



CBOE Application Programming Interface

CBOE FIX 4.2 Version 7.0 - Release Notes

Provides an overview of the updates and changes to the FIX 4.2 with this version release.

CBOE PROPRIETARY INFORMATION

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Front Matter

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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>.

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Overview

These release notes were initially published on January 8, 2010. Since then, a new user defined field (UDF) for the *Security Definition* [*MsgType = d*] has been introduced and incorporated in this document.

The material presented in this document highlights the upcoming changes for the new release of the FIX 4.2 API, Version 7.0. Documentation changes are detailed in the sections below. Your feedback or questions regarding this document should be sent to API@cboe.com

FIX 4.2, V7.0 Highlights

The sections below discuss upcoming CBOEdirect software releases that introduce new CBSX cross order contingency types, instructions for Qualified Contingent Trade (QCT) orders, Short Sale Marking functionality and overall documentation changes.

New CBSX Cross Order Contingency Types

The late January 2010 software release of CBOEdirect will support three new cross order contingency types: (1) NEXT_DAY_CROSS, (2) TWO_DAY_CROSS and (3) CASH_CROSS. These contingency types apply only to equity orders and the CBSX trading session. The new contingencies are not subject to the Reg NMS protections and are allowed to trade at a price of up to 4 decimal places. Regardless of the NBBO or CBSX Book, these contingency types should execute at the limit price of the orders.

The following is what the user will need to set in their FIX tags for each of the paired orders in order to specify the new contingency types.

1. Specify the new values in ExecInst[18]
 - NEXT_DAY_CROSS = p - submitted for next day settlement
 - TWO_DAY_CROSS = q - submitted for two day settlement
 - CASH_CROSS = o (lower-case "Oh") - submitted for immediate settlement
2. The orders need to be set to limit (tag 40=2) orders in OrdType[40].
3. Price[44] must contain a price.

Qualified Contingent Trade

The late January 2010 software release of CBOEdirect will give FIX users the ability to instruct CBOE to treat paired orders as Qualified Contingent Trade (QCT) orders. The objective is to allow hedged order pairs to cross immediately, ahead of any resting customer orders for QCT orders. In the ClearingOptionalData[9324] field, FIX users must enter A:AIQ as the first characters in the Primary Order to direct CBOE to treat the paired orders as QCT at the start of the AIM auction. There is no indication on the QCT Match Order indicating it is a QCT match except for the Primary Order information in the ClearingOptionalData field.

Short Sale Marking

The March 2010 software release of CBOEdirect will include Short Sale Marking functionality. The SEC has requested that stock exchanges maintain a record of all short sale positions. Towards this purpose, FIX firm users will be required to indicate their short positions on orders and quotes for the CBSX session.

For the purpose of indicating a short position, where existing tags are not available, CBOE has created a new user defined field (UDF), ShortSaleIndicator[tag 20101]. Please note that the issue of marking short positions on order and quote messages is under debate at the FIX committee. This UDF tag should be considered an interim solution. It will very likely be replaced by a standard FIX tag, as soon as one is available.

The impact on the existing CBOE FIX interface is as follows:

Simple Order Messages

There is no impact to the current implementation for the *New Order Single Message* *MsgType[35] = D*. The short sale positions will be indicated through tag, Side[54], on the order message as provided by our current FIX implementation.

For Stock, the valid values for this tag will continue to be:

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = D</i>
54	Side	Y	Y	For Stock, CBOE supports the following values: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Complex Order – One Step

Firms will need to indicate on the stock leg of the complex order, their short position, if any. There is no impact to the current implementation for the *New Order Single Message* *MsgType[35] = D* for Strategy Orders. The short sale positions will be indicated through tag, LegSide[624], on the order message for One-Step complex order submission as provided by our current FIX implementation.

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = D</i>
624	LegSide	N	Y	Required for options, futures, the common stock leg of buy_writes. Stock valid values: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Complex Order – Two Step

Firms entering complex orders using the two-step method must first define a security using the Security Definition message, *SecurityDefinition MsgType[35] = d (lowercase)*. In response, CBOE returns a product key for the strategy product created. Firms then send in orders for this strategy via the *New Order Single Message MsgType[35] = D* for Strategy Orders, indicating if they are sending in orders for the Strategy ‘As Defined’ or ‘Opposite’ using the valid values in Side[54]. Specifying short sale of a security becomes an additional reporting requirement in this case. For specifying the short sale of the stock leg via the two-step method, CBOE will use the new UDF, ShortSaleIndicator[20101].

