

**Profile of Exchange and FCM
Risk Management Practices
For Direct Access Customers
As of December 3, 2007**

Background

The term “direct market access” is frequently used to describe a customer accessing a market using a firm or an ISV’s order routing system, routed through a firm’s trading infrastructure. However, a different type of direct access trader has emerged. In order to reduce latency and to have more control over their trading environment, a number of market-making firms, financial institutions, and funds wish to electronically access futures exchanges directly without passing through a firm’s infrastructure. This paper addresses issues associated with the latter type of direct access trader.

Direct access firms either join the exchanges as non-clearing members or access the exchanges in the name of their clearing member. In all cases, these firms must be guaranteed by an FCM before the exchange grants direct access to these firms. Because the firms do not send orders through the FCMs’ trading infrastructure, they are not subject to the pre-trade risk controls generally in place at the FCM. The FCMs have a variety of methods for controlling the risk of these customers. In addition, the exchanges have taken steps to ensure that the FCMs have the ability to monitor the activity of these customers and take action on the orders and trades if necessary.

**Exchange Actions to Support
Direct Access Risk Management**

Over the past several years, most of the major exchanges have taken steps to give FCMs better tools for monitoring and managing the risk of clients that access the exchange directly. Following is a description of the approach taken by the largest futures exchanges:

- CME. The CME has taken a number of steps to mitigate this risk:
 - It requires FCM access to clients’ pre-trade risk controls as a condition for acceptance of such clients.
 - It has substantially improved the speed of the delivery of the executed trade information, making it possible for the FCM to feed its risk system on a nearly real-time basis.
 - It offers FIRMSOFT, an internet-enabled program that enables the clearing FCM to view all orders and executed trades of any client clearing them on a real-time basis. In addition, the FCM can cancel working orders.
 - FCMs have the right to cut off access of their clients at any time and for any reason by calling the Globex Control Center.
 - Effective in the first quarter of 2008, the CME will offer real-time “drop copy” order information to the FCM to enable the risk system to see working orders as well as executed trades. This will

be an improvement over Firmsoft as it will enable more automation of risk monitoring.

- It offers volume controls to limit the maximum rate of order submissions.
 - CME Group is developing enhanced credit control functionality, to be implemented in 2008, that will provide flexibility to Clearing Firms enabling them to aggregate and apply pre-trade credit controls at a Trading Firm, account, or iLink session level (including users with direct connections into Globex).
 - For FXMarketSpace at the beginning of 2008, the following risk functionality will be offered: pre-execution positions limits, order size limits based on current net positions, and “cancelled on disconnect” functionality.
- CBOT. The CBOT also offers a variety of risk mitigation approaches:
 - It has worked with Liffe Connect, its matching engine provider, to provide a “master trade mnemonic” (MTM) that enables the FCM to get a real-time feed of all the working orders and executed trades of clearing clients. The MTM can be configured to monitor any ITM (Individual Trading Mnemonic) associated with the clearing firm, any of its clearing divisions and any direct access clients. MTMs can also monitor across multiple front-end solutions and e-cbot installations.
 - The MTM can cancel or revise orders for any of the ITMs it has been assigned to monitor. An MTM can also log off any of its assigned ITMs, which automatically cancels all day orders, or lock off any of its assigned ITMs, which automatically cancels all day and GTC orders. Only CBOT Market Operations can permit a locked-out ITM to re-access the trading system and will only do so with the approval of the clearing member.
 - It offers e-Fills to enable FCMs to view the executed trades of all clearing clients.
 - It benefits from the improved delivery of execution information from the CME Clearinghouse mentioned above.
 - FCMs have the right to cut off access of their clients at any time and for any reason by calling the CBOT help desk.
- Nymex. Nymex offers a number of risk management tools:
 - If clients access Clearport clearing for OTC cleared products, the clearing firm has the ability to set pre-trade position limits, to pre-set controls for approved brokers, approved products and can set Risk Allocation Value (RAV) based on margin.
 - The FCM has the right to cut off access to Clearport any time by calling NYMEX Customer Service.

