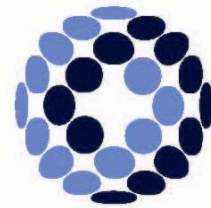


FTEN



Gaining Speed: Direct Access Methods for High Frequency Trading

The changing landscape in Europe is encouraging the use of high frequency trading techniques as hedge funds, proprietary traders and other alpha-seekers attempt to exploit the new faster markets to their advantage. These high frequency traders need fast Direct Electronic Access to exchanges, new multilateral trading facilities and other alternative trading systems. To gain this kind of access, market practitioners need to choose between a member or non-member approach for each execution venue they plan to use. Each approach has its pros and cons. This paper examines the various Direct Electronic Access methods under consideration in Europe's fragmenting markets, and assesses the risk control requirement facing brokers that seek to allow clients to access markets under their memberships.

Direct Access Methods for High Frequency Trading

The buzz around high frequency trading (HFT) in Europe is high. A realm of proprietary trading shops, established European hedge funds, as well as new entrants from the US, seem to be jumping on the opportunity. They are not only rolling out new high frequency trading strategies, but they are starting to scale their most successful strategies across venues and regions.

Decreased trading costs and fragmented liquidity, which resulted from MiFid market structural changes, are prompting many firms to develop high frequency trading strategies. And it is also attracting many US firms who are looking for new opportunities. Furthermore, in Europe, the FSA supports the concept of Direct Electronic Access as long as appropriate pre-trade and post-trade risk controls are put in place to monitor and control the high speed, high volume order flow.

These factors are encouraging Prime Brokers and Exchanges across Europe to roll out competitive offerings in order to attract this emerging high volume order flow. In the past, many funds needed to become an Exchange member in order to get the high speed and direct access required. But today, Exchanges are offering “Sponsored Access” and Brokers are now defining programs around “High Frequency Access”. Both packages allow non-exchange members to use their Broker’s IDs and use a co-located execution infrastructure to trade directly at the exchanges.

But these different “Direct Access” programs offer different benefits and costs to the funds. This paper discusses the pros and cons of each of these methods.

Today, Direct Access methods are grouped into three categories:

- **Exchange Membership Options** – Membership can completely circumvent the need for a prime broker for execution services, however the trading firm will still need clearing services.
- **Exchange-provided “Sponsored Access Programs”**- This approach establishes a direct contractual relationship between the exchange and the fund along with the Sponsoring Broker. The broker provides its membership IDs for their clients’ trading use.
- **Broker-provided “High Frequency Access Programs”**- These programs, sometimes referred to as High Frequency DMA, are being developed to support high speed, co-located trading in a distributed trading infrastructure.

Of note is the complete absence of a U.S. practice called “Naked Access”, a version of Sponsored Access where a firm can trade under a broker’s ID without any pre-trade risk checks between the client’s black box and the matching engine of the exchange. This is in contrast to FSA guidance that specifically demands pre-trade risk controls.

Update: On January 13, 2010, the SEC announced that it will move to ban “Naked Access” in the U.S.

Choices for High Frequency Traders

Each direct access method has different advantages, but we can discern best practices as early movers pioneer the different methods.

Exchange Membership

As trading entities enter the HFT space, many apply for direct non-clearing exchange memberships. Initially many proprietary trading shops in Europe have gone this route. While this approach may offer the most direct access, the firms must apply for memberships across countries and exchanges, meet country-specific regulations on reporting rules, forgo anonymity, and invest directly in the network and infrastructure requirements. On top of that, there are legal and tax issues associated with this setup that can result in substantial legal and accounting fees. Because of these complexities, after an initial increase in exchange memberships primarily on MTFs, it appears alternative approaches are gaining broader acceptance, specifically among new entrants from the US.

However, more established European players with an initial set of exchange memberships often expand this approach of getting direct market access. So brokers should not only focus on ensuring that new entrants from the US use their offerings rather than going direct, they should also worry about existing clients that move away from the prime route and expand on their direct membership model.

Exchange “Sponsored Access” Programs

Exchange provided Sponsored Access (SA) programs offered by NASDAQ OMX, Bats and Chi-X are an alternative to exchange membership. Sponsored Access still needs a sponsoring Broker’s ID, but this program is primarily defined by each exchange. The broker still maintains the liability for the trades but the exchange provides the connectivity, the co-location and the pre-trade order level risk checks,

along with 'drop copies' of executed trades back to the sponsoring broker.

This approach comes with serious short-comings when it comes to risk management of a distributed trading setup. The exchange provided pre-trade risk systems don't provide awareness of what the account is doing across venues. Also, the ability to control the client's flow across multiple exchange systems is hindered by the integration issue associated with tying together many different flow control interfaces provided by the exchanges.

The exchange provided SA option also requires additional paper work between the exchange, the broker, and the hedge fund. There also seems to be a misconception that exchange provided SA offerings are faster than broker provided direct access offerings – which is hard to generalize. Many times there can be a similar architectural setup and the resulting speeds can depend on the intricacies of the technologies used.

