Cboe Titanium Cboe Futures Exchange FIX Specification

Version 1.3.20

June 30, 2026

Table of Contents

Cboe Titanium Cboe Futures Exchange FIX Specification

Introduction

Cboe Futures Exchange (CFE) Trading Privilege Holders (TPHs) use a subset of the FIX 4.2 protocol for order entry and drop copies. Order entry for both futures instruments and options instruments will be available on the same FIX session. Features only applicable to Options on Futures will be notated with (Options Only).

It is assumed that the reader is familiar with the FIX 4.2 protocol as described at https://www.fixtrading.org. This document describes the differences between the CFE implementation and the FIX 4.2 standard.

Please refer to https://www.cboe.com/us/futures for updates and further information on CFE policies and procedures.

Certification Requirement

All customers must complete a formal certification in the appropriate Cboe Certification test environment before production orders or quotes will be accepted by Cboe. Formal certification scripts can be found in the Cboe Customer Web Portal. Customers may complete the formal certification using the Certification Tool app and selecting the applicable certification script. Customers are advised to test all functionality they plan to use in production in the Cboe Certification test environment.

Hours of Operation

Refer to the website for the CFE Hours and Holidays .

All orders are live upon acceptance by CFE. Orders are rejected if they are received outside the sessions as defined in the associated product contract specifications.

For more information on the CFE Opening Process, please refer to the Cboe Titanium Cboe Futures Exchange Opening Process.

CFE trading hours on vary by product. The simulated Pre-Open period for ZVXT will begin within the same randomized three second time range during which VXT will go into a Pre-Open state. See the product contract specifications for details on trading hours for each product, which may differ for expiring and non-expiring contracts.

FIX sessions are available for connection on Sunday starting at 10:30 a.m. CT. FIX sessions will disconnect each day between 4:05 and 4:45 p.m. CT for the daily restart. This will reset all sequences to zero in preparation for the next trading segment. FIX sessions will disconnect on Friday at around 4:05 p.m. CT but will remain available for connectivity testing (telnet testing) until startup on the following Sunday.

Holiday Sessions

Submission Time Frames for Holidays

The chart below sets forth certain time frames for the submission of quotes and orders (including **Order Cancel Request** messages and **Order Cancel**/**Replace** messages) for products that are open for trading in connection with a holiday. All times referenced are Central Time.

Time Frame	CFE Trading System State	What May be Submitted to CFE's Trading System
From the close of a product's trading session to five minutes after the latest-product closing of that session.	Cancel-Only Period	Cancels for all persisted orders and quotes.[1]
From the end of the cancel-only period to system start/restart (which occurs sometime between 10:00 a.m. CT and 10:15 a.m. CT on a Sunday and sometime between 4:05 p.m. CT and 4:30 p.m. CT on a weekday).	Suspended	Nothing

Time Frame	CFE Trading System State	What May be Submitted to CFE's Trading System
From approximately 10 minutes prior to product's pre-open to beginning of pre-open.	Suspended	Cancels for persisted Good-'til-Cancel (GTC) and Good-'til-Date (GTD) Orders from prior trading date and Cancels for persisted Day Quotes and Orders from same trading date (if applicable)
See Product Trading Hours[2]	Pre-Open	Quotes and Orders (except Market, Immediate or Cancel (IOC), and Fill or Kill (FOK) Orders)[3]
Trading hours during a holiday trading session.	Extended Trading Hours	Quotes and Orders (except Market Orders).

[1]The Cancel-Only Period begins immediately following the end of trading in each product and will continue for 5 minutes after the end of trading in the latest-closing product within that segment.

[2]The pre-open period at the beginning of a business day or holiday trading session for Trade-At-Settlement (TAS) single leg contract expirations and TAS spreads commences at the referenced start time for the pre-open period plus a randomized time period from 0 to 3 seconds. The pre-open period at the beginning of a business day or holiday trading session for non-TAS single leg contract expirations and non-TAS spreads commences at the referenced start time for the pre-open period plus a randomized time period from 3 to 6 seconds.

[3]Orders permitted to be submitted to the CFE trading system during these times are not executable until extended trading hours next commence.

Session Disconnect for Holidays

A session disconnect will occur during the suspended state between two segments of a holiday trading session. This disconnect will not cause any orders or quotes to cancel due to Cancel on Disconnect. As a general rule, Cancel on Disconnect is not in effect between the end of the cancellation period and the system restart. TPHs may refer to the FIX and BOE specifications for further information on how to configure Cancel on Disconnect settings.

Data Types

Timestamps

All FIX timestamps are GMT as per the FIX standard. TPHs are expected to synchronize their clocks with an external time source.

Prices

Price fields (e.g., ***Price*** (55), ***LastPx***, (31), ***StopPx*** (99), ***AvgPx*** (6)) can contain positive, negative and zero values as a result of Spread instrument support. Order prices (e.g., ***Price*** (44), ***StopPx*** (99)), must comply with product-specific minimum trading price increments as specified in associated product contract specifications.

TPHs should program systems to allow execution prices to be returned with up to four decimals.

Protocol Features

The exchange does not guarantee messages sent by Members/TPHs to the exchange, including through protocols such as TCP. Members/TPHs are responsible to monitor the status of the messages they send to the exchange.

Architecture and Message in Flight Settings

Each FIX order handler process will allow a single TCP connection from a member. Connection attempts from unknown source IP ranges will be blocked to prevent unauthorized access to FIX ports. The Cboe NOC should be contacted in the event that a Member desires to connect from a new source IP range.

Each FIX order handler will connect, using a proprietary UDP protocol, to all matching units. Connections from order handlers to matching engines are latency equalized. The connections between order handlers and matching units are governed by an internal flow control mechanism to control burst rates.

The maximum number of messages in flight between a FIX or BOE order handler and a CFE matching engine is 64. In addition, when the total number of unacknowledged messages between an order handler and all CFE matching engines exceeds 1024, the order handler will stop reading from the TPH-facing TCP socket. This will cause the order handler to stop removing bytes from the TCP receive buffer and will prevent the TPH from sending more TCP data through the order handler once the TPH's own configured send buffer is full.

When the total number of unacknowledged messages falls below 960, the order handler will resume reading from the TPH-facing TCP socket.

Messages in flight are defined as messages that have been sent by an order handler to a CFE matching engine that have not yet been acknowledged. Each application message sent by a CFE TPH (e.g., a new order, quote update, cancel/replace, cancel, or purge message) counts as one message for this purpose. An order handler includes a CFE FIX or unitized BOE order or quoting match capacity allocation or purge port.

CFE may update either the message in flight or the total number of unacknowledged messages settings with notice. Changes to reduce either limit will be made with a notice period of at least two weeks. CFE reserves the ability to increase either limit immediately with notice.

