

FIA L&C 2016



Session 9B

Automated Trading Requirements

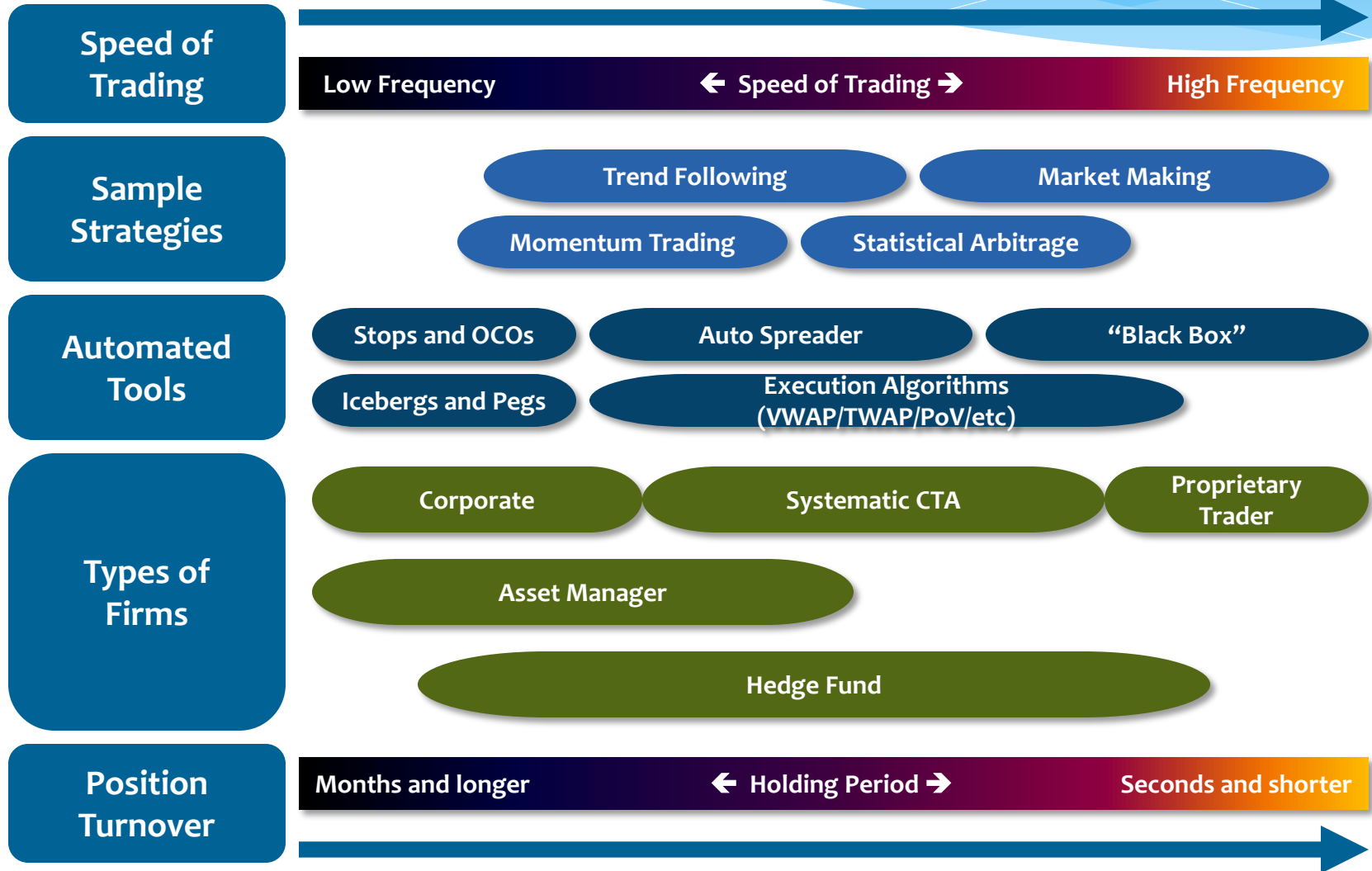
Agenda

1. What is algorithmic trading?
2. Current standards governing algorithmic trading.
3. Specific issues in the current regulatory regime.
4. The current role of the FCM.
5. Liability when something goes wrong.