- If clients access Globex to trade the futures, the FCM will have the same drop-copy capability which will be offered by the CME in Q3.
 - The FCM can use Firmsoft to access orders just as it does for CME.
 - The Nymex clearing feed is nearly real time and delivers executed trade information to risk management systems in a timely fashion.
 - The FCM has the right to cut off access any time by calling Globex control.
- ICE Futures uses the ICE trading platform which offers a variety of risk mitigation tools:
 - Pre-trade risk limits must be set at the exchange level using exchange software for all clients in 3 ways;
 1. Can set a limit for total number of lots traded in a day.
 2. Can set a net long or short limit for intra-day positions
 3. Can set a float limit on individual order size
 - ICE Futures uses a version of the TRS matched trade feed supplied by Liffe which delivers near real time executed trade information to FCM risk systems.
 - FCMs can see all of their clearing clients' trades (not working orders for direct access clients) on WebICE in real time.
 - FCMs may shut off client access at any time through the risk module.
 - Exchange Rules mandate that Members are responsible for making effective arrangements, systems and controls for ensuring they have adequate risk management systems.
 - Trading on the ICE OTC markets and NYBOT takes place on the same platform and consequently has the same functionality available, however NYBOT trade execution information is not delivered through the TRS feed but the NYCC TIPS feed which is also a real-time feed available for risk management systems.
- Eurex Clearing AG. Eurex Clearing AG offers a variety of risk mitigation tools:
 - On November 26, 2007 Eurex introduced a series of risk-management features that permit clearing members to set pre-trade limits for their non-clearing members. These limits control order sizes, order frequency per time interval and the size and risk profile of the order book.
 - In addition to maximum order quantities per trader per product, clearing members can define overall maximum order sizes per non-clearing member on a product level.

- Eurex also introduced a stop button that allows a clearing member to cancel working orders automatically and prohibit further entries of orders, quotes or back-office transactions.
 - In addition to the system features, a clearing member can always call Market Supervision and request disconnection of its non-clearing members from the Eurex market at any time and for any reason.
 - Eurex Clearing AG, offers IRIS, a service that distributes comprehensive risk management figures intra-day at 15-minute time intervals. It lets clearing members monitor the development of total margin requirements down to the level of single position accounts of the clearing member's non-clearing-member clients.
 - Clearing members receive real-time clearing feeds of all executed trades and back-office transactions. Real-time order data can be received on request by the clearing member.
 - To further enhance intra-day risk management, Eurex Clearing AG plans to move away from a batch-driven architecture to an event-driven risk architecture, which catches position and price updates in real-time without measurable latency.
- Liffe. Liffe offers the following risk mitigation approaches:
 - Liffe rules require all members to implement effective risk management systems and controls, including adequate processes for pre- and post-trade risk management for all business conducted in the member's name, irrespective of whether such business is proprietary or executed on behalf of a client.
 - Only Liffe members are permitted direct access to LIFFE CONNECT®. Moreover, as a result of the open API, members have the option of deploying pre-trade risk intermediation controls within the front-end trading applications made available to their Automated Order Routing System (AORS) clients. These pre-trade risk controls can be designed as either stand-alone (e.g. "maximum order size" controls) or fully integrated into the members' AORS.
 - LIFFE CONNECT® provides all users front-line order protection through its dynamic price controls. Only orders placed within a pre-defined price range based on the last traded price or pricing models, depending upon the product are eligible for trade. This dynamic order control functionality prevents so-called fat finger errors.
 - In addition Liffe has recently substantially improved the speed in which executed trade information is transmitted to members via its TRS trade administration service. As a result members have the capacity to incorporate executed trade information into their back-office risk management systems on a near real-time basis.
 - Given the imminent introduction of the new Member Co-location services and in an effort to improve risk management controls

generally, the recently rolled out LIFFE CONNECT® v. 10.0 includes Master Trade Mnemonic (MTM) functionality. MTM functionality enables Liffe members full, real-time visibility of all order executions from any or all subordinate Individual Trade Mnemonics (ITMs) guaranteed by that member, irrespective of the front-end application employed by the client.