Carried Order Restatements

Good 'til Cancel (GTC) orders, Good 'til Date-Time (GTD) orders, and Day orders entered during partial holiday sessions can result in orders persisting between sessions. The CFE FIX protocol provides a mechanism for clients to request restatement of orders that have been carried forward from the previous business day trading session. See FIX Order Entry Port Attributes for information on available port attributes, including Carried Order Restatements.

When enabled, Carried Order Restatements are sent to connected clients for each product on the CFE for which orders have been carried forward from the previous business day trading session. Carried Order Restatements are sent approximately 10 minutes before the pre-open period for each product.

Carried Order Restatements are represented using **Execution Report** messages with the following optional attributes set:

- ***ExecTransType*** = 3 (Status)
- ***ExecType*** = D (Restated)
- ***ExecRestatementReason***:
  - GTC, GTD: ***ExecRestatementReason*** = 1 (GT renewal)
  - Day: ***ExecRestatementReason*** = 4 (Day order restatement)

To receive Carried Order Restatements, the Carried Order Restatement port attribute must be set (contact CFE Trade Desk). Since the Carried Order Restatement **Execution Report** messages are delivered to the session handler before the TPH connects, the ***MsgSeqNum*** (34) field of the **Logon Message** received by the TPH reflects the number of Carried Order Restatements that are available to retrieve by using a subsequent **Resend Request** message.

Note that no notification is provided at the end of a trading session to indicate when GTC, GTD, or Day orders on partial holiday sessions are persisted to carry over to the next trading sessions. Instead, Carried Order Restatements can be used by members to be notified of orders that have persisted from the previous session.

The number of GTC/GTD orders in test classes that can be carried over from the prior business day is limited to three GTC/GTD orders per session per matching unit, for a total of six GTC/GTD orders per session.

Cancellation of Carried Orders or Quotes Between Sessions

GTC and GTD orders persist within CFE's trading system between CFE business days. By default, GTC, GTD, and Day orders/quotes persist between multiple trading sessions on the same business day in connection with a holiday. Persisted orders/quotes can be cancelled while the associated product is in a suspended state and during other trading states as described above.

At the end of the scheduled Cancel-Only Period for a product, cancellation requests for persisted orders/quotes in that product will be rejected with reason O = Order known, but cannot be canceled at this time until after the next trading segment when persisted orders/quotes are reloaded on the book. After the orders/quotes are reloaded on the book, they can be cancelled from that time until the end of the scheduled Cancel-Only Period for a product. In other words, the period of time in which persisted orders/quotes cannot be canceled starts at the end of the scheduled Cancel-Only Period for the associated product and ends after the persisted orders/quotes are reloaded on the book, after the system restarts.

Note that port Cancel on Disconnect behavior is in effect from the time persisted orders are reloaded to the book to the end of the Cancel-Only period. Clients may modify this port attribute via the logical port request tool available on the customer web portal.

The Multi-Segment Holiday Day Order Handling port attribute will enable TPHs to designate if Day orders and quotes are cancelled or preserved across holiday trading segments comprising a single business date.

Table 1. Regular Trading Example

Period	Description	Time
System Start	System starts up but no new orders, modifies, nor cancellations are accepted.	~10:00 a.m. CT on Sunday
Pre-Open and Regular Trading	New orders may be entered. Existing persisted orders may be modified or cancelled starting approximately 10 minutes before Pre-Open period begins for each product	Time varies by product
Product Close (PITCH status S)	Day orders are cancelled.	Time varies by product
Cancel-Only Period	Orders and quotes can be cancelled during a product's cancel-only period. GTC and GTD orders are persisted to the next trading date at the end of the cancel-only period.	From product close to 4:05 p.m. CT on Monday
System Restart[1]	System starts up but no new orders, modifies, nor cancellations are accepted.	4:05 p.m. - 4:30 p.m. CT on Monday

Table 2. Monday Holiday Example

Period	Description	Time
System Start	System starts up but no new orders, modifies, nor cancellations are accepted.	~10:00 a.m. CT on Sunday
Pre-Open and Regular Trading for Segment 1	New orders may be entered. Existing persisted orders may be modified or cancelled starting approximately 10 minutes before Pre-Open period begins for each product	Time varies by product
Product Close for Segment 1 (PITCH status S)	No new orders are accepted.	10:30 a.m. CT on Monday
Cancel-Only Period	Orders and quotes can be cancelled during a product's cancel-only period. Live GTC and GTD orders are persisted to segment 2. Day Order persistence is dependent on port attribute[2]	10:30 a.m. - 10:35 a.m. CT on Monday
System Restart[1]	System starts up but no new orders, modifies, nor cancellations are accepted. Segment 2 will begin after system restart.	4:05 p.m. - 4:30 p.m. CT on Monday

Table 3. Tuesday Half-Day Followed By Wednesday Holiday Example

Period	Description	Time
Tuesday Half-Day		
System Start	System starts up but no new orders, modifies, nor cancellations are accepted.	4:05 p.m. - 4:30 p.m. CT on Monday
Pre-Open and Regular Trading	New orders may be entered. Existing persisted orders may be modified or cancelled starting approximately 10 minutes before Pre-Open period begins for each product	Time varies by product
Product Close (PITCH status S)	Day orders are cancelled.	Time varies by product
Cancel-Only Period	GTC and GTD orders may be cancelled. Remaining GTC and GTD orders are persisted to the next trading date.	From product close to 12:20 p.m. CT on Tuesday
Wednesday Holiday		
System Restart[1]	System starts up but no new orders, modifies, nor cancellations are accepted.	4:05 p.m. - 4:30 p.m. CT on Tuesday
Pre-Open and Regular Trading for Segment 1	New orders may be entered. Existing persisted orders may be modified or cancelled starting approximately 10 minutes before Pre-Open period begins for each product.	Time varies by product
Product Close for Segment 1 (PITCH status S)	No new orders are accepted.	10:30 a.m. CT on Wednesday
Cancel-Only Period	Orders and quotes may be cancelled. Live GTC and GTD orders are persisted to segment 2. Day Order persistence is dependent on port attribute2	10:30 a.m. - 10:35 a.m. CT on Wednesday
System Restart[1]	System starts up but no new orders, modifies, nor cancellations are accepted. Segment 2 begins after system restart.	4:05 p.m. - 4:30 p.m. CT on Wednesday

[1]The disconnect/reconnect sequence of a system restart generally take less than ten minutes and could occur anytime between 4:05 p.m. and 4:30 p.m. CT.

[2]See the Multi-Segment Holiday Day Order Handling port attribute.

Post-Settlement Execution Restatements

Execution Report messages received at the time of the trade in Trade-At-Settlement (TAS) should be considered initial notification of trade. In all three of these products, information available only after the settlement time of the associated contract is required before the trade can be cleared. The following describe the post-settlement processing required for each applicable product:

Execution prices of TAS trades will represent an offset to the end-of-day settlement price of the associated futures contract. For example, a trade executed at 0.02 in a VXT contract is an agreement to buy and sell VX contracts of the same expiration at a price that 2-cents above the end-of-day settlement price, which is available after 3:00 p.m. CT. When VX end-of-day settlements are available, TAS trades executed during the business date will be resolved by updating the execution price and changing the symbol to the associated futures contract. TAS trades will be cleared as regular futures contract (i.e. VX) trades.

