with fast markets is crucial."

Balarkas at Instinet, however, raises a final note of warning: "The rapid growth in EMS installs seen over the past decade is slowing. They've done FIX, e-trading and multi-asset, and many include basic analytics. As we get to the end of the wave, EMS vendors may see low or no revenue growth and we could see some further consolidation." So predicting who will survive could be the most important selection criterion of them all. ■

Bob Giffords is an independent banking and technology analyst
Bob.Giffords@btinternet.com