



Reminder: Cboe Options Technology Integration Feature Pack 4 – Market Data Enhancements

Reference ID: C2019022100

Overview

Effective **February 28, 2019**, Cboe will introduce multiple enhancements to market data dissemination functionality for BZX Options (“BZX”), C2 Options (“C2”), and EDGX Options (“EDGX”) Exchanges.

All enhancements listed below are in preparation for migration of Cboe Options Exchange (“C1”) to Bats technology and will be applicable to BZX, C2, and EDGX with the exception of enhancements to the Complex Options feeds, which will only be implemented for C2 and EDGX.

Addition of Trade messages for Auction Trades Against Non-Displayed Liquidity to Multicast PITCH Feed

On the Multicast PITCH feed, a `Trade` message will be sent when an auction executes against a non-displayed order, such as a contra response. This `Trade` message will be sent in addition to an `Auction Trade` message. To avoid double-counting auction volume, firms may either ignore `Auction Trade` messages completely for volume counting purposes or check the `ExecID` field to ensure that each unique `ExecID` is only counted once. This change aligns Multicast PITCH with existing Complex Multicast PITCH `Trade` message behavior.

To match the current behavior of the Complex Multicast TOP feed, updates to the Multicast TOP will be made where a `Top Trade` message will be sent when an auction executes against a non-displayed order, such as a contra response. This change enables both TOP feeds to reflect more comprehensive auction trade data.

Addition of Global Trading Hours (GTH) Trading Status Field to Trading Status Message

The `GTH Trading Status` field will be added to the `Trading Status` message. The following values will be valid for the `GTH Trading Status` field.

Field Name	Description	Applicable Feed(s)
GTH Trading Status	H = Halted Q = Quote-Only S = Exchange Specific Suspension T = Trading	Multicast PITCH and TOP Complex Multicast PITCH and TOP

No Global Trading Hours will be added to BZX, C2, or EDGX at this time, so the value for this new field will be blank. GTH sessions may be added to BZX, C2, or EDGX in a future Feature Pack.

Enhancement of Simple Symbol Mapping and Complex Instrument Definition

Messages

The *Underlying* field, representing the symbol of the underlying equity, will be added to the *Symbol Mapping* message for simple options contracts. These message enhancements will be applicable to the Multicast PITCH, Complex Multicast PITCH, Multicast TOP, Complex Multicast TOP, Options Auction, and Complex Auction feeds.

The *Complex Instrument Definition Expanded* message will be introduced and will replace the existing *Complex Instrument Definition* message on the Complex Multicast PITCH, Complex Multicast TOP, and Complex Auction Feeds. The new message will include the *Complex Instrument Underlying*, *Complex Instrument Type*, and *Leg Security Type* fields. Lastly, the *Symbol Mapping* message is being added to the Complex Multicast PITCH and Complex Multicast TOP feeds to allow for the identification of equity legs.

Addition of ClientID Field to Add Order (expanded) and Auction Notification

Messages

The *ClientID* field will be added to the *Add Order (expanded)* and *Auction Notification* messages to provide an additional user-defined identifier for attribution purposes. This message enhancement will be applicable to the Options Auction, Complex Auction, Multicast PITCH, and Complex Multicast PITCH feeds.

In addition, this field will be added to BOE and FIX order entry. On BZX and EDGX firms must sign the [Attribution Addendum](#) in order to attribute any orders on market data feeds to either the EFID or *ClientID*.

Ceasing Dissemination of Pre-open Quotes and Quotes During a Halt to OPRA

(Updated)

On the effective date, BZX, C2 and EDGX will cease dissemination of pre-open "non-firm" quotes to OPRA during the pre-open queuing period. This behavior will be consistent with current Cboe Options Exchange behavior. BZX, C2 and EDGX will also cease dissemination of quotes to OPRA during a regulatory halt. **Zero price and zero size quotes will be sent to OPRA.**

Addition of Auction Notification messages to Complex Multicast PITCH Feed

C2 and EDGX will begin to disseminate *Auction Notification*, *Auction Trade*, and *Auction Cancel* messages on the Complex Multicast PITCH feed. This will allow customers to respond to Complex Order Auctions without requiring those customers to take the separate Complex Auction Multicast PITCH feed. *Auction Notification*, *Auction Trade*, and *Auction Cancel* messages for COA auctions will continue to be available on the Complex Auction Multicast PITCH feed.

Enhancements to Spin Server Requests

The Complex Instrument Definition Expanded message will be introduced and will replace the existing Complex Instrument Definition message on the Complex Multicast PITCH and Complex Multicast TOP feeds.