Trades executed intraday are acknowledged back to participants using standard **Execution Report** messages. The first **Execution Report** message received in these products is considered a Pending trade. CFE follows up each initial (i.e., pending) TAS execution with post-settlement **Execution Report** messages with the following field values:

- ExecTransType = 2 (Correct)
- ExecType = D (Restated)

In addition, custom fields are added to the follow-up **Execution Report** messages (see Custom FIX Fields). The following summarizes the restatement details for each product:

TAS trades will be restated with the same ***ExecID*** and ***ClOrdID*** as the original trade. The as-executed symbol, price and size are maintained in the ***Symbol***, ***LastPx*** and ***LastShares*** fields respectively. The symbol with which the TAS execution will clear (i.e., the VX symbol with the equivalent expiration as the as-executed VXT symbol) will be contained in the ***ClearingSymbol*** (21053) field. The price with which the TAS execution will clear (i.e., the as-executed price from the ***LastPx*** field offset by the settlement price of the associated VX contract) will be contained in the ***ClearingPrice*** (21050) field.

Post-execution restatement **Execution Report** messages associated with orders originally submitted with ***TimeInForce*** (59) = 4 (FOK) will contain ***TimeInForce*** = 3 (IOC) rather than the originally specified 4 value.

Futures Spreads and Signed Prices

Spreads instruments trade on CFE in a well-defined universe of two, three and four legged spreads with a restricted set of ratios and buy/sell conventions as shown in the table below. The notation S(1):B(1) means sell the first (earliest) expiration and buy the second (latest) expiration. The ratios of each leg is one, which means one unit of the spread contract is equivalent to selling 1 unit of the first expiration and buying one unit of the second expiration.

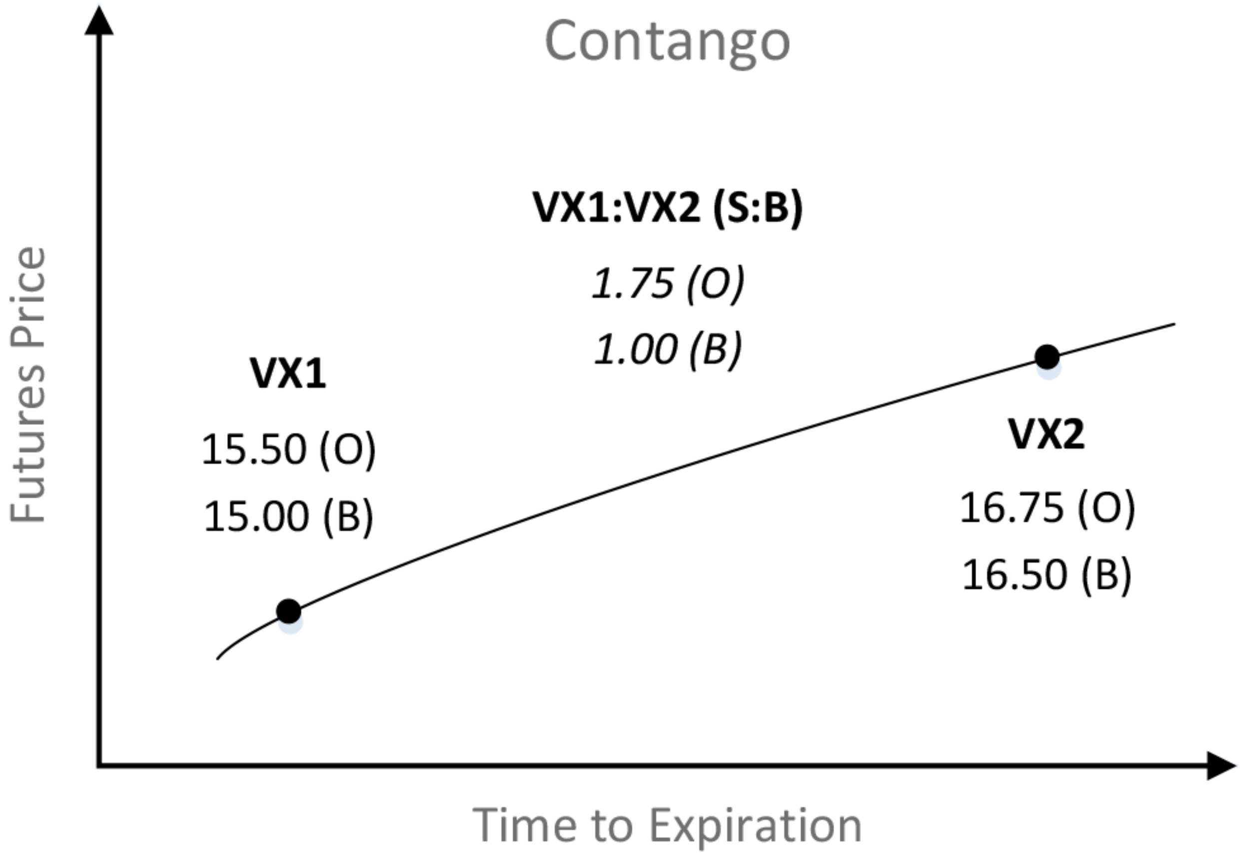
Legs	Spreads (B=Buy, S=Sell, ()=Ratio)
2	S(1):B(1), B(1):B(1), S(1):B(2), S(2):B(1)
3	B(1):B(1):B(1), B(1):S(2):B(1)
4	B(1):B(1):B(1):B(1), B(1):S(1):B(1):S(1), B(1):S(1):S(1):B(1)

The bold two leg spread - S(1):B(1) - is a special spread that always exists in the CFE system. As new contracts are listed, the S(1):B(1) two leg spread instruments are automatically created between the new contract and all existing active contracts.

Spread instruments can result in executions where the buyer gets paid and the seller pays. This can be non-intuitive in all but the simplest spreads. Consider the simplest two leg spread VX1:VX2 comprising selling one unit of the VX1 contract and buying one unit of the VX2 contract. To illustrate how buyers can get paid and sellers can pay, we examine spread pricing in Contango and Backwardated price environments.