- Liffe will further enhance the risk management functionality of MTMs with the Q1 2008 release of a lock-out function. Lock-out functionality will enable MTMs to cancel any orders worked by a subordinate ITM and to preclude any further trading activity by that ITM.
- Alongside MTM functionality, members have always been able to call the Liffe Market Services Center to pull client orders or to terminate access of any subordinate ITMs. In addition LIFFE CONNECT® automatically cancels all working orders of a member who has lost connection to the trading host.
- It is also important to note that the Liffe Member Co-location service will offer members dedicated cabinet space and ample power to allow for the installation of risk management controls alongside the members' quote injection equipment.

It is important to note that all the above exchanges have been soliciting feedback from FCMs over the past year to implement better risk management information and practices.

FCM Risk Management Practices

In addition to the growing number of tools the exchange provides, firms have considerable expertise and approaches to assessing clients' risk exposure. FCMs have asked the exchanges to provide them with greater access to the working order information and greater ability to cut off trades automatically. While no approach provides a complete solution, firms feel that tools currently being developed by exchanges will go a long way toward enhancing their ability to manage risk of direct market access clients.

- Accessing the client's own pre-trade risk controls. Most exchanges and SROs require the FCM to ensure that the client has pre-trade risk controls in place. FCMs may require the client to provide network access to their pre-trade risk controls.
- Credit approval. The FCM will grant direct access rights only to those clients who are deemed sufficiently creditworthy that pre-trade monitoring is less essential. An FCM may also require additional collateral to provide a comfort level that the client will be able to meet any obligations that might arise from trading. The FCM will monitor the clients account next day to determine whether margin requirements are being met.

- Order monitoring using exchange order mitigation tools. FCMs will monitor the clients' orders using exchange-provided order mitigation tools such as the CME's FIRMSOFT. If they notice any exceptional activity, they can cut the client off with the exchange's control center.
- Utilizing exchange-provided pre-trade risk tools. Certain exchanges such as ICE Futures enable FCMs to set pre-trade risk limits at the exchange level using exchange-provided software for clients that they clear. These limits are typically position and order size limits.
- Monitoring the client's risk post-trade based on executed trades. In this case, the FCM takes the executed trade feed from the exchange, maps it into a risk management tool that rolls up all the client's trades, performs a real-time risk calculation such as SPAN margin, and compares the client's exposure to a pre-determined risk threshold. If the client exceeds this threshold, then the FCM is alerted and investigates the client's risk position and takes necessary action. Such actions include contacting the client and asking it to reduce its position or even contacting the exchange and cutting off the client's trading access.
- Finally, clients are judged on their willingness to share information with their FCM. The more transparent a client is willing to be, the more likely the firm is to grant direct access.

Most firms use multiple approaches to risk management because each method has certain limitations. Access to a client network can be cut-off at any time. When accounts are monitored manually, it is difficult to monitor all clients at the same time. Automated risk calculations are naturally preferable to human observation. Firms also take into account the fact that they cannot see a client's positions across firms and exchanges as clients do not conduct all business through one FCM or a client in its own right may be a member of an exchange. Therefore, a firm does not always have a complete picture of a client's risk profile, so there is no single, best method of assessing risk. Ideally, firms would like to have pre-execution risk controls on client accounts. When that is not possible, the more real-time the information a firm receives from the exchange, the better it will be able to monitor and control risk.

Note: Most exchanges have implemented ways of detecting and limiting fat finger and other types of trading errors. These tools are not applicable to the risk issues associated with traders that do not access an exchange through an FCM's trading infrastructure.