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = D</i>
54	Side	Y	Y	For orders of type MLEG (strategies), CBOE supports the following values: 1 = Same or B = Same 2 = Opposite or C=Opposite
20101	ShortSaleIndicator	N	Y	Valid values for short sale positions: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Order Cancel Replace Messages

There is no impact to the current implementation for simple orders. The short sale positions will be indicated through tag, Side[54], on the order message as provided by our current FIX implementation.

Tag	Field Name	FIX Req'd	CBOE Req'd	Comments
	Standard Header	Y	Y	<i>MsgType = G</i>
54	Side	Y	Y	Must match original order Stock valid values: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

For the cancel replace of an order for a strategy product created using the two step method, the short position for the stock leg can again be indicated using the custom tag, ShortSaleIndicator[20101].

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = G</i>

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
54	Side	Y	Y	For orders of type MLEG (strategies), CBOE supports the following values: 1 = Same or B = Same 2 = Opposite or C=Opposite
20101	ShortSaleIndicator	N	Y	Valid values for short sale positions: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Internalization Orders

Firms use the message, *New Order - List Message (MsgType=E)*, to specify the two internalization orders. There is no impact to the current implementation for internalization of simple orders. The short sale positions will be indicated through the tag, Side[54], on each of the two order messages of the Order List, as provided by our current FIX implementation.

Tag	Field Name	FIX Req'd	CBOE Req'd	Comments
	Standard Header	Y	Y	MsgType = E
54	Side	Y	Y	Stock valid values: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Internalization Strategy Orders – One Step

Firms use the Order List message, *New Order - List Message (MsgType=E)*, to specify the two internalization strategy orders. Firms will need to indicate on the stock leg of each of the complex order, their short position, if any. There is no impact to the current implementation. For One Step complex order submission, the short sale positions will be indicated through the UDF, LegSideList[6714], tag on each of the two Order Messages as provided by our current FIX implementation.

Tag	Field Name	FIX Req'd	CBOE Req'd	Comments
	Standard Header	Y	Y	MsgType = E
6714	LegSideList	N	Y	Stock valid values for short sale positions: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Internalization Strategy Orders – Two Step

Firms use the Order List message, *New Order - List Message (MsgType=E)*, to specify the two internalization strategy orders. Firms entering complex orders using the two-step method must first define a security, using the Security Definition message, *SecurityDefinition MsgType[35] = d (lowercase)*. In response, CBOE returns a product key for the strategy product created.

Firms then send in orders for this strategy using the product key returned, indicating via the Side[54] tag, if they are sending in orders for the Strategy ‘As Defined’ or ‘Opposite’. Specifying short sale of a security becomes an additional reporting requirement in this case. For specifying the short sale of the stock leg via this method, CBOE will use the custom tag, ShortSaleIndicator[20101], for each of the two Order Messages on the Order List. Tag 20101 in this case is an Order Message level tag, and not an Order List Message level tag.

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = E</i>
54	Side	Y	Y	For orders of type MLEG (strategies), CBOE supports the following values: 1 = Same or B = Same 2 = Opposite or C=Opposite
20101	ShortSaleIndicator	N	Y	Valid values for short sale positions: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Paired Crossed Orders

Firms use the Order List message, *New Order - List Message (MsgType=E)*, to specify crossed orders. There is no impact to the current implementation for internalization of simple orders. The short sale positions will be indicated through the tag, Side[54], on each of the two Order Messages of the Order List as provided by our current FIX implementation.

Tag	Field Name	FIX Req'd	CBOE Req'd	Comments
	Standard Header	Y	Y	<i>MsgType = E</i>
54	Side	Y	Y	Stock valid values: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Single Quote

Current FIX implementation has no provision for the Side[54] tag on Quote messages, *Quote Message (MsgType 35=S)*. CBOE will again use ShortSaleIndicator[20101] for this purpose.

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = S</i>
20101	ShortSaleIndicator	N	Y	Valid values for short sale positions for the CBSX session: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Mass Quote

The current FIX protocol implementation has no provision for the Side[54] tag on Mass Quote messages, *Mass Quote (MsgType 35=i)*. For submitting short sale information on mass quotes for the CBSX session, CBOE will again use the custom tag, ShortSaleIndicator[20101].