On top of those concerns, however, is that Sponsored Access programs are not available on all European exchanges, so it is not uncommon in Europe's fragmented liquidity landscape that HFT firms end up with a plethora of different access and risk control options. This does not facilitate manageability of the setup and complicates the oversight and control of the fund's order flow.

As a result, many brokers that consider this option soon conclude that their internal risk and compliance teams are not comfortable with the siloed setup that lacks the ability to customize risk control parameters based on the specific business requirements of the broker and the specific risk profile of the fund they sponsor.

Broker "High Frequency Access" Programs – tailored for high speed, distributed, co-located trading

This third option can circumvent the regulatory and integration issues associated with the alternative methods of Sponsored Access and exchange membership. This new approach is not just an enhancement to a broker's traditional Direct Market Access (DMA) program, this is a newly engineered, next generation execution and risk control infrastructure offered with a set of services specifically designed for high frequency trading firms.

These new broker provided programs are beginning to offer the execution speeds needed by high frequency traders by co-locating the execution systems at the exchange. It also offers the risk control mandated by the regulators. And, it offers the services and flexibility to scale across venues. These new programmes include attractive margin rates, lower execution costs, stock locate services, and the ability to

participate in volume rebates as well as use of the broker's clearing services.

This broker provided access method qualifies as standard, broker provided services and thus meets the criteria of member access as defined by CESR and the FSA. Therefore, with this approach, special Exchange Sponsored Access contracts are not needed.

This path can offer high frequency traders the quickest time-to-market since the administrative and infrastructural burdens are effectively outsourced to the broker. This approach is also engineered to scale. Since this is driven by brokers who want their clients' successful strategies to grow across venues and regions, it is a platform for brokers to build very competitive programs for their highest volume clients.

Additionally, the broker's internal risk and compliance teams can implement customized pre- and post-trade risk checks with automatic order flow control options across the trading activities of their funds. As such, this third approach has been the primary focus of prime brokers who aim to offer the best possible service package to their end clients, while protecting their own business.

The New High Frequency Access Infrastructure – Distributed Execution and Risk Control Platforms

To compete for high frequency business, brokers are deploying a distributed execution infrastructure that is co-located at exchanges and delivers the latency, robustness, and resistance to bursts that is required for high frequency trading. Called Distributed Execution and Risk Control Platforms (DERs), these systems provide tight integration between pre-trade and post-trade risk controls, along with order flow management capabilities and extensions needed for regulatory reporting.

After initial acceptance of Exchange Sponsored Access programs, many brokers have instead opted to build out, or rely on a vendor to provide, a completely new, ultra low-latency, "Distributed Execution and Risk Control Platform" to establish their High Frequency Access programs.

Initially designed to attract high frequency order flow, it may be that over time, this high speed, distributed, 'no-touch' order flow infrastructure could represent the next stage of sophistication and integration for trading more broadly across the fragmented pan-European market.

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About FTEN

FTEN's high frequency execution and risk control platform processes millions of transactions globally, including over a third of the U.S. equities daily volume and over \$150 billion in intra-day risk calculations. FTEN's platform allows brokers to extend their Prime Brokerage and electronic execution services business to capture high frequency trade-flow. Additionally, high frequency trading firms can use the FTEN platform to scale their black box strategies across markets and regions. The FTEN solution is fully- integrated with pre- and post-trade risk controls, real-time surveillance and compliance reporting services. FTEN's fully managed and integrated offering provides customers with a quick time to market without significant investments in IT staff or capital resources.

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If you would like more information on these trends, or a detailed comparison between the different direct access programs, please contact the author: Valerie Bannert-Thurner PhD., Executive Director FTEN Europe, vbannert@ften.com or +44 (0) 203 086 8111.

Appendix

The Pros & Cons of Direct Access Methods for High Frequency Trading

Exchange Membership	
Pros	Cons
Most direct access to exchanges	Multiple memberships needed across regions
Avoid Prime Brokerage fees	Must meet country-specific regulations on reporting rules
	Forgo anonymity
	Invest directly in infrastructure and network
	High fees associated with legal and tax issues

Exchange Sponsored Access	
Pros	Cons
Direct access to exchanges	Contracts needed between the HFT, Broker and each exchange
Order level pre-trade risk management	Risk controls cannot track positions across venues
Exchange trading infrastructure included with exchange fees	Risk controls cannot track offsetting hedges
	Brokers must build internal tool to aggregate flow control interfaces across venues
	Limited flow control capabilities
	Not all exchanges offer SA programs, resulting in inconsistent access and risk management systems, which are difficult to manage.

Broker Provided Direct Access	
Pros	Cons
Special Exchange Sponsored Access contracts are not needed.	Execution services fees
Programmes include attractive margin rates, lower execution costs, stock loan services, and the ability to participate in volume rebates along with clearing services.	
Administrative and infrastructural burdens are effectively outsourced to the broker.	
Broker internal risk systems can customize pre- and post-trade risk checks with automatic flow controls across all trading activities.	
Completely circumvents the regulatory, integration, and risk issues associated with Sponsored Access and exchange membership.	