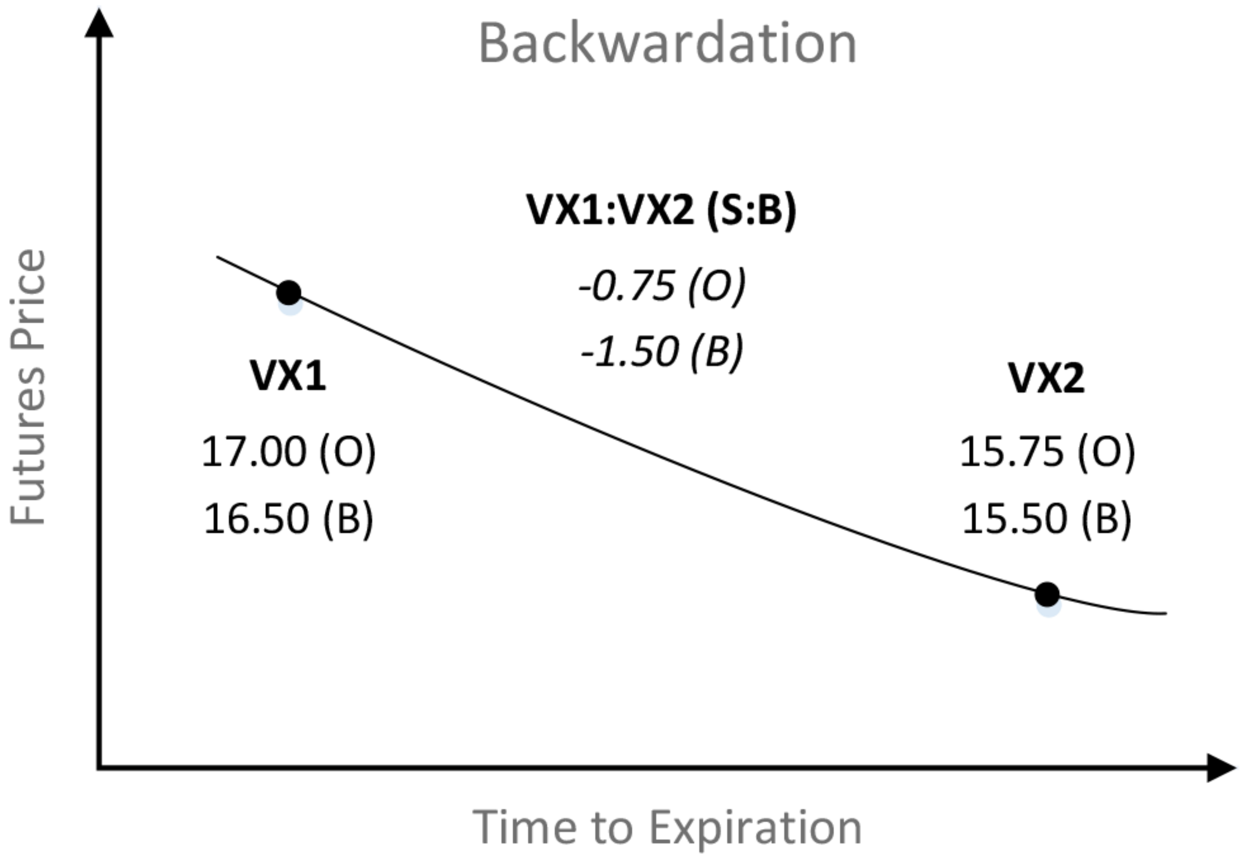
Figure 1 below illustrates spread pricing in a Contango price environment in which the price of the early expiration contract is lower than the later expiration contract. In this example the Bid/Offer of the VX1 simple contract is 15.00 x 15.50 and the Bid/Offer for the VX2 contract is 16.50 x 16.75. The synthetic market for the VX1:VX2 spread (i.e., the Bid/Offer implied by the leg markets) is 1.00 x 1.75. The bid of 1.00 derives from the fact that the offer on the VX1 leg is 15.50 and the bid on the VX2 leg is 16.50 and the net of the two is 1.00 net debit (i.e., buyer pays). Figure 1 shows the implied spread market in italics. This is the normal intuitive situation where spread buyer pays and seller gets paid.

Figure 1. Contango S(1):B(1) spread price example



Next, consider the same example in the context of a Backward, or Inverted, market in which the price of the early expiration is higher than the price of the later expiration. Figure 2 below illustrates spread pricing in a Backward price environment. The Bid/Offer of the VX1 simple contract Is 16.50 x 17.00 and the Bid/Offer for the VX2 contract is 15.50 x 15.75. The synthetic market for the VX1:VX2 spread is -1.50 x -0.75. The bid of -1.50 derives from the fact that the offer on the VX1 leg is 17.00 and the bid on the VX2 leg is 15.50 and the net of the two is 1.50 net credit (i.e., buyer gets paid).

Figure 2. Backwardation (Inverted) S(1):B(1) spread price example



Spread pricing requires thinking of instrument prices on the entire real number line and not just positive numbers. In the example above the bid is ***less*** than the offer as it is left of the offer on the real number line. One can buy at the offer (paying -0.75 = receiving 0.75) and subsequently sell back at the bid (receiving -1.50 = paying 1.50), giving up the bid/offer spread (0.75) in the process; the same as positive prices. This concept generalizes to two and three leg spreads and unequal ratios; prices can just as easily be negative as positive as a result of the pricing environment (i.e., shape of the price curve vs. expiration date) and the spread definition (which legs bought/sold and ratios).

OCC Clearing Reference

The following table can be used to assist firms in mapping values sent in FIX to their associated field names at the OCC. Note that ***ClearingAccount*** (FIX Tag 440) is not sent to the OCC.

Tag	Field Name	OCC Mapping
115	***OnBehalfOfCompID***	Exec Broker
1	***Account***	The first ten characters will appear in the Account # field. The entire 16 character string will appear in the Optional CM Data field.
17	***ExecID***	Trade ID
37	***OrderId***	Exchange Data
11	***ClOrdId***	Order ID
439	***CMTANumber***	CMTA CM#
440	***ClearingAccount***	Not sent to the OCC.

Maximum Open Order Limits

The exchange limits the Maximum number of open orders allowed on a FIX port to 100,000 per port. New orders will be rejected once this limit is breached until the number of open orders drops back below 100,000.

Price Validations (Options Only)

Minimum Price Checks:

CFE will reject any complex/spread limit orders that would result in individual leg prints being priced below $0.01 if executed at that limit price. For example, a complex instrument with a 1:1 ratio containing all buys must have a net limit price of at least $0.02.

CFE will also reject any limit orders where the limit price of the order is less than an exchange determined buffer value for calendar, vertical, diagonal, butterfly, and box spreads. The current default buffer value applied for all spread types and products is zero.

Maximum Price Checks:

CFE will reject any limit orders where the limit price of the order is greater than the intrinsic value of a call or put vertical, butterfly, or box spread plus an exchange determined buffer value. The current buffer applied for this check is 1% of intrinsic value with a minimum of $0.03 and maximum of $0.50.

Protocol

Message Format

FIX messages are ASCII formatted. The TPH will be provided with a ***SenderCompID*** and ***SenderSubId*** that must be sent on every message. The ***TargetCompID*** for all messages the TPH sends will be CFE. All messages the TPH receives will have the Sender and Target fields swapped.

