Multi-leg orders have long been a versatile tool for buy-side asset managers looking to implement investment strategies across multiple instruments, asset classes or timeframes. Recently, exchange offerings such as complex order book support and sell-side algorithmic trading in listed options markets have led to increased trading volumes and innovative new use cases.

This article discusses how a multi-asset Order and Execution Management System (OEMS) helps buy-side firms effectively implement and manage both single- and cross-asset complex order strategies while mitigating potential risks. While conceptually simple, successfully managing multi-leg based strategies can be surprisingly complicated, with the potential for trading errors, suboptimal execution, increased costs and lost productivity if orders and executions are not handled appropriately.

**Multi-Leg Order Versatility**

Multi-leg orders enable investment managers to buy and sell individual instruments simultaneously to minimise execution risk while paying a single commission. These orders have a number of uses:

- Equity pairs trading (statistical or merger arbitrage)
- Rolling futures, options, money market instruments and FX forwards at contract expiration
- Hedging physicals with derivatives
- For finite life assets such as options and futures, calendar spreads can be implemented, with legs consisting of different expiration dates
- Buy-and-hold asset managers can implement covered call strategies to enhance returns on their portfolio
- Implementing synthetic futures or delta-one strategies
- Trades in more than one time zone or geographic region
- Trading instruments with multiple settlement arrangements.

"The ability to design a complex strategy involving multiple legs across multiple expirations and potentially multiple asset types and submit that trade to the market opens up an entire new trading constituency."

– Andy Nybo & Bob Von Halle
TABB Group

**Traditional Systems Prove Limiting**

Traditional order management systems (OMS) and asset class-specific execution management systems (EMS) are ill-suited for managing multi-leg orders and monitoring execution, especially for institutional investment managers overseeing complex fund and account structures. In addition to the usual "swivel chair" inefficiencies, symbology and pricing differences between the OMS and EMS can result in expensive system integration challenges or manual workarounds.
Managing Multi-Leg Orders With An OEMS

A multi-asset OEMS provides institutional investment managers with superior trading decision support by providing visibility across the entire trade lifecycle, difficult if not impossible when using separate OMS and EMS platforms.

An OEMS gives traders better clarity on where they can trade and what types of strategies are accepted by each broker and venue, which is essential given the fragmentation of trading venues and liquidity providers. Similarly, a single system provides the ability to pro-rate commissions and fees across accounts and allocate fills (including partial fills) in a transparent manner.

Streamlined Trade Allocation

An OEMS helps buy-side firms streamline the allocation of trades and executions across complicated fund and account structures. Attempting to manually handle multiple child orders, partially filled orders, allocating fills separately or together, and maintaining allocations on the ratio between legs are tedious, error-prone activities. Codifying allocation logic in the OEMS and automating the process allows traders to focus on value added activities and avoids triggering compliance violations.

Improved Decision Support

Another OEMS innovation that improves trading decision support for complex orders is the quick identification of "Approved Brokers". This is a dynamically updated, trade-aware display embedded in the OEMS that displays which brokers will accept a particular strategy, applicable daily trade volume caps and total outstanding basis, with the ability to split orders. Providing traders with this information ensures that orders are routed appropriately and minimises lost time routing an order to a broker unable to handle the requested size or instrument.

Integration With Compliance, Risk and Accounting Systems

As a central component in an enterprise investment management solution, the OEMS integrates with risk and compliance capabilities that flag a broad range of potential trading violations and provide visibility into counterparty exposures and concentration risk. Trading limits, whether firm wide or broker specific, can be more easily enforced. Complex orders can be particularly difficult, as the aggregate effect of the legs must be considered, where execution of any leg is contingent on all the associated legs. This can also create accounting challenges for the back office, especially when dealing with partial fills. The ability to import and export trade and position data between the OEMS and accounting systems on a timely basis reduces the likelihood of accounting and allocation errors.

As multi-leg strategies garner increased attention from institutional asset managers, the ability to manage these orders in an efficient manner grows in importance. A multi-asset OEMS delivers this capability out-of-the-box. An OEMS also provides greater visibility into the trade life cycle and improved decision support. This offers a number of advantages over the traditional OMS/EMS approach and helps buy-side firms better manage risk while implementing innovative investment management ideas.

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