CBOE®

CHICAGO BOARD OPTIONS EXCHANGE

CBOE Application Programming Interface

CBOE API Version 3.1a - Release Notes

Provides an overview of upcoming changes in the next production release of the CMi

CBOE PROPRIETARY INFORMATION

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Document #[API-00]

Front Matter

Disclaimer

Support and Questions Regarding This Document

Questions regarding this document can be directed to The Chicago Board Options Exchange at 312.786.7300 or via e-mail: api@cboe.com.

The latest version of this document can be found at the CBOE web site: http://systems.cboe.com/webAPI.

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Overview

CMi V3.1a is a documentation only release. No new IDL is presented. Documents have been updated to reflect changes that have occurred since the CMi V3.1 publication. The sections below summarize the changes that were integrated in the documents.

Document Changes

API-01

* No changes

API-02

* Modified the Heartbeat Callback section to be more descriptive. *CBOE sends the firm's application a heartbeat every 2 seconds*. The Orb on which the CAS is now based uses a timeout for heartbeat. Currently this timeout is set to be 20 seconds. This means when a CMi client application doesn't respond to a single heartbeat request within 20 seconds for any reason, the connection will be considered dead and the CAS will logoff the connection and clean up its session. As a result, care must be taken to make sure that the heartbeat thread in your application never becomes starved or isn't serviced or your application may be logged off on a false detection.

* Updated the Quote section to include the name of the Boolean parameter, *publishOnSubscribe* that is used to publish existing quotes on the subscription call to the consumer.

* Added a Quote Rate Monitor section. The Quote Rate Monitor (QRM) feature is designed to allow the user to limit the risk associated in quoting. The user can set a threshold limit per class after which the CBOE systems will pull all quotes for the user in the class. Once the threshold the user set is crossed, the QRM process issues system cancel message for all remaining quotes in the class. The QRM cancel message is out of process from the trading process and the cancel actions are best effort. Meaning it is possible for the user to be filled past the set limit.

* Defined error code 4060 as QUOTE_BEING_PROCESSED. Error code 4060 means that the quote is in a Quote Trigger and cannot be updated, changed or cancelled until after the quote is out of the Quote Trigger.

* Updated the "Support for Multiple Trading Session" section to include a table listing the order contingency types supported in CBOE trading sessions.

* Added a new section "Designing a Quote Application."

    When designing a quote application against CBOEdirect, it is helpful to understand the implications of some design choices, particularly threading choices.

    It is important to understand that CBOEdirect is highly distributed. As a result, a given product class can be trading on one of many trade servers. The most important

implication of this architecture is that any problem with a particular trade server or product class does not mean that any other product class will necessarily be effected. As a result, it is recommend that you design your system so that problems, such as latency, with a particular product class do not effect your ability to timely quote any other product class. One way to achieve this might be to dedicate a thread to each product class that is being quoted.

Specifically, it is important to understand that CBOEdirect is synchronized on the product class level. The implication of this is that while you can have multiple threads calling quoting interfaces at the same time, only one thread at a time will be processed for a given product class. In fact, since threading is non-deterministic, if there are multiple threads trying to perform actions for the same product class, there is no way to predict the order in which those threads will be processed. As a result, it is possible for threads to be "parked" for a time or serviced out of intended order. The result could effect your ability to take prompt action to changing market conditions.

It is highly recommend that client applications do not use more then one thread at a time to perform quoting functions against a particular product class.

- Added an example for cmiCallbackV3::CMICurrentMarketConsumer::acceptCurrentMarket in the Callback Interface section

bestMarkets - All orders and all quotes at the top of the book (best bid, best ask). This is exactly what CBOE publishes in the old Current Market message. Contingency types will show up here. No origin types will show up here.

bestPublicMarkets - If customer or professional orders are in the top of book, then they'll show up in the bestPublicMarkets. Market-maker quotes and ICM orders will not show up in bestPublicMarkets but they will be included in bestMarkets. Contingency types will not show up here. Origin types will show up here. The only possible constants values in this field will be either:
  · PROFESSIONAL_ORDER is defined as all order origins other than I, C, and D. Does not include market-maker quotes.
  · CUSTOMER_ORDER is defined as order origins C and D (D=CUSTOMER_FBW)

- Modified the "Exchange Qualified Firm Identification" section to state that a particular user session in CBOEdirect may only access one exchange at a time. For example, a single user may not send quotes to CBOE options and CFE at the same time. The firm must use two separate user IDs: one will send quotes to CBOE and one will send quotes to CFE.