FIX Tags not defined in this specification will be ignored and will not be returned on **Execution Reports** back to the TPH.

Sequence Numbers

Sequence numbers, both inbound and outbound, will be reset to one daily between 4:00 p.m. CT and 4:45 p.m. CT. Existing FIX connections will be forcibly disconnected at that time each day.

Messages are processed in sequence order. Behind sequence messages (other than **Sequence Reset**) cause immediate logout. Ahead of sequence messages (other than a **Resend Request**) trigger a message recovery via a **Resend Request**.

Version Compatibility

CFE uses the FIX 4.2 session protocol.

Sessions

The following session messages are supported in both directions:

Message	Type	Comment
Logon	A	Begin session (or resume a broken session)
Heartbeat	0	
Test Request	1	
Resend Request	2	
Reject	3	Malformed message or improper session level handling
Sequence Reset	4	Both Gap Fill (***GapFillFlag***=Y) and Reset
Logout	5	Used to gracefully close session

Connectivity

Type	Description	Input
IP Address	Address to connect to	Supplied by CFE
TCP Port	Port to connect to	Supplied by CFE
SenderCompID	Sent in every FIX message to CFE	Supplied by CFE
SenderSubID	Sent in every FIX message to CFE	Supplied by CFE
TargetCompID	Sent in every FIX message to CFE	CFE
TargetSubID	Sent in every FIX message to CFE	TEST = test system PROD = production

For information on connectivity options to CFE, refer to the Cboe Titanium Cboe Futures Exchange Connectivity Manual .

Logon

Tag	Field Name	Required	Description
35	***MsgType***	Y	A
108	***HeartbeatInterval***	Y	Client Heartbeat Interval (in seconds).

Logon must be the first message sent by the TPH after the TCP connection is established. ***EncryptMethod*** is ignored (FIX level encryption is not supported).

CFE will wait one second after a **Logon** is received to ensure that no **Resend Request** messages are in flight from the TPH. A **Heartbeat** will be sent to indicate that the one second wait period has ended. TPHs should not send any orders prior to receiving this first **Heartbeat** from CFE.

The IP Address of the TPH, the ***SenderCompID***, ***SenderSubID***, ***TargetCompID***, and ***TargetSubID*** (TEST/PROD) will be validated. If validation fails the connection will be dropped without a reject (to avoid corrupting the TPHs sequence in the case that the TPH merely mistakenly connected to the wrong port).

If connection is unexpectedly broken, upon reconnection the TPH may receive a login reply with a sequence number greater than expected. This means that in-flight messages were missed (likely important execution reports). The TPH should issue a **Resend Request** to retrieve the missed messages.

Similarly CFE will issue a **Resend Request** to the TPH for messages that it missed. The TPH may wish to send gap fill messages in place of new orders to avoid re-submission of potentially stale orders.

HeartbeatInterval must be specified by the TPH in the **Logon** message. This value will be clamped between five and

300 seconds and returned in the logon reply message. We recommend using as low a value as the reliability and latency of your telecommunications channel will allow.

Logon and Carried Order Restatement

If the ***Carried Order Restatements*** port attribute is set, unsolicited **Execution Report** messages representing carried orders loaded by the system at startup will be sent after the Logon response. Carried orders are orders that persist across a trading segment. Trading segments are delimited by periods of time in which the exchange is closed for trading. Good 'til Cancel (GTC), Good 'til Date-Time, and Day orders persisting across holiday trading segments comprising a single business date are the only order types that will appear in Carried Order Restatements.

Carried GTC, GTD, and Day orders that span holiday trading segments within a single Business day will use ***ExecTransType***= 3 (status), ***ExecType***= D (Restated) and ***ExecRestatementReason***= 1 (GT renewal / restatement) for GTC and GTD orders and 4 for Day orders.

Heartbeat

Tag	Field Name	Required	Description
35	***MsgType***	Y	0
112	***TestReqID***	N	Required in response to a Test Request.

A **Heartbeat** message should be sent if the agreed upon ***HeartbeatInterval*** has elapsed since the last message sent. If any message has been sent during the preceding ***HeartbeatInterval*** a **Heartbeat** message need not be sent.

Test Request

Tag	Field Name	Required	Description
35	***MsgType***	Y	1
112	***TestReqID***	Y	Auto-generated request ID.

If a ***HearbeatInterval*** + one seconds have elapsed since the last message received, a **Test Request** should be issued. If another ***HearbeatInterval*** + one seconds go by without receiving a message the TCP connection should be dropped. This ensures that a broken TCP connection will be detected even if the TCP stack doesn't notice (this has been observed to happen in WAN environments, particularly when a VPN is involved).

Resend Request

Tag	Field Name	Required	Description
35	***MsgType***	Y	2
7	***BeginSeqNo***	Y	Sequence number of first message in range to be resent.
16	***EndSeqNo***	Y	0 means + infinity

A **Resend Request** message should be processed even if it is received ahead of sequence. Only after resending the requested range (all marked ***PossDup***= Y, including any gap fills) should **Resend Request** be issued in the opposite direction.

As discussed in the FIX 4.2 specification, it is possible to send an open or closed sequence range in a **Resend Request** (an open range uses sequence zero as the ***EndSeqNo***). CFE will honor either type of request, but will always issue **Resend Requests** with a closed sequence range.

Reject

Tag	Field Name	Required	Description
35	***MsgType***	Y	3
45	***RefSeqNum***	Y	***MsgSeqNum*** of rejected message.
371	***RefTagID***	N	
372	***RefMsgType***	N	
373	***SessionRejectReason***	N	
58	***Text***	N	

Session level rejects are used to indicate violations of the session protocol, or missing (or bogus) fields. These are to be expected during development and certification, while the TPH is being adapted for CFE, but should be extremely rare in production. Application layer rejects (like Order Reject and Cancel Reject) are normal.

Sequence Reset

Tag	Field Name	Required	Description
35	***MsgType***	Y	4
36	***NewSeqNo***	Y	***Next expected sequence number.***
123	***GapFillFlag***	N	Sequence Reset - Gap Fill messages (***GapFillFlag***='Y') must be received in sequence. Any messages (including any Gap Fills) sent in response to a Resend Request should have ***PossDup***='Y'. Sequence Reset - Reset (***GapFillFlag*** not 'Y') is used only as a last resort, and always by human intervention, to allow an otherwise hopelessly confused session to be resumed. In these cases all chance at automatic message recovery are lost.

Logout

Tag	Field Name	Required	Description
35	***MsgType***	Y	5
58	***Text***	N	***Indicates reason for Logout.***

Either side may issue a **Logout** to gracefully close the session. The side that issues the logout should process messages normally until it sees the logout reply, and then break the TCP connection. CFE will typically only request **Logout** after the scheduled end of FIX session.

This includes the pausing of a session due to holidays.

