

## SMART ORDER ROUTING For Today's Fast Markets

Today's smart order routers are vastly different than the earlier ones. Historically, smart routers have focused only on price, but price is no longer the only factor for best execution. Today, price is governed by Reg NMS.

The regulatory changes in the US and other markets have enforced competition among exchanges and ATS. The best execution mandates connectivity, price, strategy, size, cost, history/probability and opportunity are considered key factors in the execution.

## How the smart order works

The simplest form of smart routing looks for liquidity by 'sweeping' the execution venues. In order to avoid over-filling an order, it performs the sweep by looking at each order book in turn and decreasing the outstanding order quantity by the amount filled on each venue. This implies that there is an order of priority between each of the venues.

As an order arrives, the smart router will aggressively "scrape" liquidity off the venue or venues with the best price, even if the available quantity is quite small. The smart router will then "post" any remaining unfilled quantity as a limit order onto the book of the preferred venue.

A further level of sophistication is provided by a process called "dynamic reflect". This is where the smart router divides an order into a series of 'child orders' and posts them as limit orders onto multiple venues simultaneously.

The child orders can be pegged to the related execution venue to ensure that they get filled at the best price available. Dynamic reflect allows the order to participate on all of the liquid order books simultaneously and there is no over-fill risk because the parent order is divided into a series of child orders whose cumulative quantity does not exceed that of the parent order.

Dynamic reflect and multi-sweep work in conjunction with one another multi-sweep using aggressive order types to take available liquidity and dynamic reflect to passively participate in volume.

These functions work together to get the best available liquidity from the exchanges and dark pools. With the existence of dark pools, multi-sweep is essential because these venues only permit aggressive order types and no posting.

The most sophisticated level of smart routing is where a parent order can be split into child orders with some child orders being routed to multi-sweep the dark pools, and the remaining child orders being sent off to the exchanges and other venues using dynamic reflect. The parent order rebalances the child orders' remaining quantity as fills are received.

The earlier routing technology simply located the lowest offer or highest bid and sent all or part of the order to the requisite venue. Over the last few years, however, the routing logic has evolved rapidly and now delivers a higher chance of securing a better execution.

In the US and Europe there has been a proliferation of broker internal pools to help improve internalization rates and find better prices for clients. In fact, the development of real-time order routers helped facilitate the development of these internal pools.



## About OMEX

OMEX Trading Technologies, LLC. designs and develops a i `h]! UggYh hfUX]b[ `gmghYa g`Zcf`Yei ]h]Ygž cdh]cbg`UbX`Z hi fYg`hfUX]b[ "` CA 9L is a neutral,fYU`!h]a Y` d`UhZcfa `h\Uh'dfcj ]XYg`X]fYVh`UVVYgg` to major global`YI VX Ub[ Ygž`XUf\_` dcc`g, crossing`bYhk cf\_gž`U`[ c` providers and ``YUX]b[ `a Uf\_Yh` a U\_Yfg through a`g]b[ `Y`hfUX]b[ interface. OMEX can`VY`k \]hY` `UVY`YX and branded to`mci f` Z]fa fig own trademark and``cc\_!UbX! ZYY`.

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Smart routers need to know how to find liquidity and understand the opportunity cost of placing orders of specific sizes into specific markets. There is both an opportunity cost of not placing that order somewhere else and a risk that placing the order will leak information. Placing and taking liquidity is becoming a science that smart order routers need to master.

Smart routers need to know not only how to connect to these liquidity pools, but also understand pool structure and logic to understand how the pools attract orders, execute and /or route to other venues in search of liquidity.

## OMEX Dynamic Smart Order Routing

OMEX Dynamic Smart Order Routing was developed to meet the needs of traders where speed, price, strategy, size, cost of execution are important. As the liquidity continues to fragment, the smart order router sorts out which execution venue will provide the best possible execution for a trade and then sends the order to that venue.

To compete, participate and prosper, the firm should offer global electronic access to trading desks and to their clients with smart routing to existing exchanges and dark pools to new and emerging venues. OMEX can help by providing access to major global exchanges, dark pools and crossing networks through a single trading interface. Our hosted solution can help your firm maximize resources so you can focus on trading opportunities rather than worrying about managing technology.

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