Customers will have the ability to use a new Spin Server message to request a spin of all Symbol Mapping and Complex Instrument Definition Expanded messages by sending an Instrument Definition Request and receiving an Instrument Definition Response. The Complex Multicast PITCH and Complex Multicast TOP feeds will spin both Symbol Mapping and Complex Instrument Definition Expanded messages, while the Multicast PITCH and Multicast TOP feeds will only spin Symbol Mapping messages.

Enhancement to Refresh for Complex Auction Feed

The Complex Auction Feed will now include simple instrument mappings in a background refresh loop (un-sequenced). This will allow feed recipients to obtain instrument mappings without taking additional feeds or downloading the definitions from the <http://markets.cboe.com/> website.

Addition of Trade Condition Codes and Trade Condition Field to Complex Multicast PITCH and TOP Feeds

The *Trade Condition* field will be added to the Trade - Long, Trade - Short, Order Executed, and Order Executed at Price/Size messages on the Complex Multicast PITCH feed. On the Complex Multicast TOP feed, the existing *Trade Condition* field will be expanded to allow for the additional Trade Conditions outlined below on an as needed basis.

Support for the following Trade Condition Codes will be implemented on the applicable feed(s) as follows:

Code	Description	Applicable Feed(s)
(Space)*	Normal Trade or Normal Complex Trade	Complex Multicast PITCH and TOP
O	Opening Trade	Multicast PITCH and TOP Complex Multicast PITCH and TOP
A	SPIM Trade	Multicast PITCH and TOP Complex Multicast PITCH and TOP
I	ISO Trade	Multicast PITCH and TOP

* Currently exists in the Multicast PITCH and TOP feeds.

Addition of Customer Quantity Field to Multicast TOP Feed

The *Customer Quantity* field will be added through the introduction of Single Side Update Expanded and Two Side Update Expanded messages which will replace the existing Single Side Update and Two Side Update messages on the Multicast TOP and Complex Multicast TOP feeds.

Within the Single Side and Two Side Update Expanded messages, *Customer Quantity* will indicate the exact number of customer contracts on the inside book and will replace the existing Single Side and Two Side

Update messages which indicate only that the bid or offer quantity **contains** customer orders. Note that while *Customer Quantity* will be available on all options platforms, the value will always be represented as a “0” on C2 regardless of the actual customer quantity. The Multicast PITCH, Complex Multicast PITCH, Options Auction and Complex Auction feeds will continue to indicate Customer Quantity through a Customer Indicator of ‘C’ coupled with the *Quantity* field.

Removal of Market Snapshot Message

The *Market Snapshot* message will be removed from the Multicast TOP and Complex Multicast TOP spin servers. The *Single Side Update* and *Two Side Update* messages will replace *Market Snapshot* messages on spins.

Expansion of Auction Notification Message

The *Auction Type* field in the *Auction Notification* message will be expanded to include values for Solicitation Auction Mechanism (SAM) and All or None (AON) for both Step Up Mechanism (SUM) and Complex Order Auctions (COA).

The following *new* values are valid for the *Auction Type* field.

Field Name	Descriptions	Applicable Feed(s)
Auction Type	S = Solicitation Auction Mechanism (Simple and Complex) B = AIM (Simple and Complex) O = COA All or None A = SUM All or None	Multicast PITCH Complex Multicast PITCH Auction Complex Auction

While the values supported in the *Auction Type* field are being expanded, SAM and AON functionality will not be fully supported until implementation of future Feature Packs.

New Options Auction Update Message

C2 and EDGX will introduce a new *Options Auction Update* message. The new *Options Auction Update* message will replace the existing *Auction Update* message on the Complex Multicast PITCH feed. This new *Options Auction Update* message will also be introduced on the Complex Multicast TOP and Complex Auction feeds.

Testing Opportunities

Testing **is currently available** in the BZX, C2, and EDGX Options certification environments.

Additional Information

For more information, refer to the following technical specifications:

- [US Options Multicast TOP Specification](#)
- [US Options Multicast PITCH Specification](#)
- [US Options Auction Feed Specification](#)
- [US Options Complex Multicast TOP Specification](#)

- [US Options Complex Multicast PITCH Specification](#)
- [US Options Complex Auction Multicast PITCH Specification](#)
- [US Options BOE Specification](#)
- [US Options FIX Specification](#)
- [US Options Message-to-Data Feed Matrix](#)

Please contact the Cboe Trade Desk, for support or with any questions. Additionally, you may refer to the C1 integration website for more details at <https://batsintegration.cboe.com/c1>.

We appreciate your business and remain committed to powering your potential with Cboe products, technologies, and solutions.

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