1. What is algorithmic trading?

- * What behaviors and technology are included in algorithmic trading?

Example Algorithmic Trading Spectrum



1. What is algorithmic trading?

- * How do exchanges currently think about algorithmic trading?
- * What do exchanges include in the definition of “algorithmic trading”?

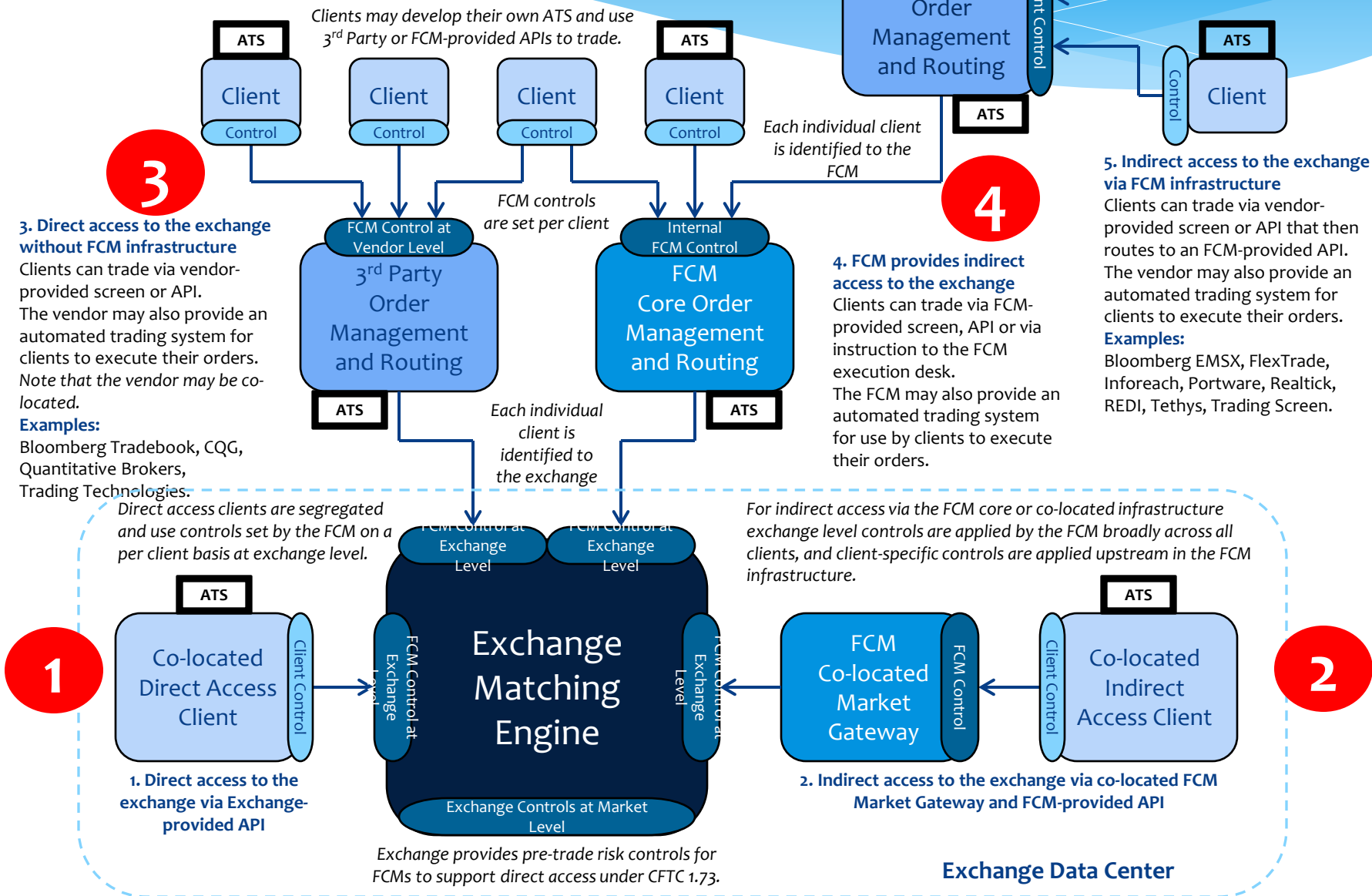
1. What is algorithmic trading?

