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Information Circular IC09-347

Date: November 30, 2009
To: Members, Member Firms, Vendors and Service Bureaus
From: CBOE Systems and Trading Operations
Re: Recommended Best Practices for CBOE CMI and FIX interfaces (updates IC09-293)

This information is offered to assist those interfacing with CBOE to best handle a few of the most common communication issues specific to CBOE's CMI (CBOE Messaging Interface) and FIX (Financial Information Exchange). Users are strongly encouraged to follow these recommendations to mitigate confusion and exposure. This document is not to be interpreted as a comprehensive listing of all possible systems issues, but a guide to common communication questions.

Certification: After API certification is complete in the API test environment, and after a successful initial production log-in, all users must contact the CBOE Help Desk at (312)786-7100, before production trading, to complete a final certification, which includes the following:

- Send quotes/orders/cxls in a production training symbol.
- Set QRM (Quote Risk Monitor) protection levels (market-makers only).
- Verify proper Q-accounts (market-makers only).
- Verify order-routing parameters (BD users only).

Daily log-in time: Users can log-in anytime after approximately 6:45CT but should connect no later than 8:00CT.

Delayed responses, message acknowledgements, fills, etc.: If any type of abnormal delay in message processing is encountered, the user must IMMEDIATELY follow the "protective actions" identified below to minimize exposure to this possibly serious condition.

Possible corrupted product/series/class: If any of the following is encountered on a fill report,
EXECUTING BROKER is blank
CONTRA BROKER or FIRM is blank
PRICE is blank
QUANTITY is blank

Do not consider this a valid fill, and do not hedge this trade. The user must IMMEDIATELY follow the "protective actions" identified below to minimize exposure to this possibly serious condition.

Another way to identify possible delays or corrupted products/series/classes is available to those who also use the CTMI RTC (CBOE Trade Match Real-Time Communications) interface. Under normal conditions, fills received via CMI/FIX should closely match trades received via RTC. If an imbalance or discrepancy is noticed between the two, the user should be on alert that there may be a problem.

Protective actions: If, based on the above descriptions, delays or corrupted products/books are suspected, the user must IMMEDIATELY:
Stop quoting the affected products.

Cancel quotes/orders in the affected products.

Contact the Help Desk at 1-866-728-2263. Inform the Help Desk of the login id experiencing the delay and the class in which the condition was seen. This will assist the Help Desk in finding the cause. Also, request a trade/order review.

Delayed acknowledgement: If a quote update, quote cxl, order or order cxl acknowledgement is not received within a time interval that is acceptable to the sender, the user must take the following action:

If a quote message is affected, cancel the quote(s) in question or logout.

If an order is affected, cancel the order in question and wait for a successful cancel report before re-routing to an alternative marketplace. Failure to do so may result in an over-fill.

If the cancel attempt itself results in another delayed acknowledgement, the user must wait or re-send another cancel, but no more than two cancel requests should be sent for any order.

If the cancel attempt returns a message indicating that the order was not found, then there is no current way to determine whether the order still exists on the CBOE, and re-sending the order could result in an eventual duplicate fill. Contact the Help Desk at 1-866-728-2263 IMMEDIATELY to determine the internal failure point and whether the original message successfully processed.

FIX backup server

In cases where, for whatever reason, users move to their alternate, or back-up FIX server, be advised that any active orders (Day or GTC) will remain active after the switch. Users who require orders to be cancelled should contact the Help Desk

Quote Token

Quoters are strongly recommended to make use of Quote Token functionality, also referred to as the Quote Update Control ID. The Quote Token is a field included in a quote message that must be updated whenever the previous quote has been cancelled. By updating the Token the quoter is acknowledging receipt of the cancel message, thereby precluding the possibility that the quote update was "in-flight" when the cancel occurred and inadvertently trading on that in-flight quote.

Remote Transaction Timeout (RTT): An RTT message, rather than a standard acknowledgement, is returned to a user if a quote or order takes an extreme amount of time (currently configured to 30 seconds) to process within the CBOEdirect system. The purpose is to release control of the inbound processing back to the user without waiting for the situation to clear. It is critical to understand that the order or quote update may or may not have processed successfully, thus requiring the following user action:

If a quote message is affected, cancel the quote(s) in question or logout.

If an order is affected, cancel the order in question and wait for a successful cancel report before re-routing to an alternative marketplace. Failure to do so may result in an over-fill.

If the cancel attempt itself results in another RTT, the user must wait or re-send another cancel, but no more than two cancel requests should be sent for any order.

If the cancel attempt returns a message indicating that the order was not found, then there is no current way to determine whether the order still exists on the CBOE, and re-sending the order could result in an eventual duplicate fill. Contact the Help Desk at 1-866-728-2263 IMMEDIATELY to determine the internal failure point and whether the original message successfully processed.

For more detailed information regarding recommended Best Practices, contact the API Group at api@cboe.com or refer to Best Practices documentation on the API systems website at <https://systems.cboe.com/>.