FIX Messages

Standard Message Header

Tag	Field Name	Required	Description
8	***BeginString***	Y	FIX.4.2 Must be first field in message
9	***BodyLength***	Y	Length of message following ***BodyLength*** field up to and including the delimiter preceding the ***CheckSum*** field. Must be second field in message.
35	***MsgType***	Y	Must be third field in message
49	***SenderCompID***	Y	ID of sender: Assigned by CFE for messages sent to CFE (***TargetCompID*** for messages from CFE)
50	***SenderSubID***	Y	Sub ID of sender: Assigned by CFE for messages sent to CFE. (***TargetSubID*** for messages from CFE)
56	***TargetCompID***	Y	ID of destination: CFE = messages sent to CFE (***SenderCompID*** for messages from CFE)
57	***TargetSubID***	Y	Sub ID of destination: TEST = messages sent to CFE test system PROD = messages sent to CFE production system (***SenderSubID*** for messages from CFE)
34	***MsgSeqNum***	Y	Sequential sequence number for session
43	***PossDupFlag***	N	N = (Default) Y = Indicates a message resend and should be used during FIX Replay. All inbound orders with a value of 'Y' will be rejected by Cboe.
52	***SendingTime***	Y	GMT date-time that message was sent
122	***OrigSendingTime***	N	For messages with ***PossDupFlag***='Y', indicates time that message was first sent
115	***OnBehalfOfCompID***	N	Used to specify clearing information on messages to CFE. Must be an allowed Executing Firm ID (EFID). Sent to OCC in Exec Broker field.
116	***OnBehalfOfSubID***	N	End-client sub identifier. 4 Characters alphanumeric, otherwise not validated. Recorded and returned in ***DeliverToSubID***. Available via Drop feeds
128	***DeliverToCompId***	N	Identifies end-client on messages from CFE. Used to specify clearing information
129	***DeliverToSubID***	N	Returns ***OnBehalfOfSubID*** optionally sent by client
142	***SenderLocationID***	Y	Identifies the country code of the person or system submitting the order using the ISO 3166 two-character code (must be entered using uppercase letters only). An order with a country code for a comprehensively sanctioned country will be rejected.

Standard Message Trailer

Tag	Field Name	Required	Description

Tag	Field Name	Required	Description
10	***CheckSum***	Y	Modulo 256 checksum of all characters in message up to and including the delimiter preceding the ***CheckSum*** field. Three digits with leading zeroes if necessary

User Defined FIX Fields

The following FIX fields in the user defined tag range 5,000-9,999 are used by CFE:

Tag	Field Name	Description
7692	***RiskReset***	Refer to definition in **New Order Single**
7695	***MassCancelID***	Refer to definition in **Order Cancel Request**
7698	***CustomGroupIDCnt***	Refer to definition in **Purge Request**
7699	***CustomGroupID***	Refer to definition in **Purge Request**
7700	***MassCancelInst***	Refer to definition in **Order Cancel Request**
7928	***PreventMatch***	Refer to definition in **New Order Single**
8641	***NoOfComplexInstruments***	Refer to definition in **Execution Report**
9617	***ModifySequence***	Refer to definition in **New Order Single**
9619	***CancelOrigOnReject***	Refer to definition in **Order Cancel/Replace**
9620	***CorrectedPrice***	Refer to definition in **Trade Cancel/Correct**
9688	***OrigCompID***	Refer to definition in **Execution Report**
9689	***OrigSubID***	Refer to definition in **Execution Report**
9702	***CTICode***	Refer to definition in **New Order Single**
9730	***TradeLiquidityIndicator***	Refer to definitions in **Execution Report** and **Trade Cancel/Correct**
9882	***FeeCode***	Refer to definition in **Execution Report**

Custom FIX Fields

The following FIX fields in the custom tag range 20,000-39,999 are used by CFE:

Tag	Field Name	Description
25004	***OEOID***	Refer to definition in **New Order Single**
21050	***ClearingPrice***	Refer to definition in **Execution Report**
21051	***ClearingSize***	Refer to definition in **Execution Report**
21053	***ClearingSymbol***	Refer to definition in **Execution Report**

Order Protocol - TPH to CFE

Order Protocol - TPH to CFE contains New Order Single, Order Cancel Request, Order Cancel/Replace Request, and Security Definition Request (Options only) information.

New Order Single

Tag	Field Name	Req'd	Description
35	***Standard Message Header***	Y	MsgType = D

Tag	Field Name	Req'd	Description
97	***PossResend***	N	N = Default. Indicates a new order. Y = Indicates an application level resend and is NOT supported. For reasons of economy, CFE does not track (in primary storage) the ***ClOrdID*** values of orders that are no longer live. For reasons of performance, CFE does not access secondary storage to enforce unique ***ClOrdID*** values against orders that are no longer live. Without full duplicate ***ClOrdID*** value enforcement, it is not possible to safely implement the full behavior specified in the FIX 4.2 Protocol for ***PossResend*** = Y. To remain economical, fast, and safe, all **New Order Single** messages with ***PossResend*** = Y will simply be ignored.
1	***Account***	Y	This field will be reflected back on execution reports associated with this order. 16 characters or less (ASCII 32-126). The first 10 characters are sent to the OCC in the Account # field. The entire 16 character string will appear in the Optional CM Data field. Available via FIX DROP on an opt-in basis at the port level.
11	***ClOrdId***	Y	ID chosen by client. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. A leading tilde (~) cannot be sent on any ***ClOrdId*** and will result in a reject. These are reserved for internal use by CFE and could be received as a result of a system-generated ***ClOrdId***. If the ***ClOrdId*** matches a live order it will be rejected as duplicate (unless ***PossResend*** = Y, see above). Sent to the OCC in the Order ID field. Note: CFE only enforces the uniqueness of ***ClOrdID*** values among currently live orders, which includes long-lived GTC and GTD orders. However it is strongly recommended to keep ***ClOrdID*** values unique.
60	***TransactTime***	Y	Time order initiated/released. Required by FIX 4.2.
167	***SecurityType***	Y	Indicates the type of security. FUT = Simple instrument (Futures only) OPT = Simple instrument (Options only) MLEG = Multi-leg/Spread instrument (Futures only) MLO = Multi-leg/Spread instrument (Options only) Order rejected if instrument type (Simple vs. Multi-leg) of specified symbol doesn't match ***SecurityType*** (167).
55	***Symbol***	N	Futures Product or CFE format symbol (case sensitive). (Futures only), if ***MaturityMonth*** (200) AND ***MaturityDay*** (205) are both provided, then the ***Symbol*** (55) is a Futures Product identifier (e.g., 'VX', 'VXT', 'VU', etc.). Otherwise, ***Symbol*** (55) is the 6 character mapped SymbolID. (Options only), if ***SecurityDesc*** (107) is provided, then the ***Symbol*** (55) value is not used and should be blank or not provided. Otherwise, ***Symbol*** (55) is the 6 character mapped SymbolID. Note Spread instruments must use 6 character mapped SymbolID.
200	***MaturityMonth***	N	Used when specifying the ***Symbol*** (55) by Futures Product and Expiration Date rather than Symbol ID. When ***MaturityMonth*** is specified, ***MaturityDay*** (205) is required and ***Symbol*** must refer to valid Futures Product identifier.