- * What are the different ways users can electronically access futures markets?
 1. Co-Located Direct Access
 2. Indirect Co-Located Access
 3. Direct Access Without FCM Infrastructure
 4. FCM Indirect Access
 5. Indirect Access with FCM Infrastructure.

ATS and Pre-Trade Risk Control Location

Clients can use 5 ways to access the exchange, and may also use multiple FCMs to provide market access

Clients may develop their own ATS and use 3rd Party or FCM-provided APIs to trade.



Exchange Data Center

1. What is algorithmic trading?

- * What is the role of SEFs?

2. Current standards.

- * Are there best practice guidelines?

Best practice guidelines

1. **Market Access Risk Management Recommendations, April 2010**
2. **Recommendations for Risk Controls at Trading Firms, November 2010**
3. **Software Development and Change Management Recommendations, March 2012**
4. **Order Handling Risk Management Recommendations for Executing Brokers, March 2012**
5. **Drop Copy Recommendations, September 2013**
6. **Guide to the Development and Operation of Automated Trading Systems, March 2015**

2. Current standards.

- * CFTC rules?

2. Current standards.

- * What CME rules are relevant?
 - * **Rule 534: Wash Trades Prohibited**
 - * **Rule 539.C: Pre-Execution Communications Regarding Globex Trades**
 - * **Rule 575: Disruptive Practices Prohibited**

2. Current standards.

- * What ICE rules are relevant?
 - * **ICE Rule 27.12A: audit trail**
 - * **ICE Rule 27.09: Tag 116 identifier.**

2. Current standards.

- * Key enforcement actions that firms using automated trading should be aware of?

Enforcement Decisions

- * Wash Trades
- * Excessive Messaging
- * Ever-Widening Spreads

3. Specific Issues.

- * How is activity during the pre-open treated?
- * Are there restrictions on how an automated trader can interact with the order book?
- * How do exchanges handle co-location?

3. Specific Issues.

- * What kind of limits are enabled by existing technology:
 - * Reasonability limits.
 - * Pre-trade holds.
 - * Fat finger controls.
 - * Other risk parameters.
 - * Kill switches.

4. Role of FCM.

1. What is the current role of the FCM?

5. Liability.

1. Liability when something goes wrong.

Questions?

CME Group Automated Trading Rules, Requirements and Risk Management Tools

FIA L&C 2016 – Session 9B – Automated Trading Requirements

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Important Rules Applicable to Automated Trading

- * Rule 524 (TAS/TAM/BTIC)
- * Rule 530 (Priority of Customers' Orders)
- * Rule 532 (Disclosing Orders Prohibited)
- * Rule 533 (Simultaneous Buy and Sell Orders for Different Beneficial Owners)
- * **Rule 534 (Wash Trades Prohibited)**
- * Rule 536.B. (Globex Order Entry)
- * **Rule 539.C. (Pre-Execution Communications Regarding Globex Trades)**
- * Rule 574 (Globex Access Restrictions)
- * **Rule 575 (Disruptive Practices Prohibited)**
- * Rule 576 (Identification of Globex Terminal Operators)
- * Rule 579 (Global Command Center)
- * Rule 588 (Trade Cancellations and Price Adjustments)