Tag	Field Name	FIX Req'd	CBOE Req'd	FIX 4.2 usage
	Standard Header	Y	Y	<i>MsgType[35] = i</i>
20101	ShortSaleIndicator	N	Y	Valid values for short sale positions for the CBSX session: 1 = Buy 2 = Sell 5 = Sell_Short 6 = Sell_Short_Exempt

Obtain Trading Group Information

By default, following this release, the *Security Definition message [MsgType = d]* will have a new UDF, TradingGroupInfo[20010], in the repeating group. TradingGroupInfo[20010] provides trading group information by class. This is non standard FIX tag so users may or may not, need to make changes to their FIX engines.

Example of the new Security Definition Message

```
8=FIX.4.2^9=3972^35=d^34=127^49=DFIX101^56=BEN1^52=20100115-4:40:03^320=XPZ0001-
20100114^322=61^323=4^22=8^336=W_STOCK^393=6165^146=65^311=SUPX^309=237109291^305=
8^310=CS^436=1^308=NASD^20010=test1EquityTradeServer1^311=SIVBO^309=583798158^305=8^
310=CS^436=1^308=NASD^20010=test1EquityTradeServer1^311=HLCS^309=537797736^305=8^310
=CS^436=1^308=NASD^20010=test1EquityTradeServer1^311=SUPR^309=69221411^305=8^310=C
S^436=1^308=NASD^20010=test1EquityTradeServer1^
```

Document Changes

FIX-01

- Included the OHS component in the “FIX 4.2 Service Overview” diagram

FIX-03a

- No changes

FIX-03b (Including Tag Dictionary)

- Based on this release, added a new UDF, ShortSaleIndicator[20101], to support short sale positions for the CBSX trading session.
- Added the new UDF, TradingGroupInfo[20010], to the Security Definition message [Msg=d].

FIX-03c

- Removed all references to “M:” data in ClearingOptionalData[9324]
- Added a new value to CxlRejReason[102]
Tag 102 = 5 (Cancel requests are currently not being accepted. Please retry or contact CBOE Helpdesk)
- Changed the section titled “Internalization and Automated Auction” to “Automated Improvement Mechanism (AIM)”
- Added a new sub-sections for AIM ISO with the following text:
Allows brokers to submit AIM crosses outside the NBBO with the understanding that the broker is sweeping all better priced protected quotes at away exchanges themselves. Upon receipt, CBOE will clear all better internal prices while starting an auction at the crossing price designated on the contra/match order, irrespective of the NBBO.
- Created a new sub-section for Sweep-and-AIM with the following passage.
Allows brokers to submit AIM crosses outside the NBBO. Upon receipt, CBOE will sweep all better priced protected quotes at away markets along with better CBOE prices, while simultaneously starting an auction for the remaining volume at the crossing price designated on the match order.
- Changed OpenClose[77] to read: “Required for all origins except M, N and I. For M and N orders, required in Restricted Series”.
- Modified the Contingency Mapping table to include the new CBSX order contingencies:
 - NEXT_DAY_CROSS = p - submitted for next day settlement
 - TWO_DAY_CROSS = q - submitted for two day settlement
 - CASH_CROSS = o (lower-case "Oh") - submitted for immediate settlement
- Updated the following FIX interfaces to include the new UDF, ShortSaleIndicator[20101].
 - New Order Single Message MsgType[35] = D
 - New Order - List Message (MsgType=E)

FIX-03d

- Modified ExecID[17] to include the Market Maker Trade Notification (MMTN) format in execution reports.

ExecID Format for Market Maker Trade Notification:

Represented by 0:0 (e.g. 17=0:0.65432:2104808741.0)

For Purposes of the DelFloorTrade Message, either the ExecID, as reported in the MMTN Message, or the TradeID portion of it (e.g 17=65432:2104808741) may be used. The TradeID-only format will be returned by the DelFloorTrade Message outbound on success.

- Updated the following FIX interfaces to include the new UDF, ShortSaleIndicator[20101].
 - Quote Message (MsgType 35=S)
 - Mass Quote (MsgType 35=i)

FIX-06

- No changes

FIX-07

- No changes