Tag	Field Name	Req'd	Description
205	***MaturityDay***	N	Used when specifying the ***Symbol*** (55) by Futures Product and Expiration Date rather than Symbol ID. When ***MaturityDay*** is specified, ***MaturityMonth*** (200) is required and ***Symbol*** must refer to valid Futures Product identifier.
107	***SecurityDesc*** (Options only)	N	Used for to identify an instrument by the security description (e.g. "UX1A/K4 C2000"). If this tag is provided, ***Symbol*** (55) should be blank or not provided.
54	***Side***	Y	1 = Buy 2 = Sell
38	***OrderQty***	Y	Number of contracts for order, 1 to 999,999
40	***OrdType***	Y	1 = Market 2 = Limit 4 = Stop Limit (Futures only) Market implies ***TimeInForce*** of IOC. Stop Limit orders must have a ***TimeInForce*** of DAY (0), GTC (1), or GTD (6). Market orders are not allowed for complex Options on Futures and will be rejected.
44	***Price***	N	Limit Price. Required for limit orders. If populated for a market order (***OrdType***=1), the order will be accepted and behave like a market order (i.e. ***Price*** will be ignored). Orders will be rejected if ***Price*** does not fall on the applicable minimum trading increment. For all contracts other than TAS, simple orders will be rejected if ***Price*** is less than or equal to zero, or greater than or equal to 100,000. For TAS, simple orders will be rejected if ***Price*** is outside the price limits presented in the contract specification. Spread orders will be rejected if ***Price*** is outside the price limits implied by the spread instrument definition and constituent instrument min and max prices.
99	***StopPx***	N	The trigger price for Stop Limit orders. Required if ***OrdType*** (40) = 4.
47	***OrderCapacity***	Y	The capacity for the order. C = Customer F = Firm The ***OrderCapacity*** refers to the OCC account type. C denotes an account that clears in the Customer range at OCC. F denotes an account that clears in the Clearing Firm range at OCC.
59	***TimeInForce***	N	0 = DAY (Default) (Expires at end of market day.) 1 = GTC (Order remains until cancelled.) 3 = IOC (Portion not filled immediately is cancelled. Market orders are implicitly IOC.) 4 = FOK (An IOC where the entire size must be filled, else the order will be cancelled back) 6 = GTD (Expires at the date-time specified in the ***ExpireTime*** (126) field).
126	***ExpireTime***	N	Required for ***TimeInForce*** (59) = 6 (GTD) orders, specifies the date-time (in GMT) that the order expires. Values may be specified at a millisecond level.

Tag	Field Name	Req'd	Description
110	***MinQty***	N	Minimum fill quantity for IOC orders. Ignored for other Simple instrument orders. Not supported for Spread or Options instruments. Spread or Options instrument orders with ***MinQty*** specified will be rejected.
77	***OpenClose***	N	Indicates status of client position. O = Open C = Close N = None (same as not present)
7692	***RiskReset***	N	Values may be combined S = Product-level risk/lockout reset (Futures only) F = Firm-level risk/lockout reset (Futures only) C = ***CustomGroupID*** lockout reset (Futures only) R = Product-level risk/lockout reset (Options only) I = Firm-level risk/lockout reset (Options only) D = ***CustomGroupID*** lockout reset (Options only) Resets by ***CustomGroupID*** require FIX Tag (7699) to be populated. Values may be combined together to allow for resets of multiple risk trips or self-imposed lockouts in a single message. For example, FS, SC, FC, and SFC are all acceptable values. The characters may be combined in any order. For example, to "reset all futures", set this field to SFC, which is the equivalent to CFS. To "reset all options", set this field toRID, which is equivalent to DIR. To "reset all futures and options" set the field to SFCRID, which is equivalent to DIRCFS. For more information, see the Cboe Titanium Cboe Futures Exchange Risk Management Specification.
7928	***PreventMatch***	N	CFE Match Trade Prevention: 3 characters (not space separated): 1st character - MTP Modifier: N = Cancel Newest O = Cancel Oldest B = Cancel Both 2nd character - Unique ID Level: F = Prevent Match at CFE Exchange TPH level M = Prevent Match at EFID Level N = None (do not prevent match at any level) 3rd character - Trading Group ID (optional): TPH-specified alphanumeric value 0-9, A-Z, or a-z. The Unique ID Level (character 2) of both orders must match to prevent a trade. If specified on both orders, Trading Group ID (character 3) must match to prevent a trade. On New Orders, an empty ***PreventMatch*** string (NUL filled) results in default Port Attribute settings applied.
439	***CMTANumber***	N	CMTA Number of the firm that will clear the trade. Must be supplied for CMTA orders and left unspecified for non-CMTA orders. Sent to the OCC in the CMTA CM# field.
440	***ClearingAccount***	N	This field can be blank or filled out with an optional four character string. This field is recorded and returned in **Execution Reports**. This field is not sent to the OCC. Available via FIX Drop.
7699	***CustomGroupID***	N	Optional TPH-specified ID for the order. Cancellation by ***CustomGroupID*** available using Purge Port only. Integer 1-65535

Tag		Field Name	Req'd	Description
9702		***CTICode***	Y	1 = CTI 1: Transactions initiated and executed by an individual TPH for the TPH's own account, for an account the TPH controls, or for the account in which the TPH has an ownership or financial interest. 2 = CTI 2: Transactions executed for the proprietary account of a clearing TPH or non-clearing TPH. 3 = CTI 3: Transactions where an individual TPH or authorized trader executes for the personal account of another individual TPH, for an account the other individual TPH controls or for an account in which the other individual TPH has an ownership or financial interest. 4 = CTI 4: Any transaction not meeting the definition of CTI 1, 2 or 3. (These should be non-TPH customer transactions).
1028		***ManualOrderIndicator***	Y	Y = Manual order entry N = Automated order entry
1031		***CustOrderHandlingInst***	N	Execution source code provided during order entry to describe broker service. A default value can be set using the "Default Customer Order Handling Instruction" port attribute. W = Desk (high touch) Y = Electronic (default) C = Vendor-provided platform, billed by Executing Broker G = Sponsored Access via Exchange API or FIX, provided by executing broker H = Premium algorithmic trading provider, billed by executing broker D = Other, including other-provided screen
25004		***OEOID***	Y	Identifies the Order Entry Operator responsible for this message. Minimum and maximum length is 3 and 18 characters, respectively. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe.
21097		***FrequentTraderID***	N	Supplemental customer identifier used for billing related programs. 6 character alphanumeric (0-9, A-Z, or a-z) value.
555 ***Repeating Group***		***NoLegs*** (Options only)	N	For a complex order, the number of legs of the complex instrument specified in ***Symbol*** (55). For simple orders ***OpenClose*** (77) should be used.
→	564	***LegPositionEffect*** (Options only)	N	Indicates status of client position in the option for this leg. O = Open C = Close N = None
		Standard Message Trailer	Y	

Order Cancel Request

Request the cancellation of a single order or multiple orders (Mass Cancel) on the FIX session. Note that **Order Cancel Requests** do not apply to open orders across multiple sessions unless submitted on a Purge Port.