Rule 534 - Wash Trades Prohibited

- * A wash trade is a form of fictitious trade in which a transaction or a series of transactions give the appearance that bona fide purchases and sales have been made, but where the trades have been entered into without the intent to take a bona fide market position or without the intent to execute bona fide transactions subject to market risk or price competition.
- * In the event buy and sell orders for accounts with common beneficial ownership are simultaneously entered for a legitimate purpose, one of the orders should be entered on the electronic trading platform and executed in full prior to the entry of the second order. Simply ensuring that there is a delay between the entry of the buy and sell orders may not preclude the orders from trading in whole or in part against each other.
- * The unintentional and incidental matching of buy and sell orders entered by an individual trader on the electronic platform generally will not be considered a violation of Rule 534. However, if such self-matching occurs on more than an incidental basis, such trades may be deemed to violate the prohibition on wash trades.
- * It is recommended that individual traders who frequently enter orders on opposing sides of the market that have a tendency to self-match on more than an incidental basis employ functionality that will minimize the potential for their buy and sell orders to match with each other.

Rule 534 – Wash Trades Prohibited

- * Many firms have proprietary trading operations in which multiple traders making fully independent trading decisions enter orders for a commonly owned account (the firm's proprietary account) that may unintentionally and coincidentally match with each other on the electronic platform. Provided that the respective orders of each independent trader are entered in good faith for the purpose of executing bona fide transactions, are entered without prearrangement, and are entered without the knowledge of the other trader's order, then such trades shall not be considered to violate the prohibition on wash trades.
- * If a particular algorithm generates buy and sell orders that would potentially match against each other and such trades occur on more than an incidental basis in the context of the algorithm's activity or in the context of the particular market's activity, the trades may be deemed to violate the prohibition on wash trades.
- * If otherwise independent algorithms are operated and/or controlled by the same individual or team of individuals and the algorithms trade against one another on more than an incidental basis in the context of the algorithms' activity or the particular market's activity, then the trading between the algorithms may be deemed to violate the prohibition on wash trades.

Rule 539.C. - Pre-Execution Communications

- * Pre-execution communications (“Pre-Ex”) are discussions between market participants for the purpose of discerning interest in the execution of a transaction on CME Globex prior to the exposure of the order to the market. Rule 539.C. governs Pre-Ex.
- * Pre-execution communications allow for size, price and direction to be discussed prior to the entry of orders into CME Globex.
- * Parties engaging in pre-execution communications must have permission to do so from their customers.
- * Applicable cross order entry protocols resulting from pre-ex communications differ between asset classes, between futures and options, and across CME Group’s 4 Designated Contract Markets (DCMs).
- * Pre-execution communications are permitted in all CME, NYMEX and COMEX futures and options.
- * Pre-execution communications remain expressly prohibited in CBOT Grain and Oilseed futures at all times.
- * Pre-execution communications in CBOT Grain and Oilseed options are prohibited from 7:45 a.m. to 7:00 p.m. Central Time each trading day, but are permitted outside of those hours.

Rule 575 – Disruptive Practices Prohibited

- * The Rule was adopted on September 15, 2014.
- * The disruptive trading practice rule applies to all electronic trading activity, and it includes all market states (pre-opening period, closing period and all trading sessions).
- * At the point of order entry, all orders must be entered for the purpose of executing bona fide transactions and not intended to be cancelled or modified to avoid execution
- * All non-actionable messages must be entered in good faith for legitimate purposes.
- * Orders entered during the pre-opening period must be for the purpose of executing bona fide transactions upon the opening of the market. During the pre-opening period:
 - Orders may not be entered for the purpose of identifying the depth of the order book or for the purpose of manipulating the Indicative Opening Price (IOP) or the opening price.
- * Orders and messages may not be entered with an intent to mislead other market participants, to overload, delay or disrupt systems or to disrupt, or have a reckless disregard for the adverse impact on the orderly conduct of trading or the fair execution of transactions.
- * Market Regulation considers a variety of factors in assessing if a market participant's conduct violates Rule 575, including but not limited to the intention of market participants, their historical pattern of activity, the impact of their activity on other market participants and the market participant's activities in related markets.

Rule 575 – Disruptive Practices Prohibited

- * The rule does not preclude the cancellation or modification of an order by a market participant due to a perceived change in circumstances.
- * Orders may not be entered into CME Globex in Exchange products for the purpose of testing, such as to verify a connection to Globex or a data feed from Globex. CME Group offers test products in the pre-open production environment to facilitate connectivity and message testing.

