



CBOE Information Circular IC11-042  
C2 Information Circular C2-IC11-002

To: CBOE and C2 Trading Permit Holders and Vendors  
From: CBOE and C2 Systems and Trading Operations  
Date: May 18, 2011  
Re: Recommended Best Practices for CBOE and C2 CMI and FIX Interfaces  
(updates IC10-172 and C2-IC10-04)

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*Changes since last version: CSM topic added, and changed from 5 to 10 Concurrent Quoting packets.*

This information is offered to assist those interfacing with CBOE and C2 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/cancels 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 6:45 CT but should connect no later than 8:00 CT.

**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.

**Concurrent quoting:** Users who are appropriately configured may send up to 10 quote packets between acknowledgements. It is vital, however, that users do not send more than one quote for the SAME product between acknowledgements. Doing so may result in a reject of both updates, and CBOE cannot guarantee processing sequence. Further, when attempting a mass quote cancel, users should always send the cancel request AFTER receipt of the acknowledgement on the last quote packet sent. Finally, a second mass cancel should not be sent until an acknowledgement has been received on the first.

**Alternative market data provider:** CBOE and C2 currently provide, on a subscription basis, BBO market data to their Trading Permit Holders. In the event that CBOE or C2 market data is unavailable or delayed for any reason, users should have an alternate source to ensure continuity.

**CBOE Streaming Market (CSM):** To ensure uninterrupted market data availability, CSM users are advised to have both Primary (A side) and Secondary (B side) network connections for consuming

CSM market data. This allows users to receive uninterrupted market data when the A side primary network router is down and the B side router takes over.

**Possible Resend / Possible Dupe:** If PossResend or PossDupe reports are received, the receiving firm must realize these are only possible resends/duplicates which may have been sent previously. Before taking market action on these reports, the firm must contact the helpdesk if not sure why this has occurred. To test this further in the API test environment, please contact the API group to schedule test time.

**Possible corrupted product:** 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. Follow the “protective actions” identified below.

**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. Users must follow the “protective actions” identified below.

**Delayed acknowledgement/report:** As with the above RTT condition, if a quote update, quote cancel, order or order cancel acknowledgement or report is not received within a time interval that is acceptable to the sender, the user must follow the “protective actions” identified below.

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 and trades received via RTC should be nearly simultaneous. 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 any corrupted product or delay is suspected, the user must IMMEDIATELY:

- 1) If a quote message is affected, cancel the quote(s) in question or logout.
- 2) 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.
- 3) If the cancel attempt itself results in another delayed acknowledgement, wait or re-send another cancel, but no more than two cancel requests should be sent for any order.
- 4) 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 CBOE or C2, as applicable, and re-sending the order could result in an eventual duplicate fill.
- 5) Contact the Help Desk at 1-866-728-2263 IMMEDIATELY to determine the internal failure point and whether the message(s) in question successfully processed. 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.

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