API-03

- Enhanced that Optional Data field description to include the requirements for M and N orders.

Orders of origin "M" and "N" must set CMi.OptionalData to
"M:QAB ABC123LLL"
where QAB is the account, ABC123 is the subaccount, and LLL is the optional MM originator acronym

API-04

- Defined error code 4060 as QUOTE_BEING_PROCESSED. Error code 4060 means that the quote is in a Quote Trigger and cannot be updated, changed or cancelled until after the quote is out of the Quote Trigger.

- Updated the description for QueueActions, NO_ACTION, to state it is a default configurable by CBOE.

API-05

- Changed the JDK version from V1.2.2-005 to V1.4.2_05.

- Updated the Omni ORB and VisiBroker versions.

API-06

- Stated that the same callback port cannot be reused from the same PC for multiple logons of the same user ID.

- Added a new section: Logon to the CAS

  When a new CMi workstation plans to logon to the CAS to send orders or quotes, the firm must add the CAS IP and hostname to their workstation's host file. In addition, CBOE has to add the firm's workstation IP and hostname to the CAS host file. When a new CMi workstation subscribes to CMi options market data, CBOE has to add the firm's workstation IP and hostname to CBOE's MDCAS host file. In this case, the firm does not have to add the MDCAS IP and hostname to its workstation's host file.

API-07

- No changes

CAS-01

- No changes

CAS-02

- No changes

Test Plan Changes

CMi Phase 2 Test Plans

- Added a testing step to ping MDCASes (market data CASes).

FIX Phase 2 Test Plans

- Added a testing step to ping CFIX market data engines.

3a, Security Definition Test Plan

- Removed step verifying that user can identify class symbol (included NDX mappings).

3b, Market Data Test Plan

- Added messages subscribeCurrentMarketForClassV2 or subscribeCurrentMarketForClassV3 to Current Market section.

- EOP is required for options market-makers and DPMs. This is a change because EOP used to be required for DPMs only.

- Market-makers and DPMs are now required to respond to EOP messages to open products that are stuck in rotation due to imbalances, insufficient quotes, or an order that is out of the range of quotes.

- Added the NEED_QUOTE_TO_OPEN EOP type to the EOP section.

3c, Quote Test Plan - Hybrid-ONE-CFE (includes 3j, Hybrid Sections and 3L, CFE Supplemental Tests)

- IBM and MOT are reserved for CBOE internal testing only in the test environment. Please do not send quotes in the test environment in IBM or MOT unless CBOE specifically asks you to do so.

- Added a testing step: for FIX Hybrid RMMs only, CBOE verifies that all options products in the Mass Quote message are in the same option class.

3e, W_MAIN-ONE-CFE Order Test Plan (includes 3k, CFE Supplemental Tests)

- Added a testing step: user enters order with different branch code for purposes of branch rollover if user reaches 10,000 orders in one day per user [e.g., if your order branch sequence number (ClOrdId tag 11 in FIX) reaches 9999, then change branch from AAA to AAB].

- Added a testing step: user identifies both contra-party acronyms and contra-party executing give-up firms.

- Added a testing step: user enters order with price type cabinet (price of 0.01).

- Added a testing step: CBOE cancels the remaining balance of the user's order from the CBOE Administrator Terminal

- IBM and MOT are reserved for CBOE internal testing only. Please do not send orders in the test environment in IBM or MOT unless CBOE specifically asks you to do so. Contact CBOE to ensure that your executing give up firm is set up properly for electronic auto-executions.

3f, Clearing Firm, Duplicate Message Test Plan

- No changes

3g, Strategy Quote Test Plan - ONE-CFE

- No changes

3i, W_MAIN-ONE-CFE Strategy Order Test Plan

- Changed ProductK quote to 12.0 – 12.4 *(UPDATE ALL OTHER ProductK markets IN TEST PLAN*

- *REVIEW CLARITY OF SCENARIO #9 ON P.9*

- *Special considerations*

3m, Stock Trading On CBOEdirect (STOC) Order Test Plan

- No changes

3n, Stock Trading On CBOEdirect (STOC) Quote Test Plan

- No changes

3o, Stock Trading On CBOEdirect (STOC) DPM Administrative Test Plan

- No changes

Phase 4 Test Plan

- No changes