Electronic Trading Risk Management Tools

CME Group offers seven risk management tools specifically designed to protect CME customers and clearing member firms:

- Cancel on Disconnect
- CME Globex Credit Controls
- Risk Management Interface (RMI)
- Drop Copy
- FirmSoft
- Kill Switch
- CME Globex Self-Match Prevention

Electronic Trading Risk Management Tools

➤ Cancel on Disconnect

Upon an involuntarily dropped iLink user connection, Cancel on Disconnect (COD) cancels all resting session/day futures and options orders for that user. Customers are responsible for re-entering any orders cancelled by COD.

Electronic Trading Risk Management Tools

➤ CME Globex Credit Controls

The CME Globex Credit Controls (GC2) provide pre-execution risk controls and allow Clearing Firm Risk Administrators to set real-time credit limits. Clearing Firm Risk Administrators can define trading limits and select real-time actions if those limits are exceeded, including:

- * Email notification
- * Order blocking
- * Order cancellation

Electronic Trading Risk Management Tools

➤ Risk Management Interface (RMI)

The Risk Management Interface (RMI) is an API and GUI that supports granular, pre-trade risk management for Clearing Firms. The RMI consists of two components:

RMI Application Programming Interface (API)

Allows Clearing Firms to programmatically send instructions to:

Block/Unblock order entry by Execution Firm and Account and Exchange and Derivative Type and Side;
Product designation optional

Query current block/unblock instructions

Cancel working orders, including Good Til Cancel (GTC) and Good Til Date (GTD) order types

RMI Graphical User Interface (GUI)

A web-based user interface that allows clearing firms to:

Block/Unblock order entry at the same levels as the API

View current blocks

Access to the RMI is limited to clearing firms' certified proprietary and third-party risk management applications.

Electronic Trading Risk Management Tools

➤ Drop Copy

Drop Copy is available from CME Group, or certified third-party vendors. Certification via AutoCert+ is required to access Drop Copy in production.

Drop Copy allows users to:

- * Monitor orders and activity
- * Aggregate execution and reject messages

Electronic Trading Risk Management Tools

➤ FirmSoft

FirmSoft is a browser-based order management tool that provides real-time access to information on working and filled CME Globex orders, including iLink and CME Direct across multiple firm IDs. FirmSoft provides important risk mitigation functionality during system failures.

Users can view:

- * Current order status
- * Fill information, including partial fills and fills from mass quotes
- * History of cancel and replace requests
- * CME Globex timestamps

If enabled to do so, users can cancel

- * An individual order
- * Group of orders
- * All working orders and mass quotes

Users can call into the GCC to status and/or cancel orders based on their FirmSoft permissions.

Electronic Trading Risk Management Tools

➤ Kill Switch

Kill Switch is a GUI that is designed to allow firms a one step shutdown of all their CME Globex activity at the SenderComp ID level.

When the Kill Switch functionality is activated by the permissioned firm, all order entry is blocked and all working orders are cancelled for either a selected subset or all of firm's SenderComp IDs.

Kill Switch functionality includes:

- * Day Orders and Good Till messages are blocked when Kill Switch is invoked, however, Kill Switch will not cancel resting Good Till or Day Orders when a market is "closed" or in the final "30 seconds" prior to an open.
- * Impacted customers are prevented from submitting any message other than what is required to keep alive the connection with the exchange (session management).
- * Only orders intended for CME Group core match engines are supported.
- * Customers receive a reject message with entity level and administrator role information.
- * Blocking takes less than one second, though the cascading cancellations may extend beyond this time frame.

Electronic Trading Risk Management Tools

➤ CME Globex Self-Match Prevention

Self-Match Prevention ("SMP") is an optional functionality designed to allow executing firms to prevent, where appropriate, buy and sell orders for accounts with common beneficial ownership, from matching with each other.

Cancels resting order (passive) order as the default, however users can choose to cancel the incoming (aggressing) order.

To register for the SMP functionality customers must register via the Firm Administrator Dashboard to obtain their SMP ID(s).

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