The system limits the rate at which identical Mass Cancel and Purge Orders requests can be submitted to the system. Requests are restricted to twenty (20) messages per second per port.

An identical Mass Cancel message is defined as a message having all of the same ***CustomGroupID***, ***Symbol***, ***Clearing Firm***, ***Instrument Type Filter*** and ***GTC Order Filter*** field values, as a previously received message.

Tag	Field Name	Req'd	Description
35	***Standard Message Header***	Y	MsgType='F'
97	***PossResend***	N	Y=Indicates an application level unsolicited resend. If ***ClOrdID*** has not yet been seen, the cancel is treated as normal. If ***ClOrdID*** already exists, the resent cancel is ignored. N=(default) Indicates a new cancel.
11	***ClOrdID***	Y	Unique cancel ID chosen by TPH. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. A leading tilde (~) cannot be sent on any ***ClOrdId*** and will result in a reject. These are reserved for internal use by CFE and could be received as a result of a system-generated ***ClOrdId***. Duplicate order ***ClOrdIDs*** will be rejected (or ignored if ***PossResend***= Y).
41	***OrigClOrdID***	N	***ClOrdID*** of the order to cancel. If the referenced order has undergone multiple changes, this will be the ***ClOrdID*** of the most recent accepted change.
37	***OrderId***	N	***OrderId*** of the order to cancel as supplied by CFE on the associated order acknowledgement. The ***OrderId*** is constant even in the event of multiple changes to a single order. If both the ***OrigClOrdID*** and ***OrderId*** are supplied and ***MassCancelInst*** is not, ***OrderId*** is used.
60	***TransactTime***	Y	Time cancel initiated/released. Required by FIX 4.2.
55	***Symbol***	N	Futures product will be used when specifying a Mass Cancel operation by product level.

Tag	Field Name	Req'd	Description
7700	***MassCancelInst***	N	Used to perform Mass Cancel operation rather than single order cancel. If ***MassCancelInst*** is provided, ***OrderId***, ***OrigClOrdId***, ***MaturityMonth***, and ***MaturityDay*** will be ignored. At least one character must be provided (Clearing Firm Filter). Contiguous characters must be specified up to total length. Truncated/unspecified characters will default to values indicated (Default) below. ***1st Character : Clearing Firm Filter*** A=No filtering by EFID is performed. F=All orders that were sent under the EFID specified in ***OnBehalfOfCompId (115***) will be cancelled. ***2nd Character : Acknowledgement Style*** M=(Default) Individual Execution Reports are sent for each cancelled order. S=Single Execution Report sent once all cancels have been processed. Single Execution Report will contain ***MassCancelId (7695***) and ***CancelledOrderCount (7696***). ***MassCancelId*** (7695) must be specified or the Order Cancel Request will be rejected. B=Both individual Execution Reports and single summary Execution report. Also requires ***MassCancelId*** (7695) to be specified or the Order Cancel Request will be rejected. ***3rd Character : Lockout Instruction*** N=(Default) No lockout (Effective 08/24/26, this instruction will be required for all Mass Cancel messages) L=Lockout until corresponding Risk Reset received. Lockout can be used only with Clearing Firm Filter set to 'F', otherwise the Order Cancel Request will be rejected. Lockout will apply to all new orders and cancel/replace orders for the EFID (and ***Symbol*** (55), if specified), regardless of other filtering in the ***MassCancelInst***. Effective 08/24/26, Mass Cancel messages with Lockout Instruction = L will be rejected. ***4th Character : Instrument Type Filter*** B=(Default) Cancel both Simple and Spread orders S=Cancel Simple orders only C=Cancel Spread orders only ***5th Character : GTC Order Filter*** C=(Default) Cancel GTC and GTD orders P=Don't cancel (preserve) GTC and GTD orders 6th ***Character : Security Type*** F=Cancel orders(Futures only) O=Cancel orders(Options only) A=(Default) Cancel All Futures and Options orders If ***Symbol*** (55) is specified, it must contain a valid product symbol (e.g., VX), in which case only orders associated with the specified product will be cancelled. A self-imposed lockout can be released using ***RiskReset (7692)*** in the **New Order Single** message. If ***Symbol*** (55) is specified, a Product level reset is required, otherwise a Firm level reset is required to release a lockout. For more information, refer to the Cboe Titanium Cboe Futures Exchange Risk Management Specification.
7695	***MassCancelID***	N	This field will be echoed back in the resulting order execution report when ***MassCancelInst*** (7700) Acknowledgement Style = S or B. Mass Cancel requests containing a ***MassCancelID*** that is currently outstanding will be rejected.

Tag	Field Name	Req'd	Description
1028	***ManualOrderIndicator***	Y	Y=Manual order entry N=Automated order entry
25004	***OEOID***	Y	Identifies the Order Entry Operator responsible for this message. Minimum and maximum length of the field is 3 and 18 characters, respectively. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe.
	Standard Message Trailer	Y	

Order Cancel/Replace Request

Price, ***OrderQty***, ***OrdType***, ***StopPx, ManualOrderIndicator, OEOID***, ***CustOrderHandlingInst***, and ***FrequentTraderID*** may be adjusted. Modifies will result in a loss of time priority unless (1) they have no change in ***Price*** and also reduce ***OrderQty*** or (2) they change the ***StopPx*** for a stop order that has not been elected. ***OrdType*** may be adjusted from Limit to Market.

Time priority is maintained on a cancel/replace order in the following cases:

- A decrease in ***OrderQty*** with no other changes.
- A decrease in ***OrderQty***, a change to the ***OEOID*** and/or the ***ManualOrderIndicator***, and no other changes.
- A decrease in ***OrderQty*** and/or a change to the ***StopPx*** on an unelected stop order with no other changes.
- A decrease in the ***OrderQty*** and/or a change to the ***StopPx*** on an unelected stop order, a change to the ***OEOID*** and/or the ***ManualOrderIndicator***, and no other changes.

Other fields will be ignored, and the value from the original order will be reused.

Changes in ***OrderQty*** result in an adjustment of the current order's ***OrderQty***. The new ***OrderQty*** does not directly replace the current order's ***LeavesQty***; rather, a delta is computed from the current ***OrderQty*** and the replacement ***OrderQty***. This delta is then applied to the current ***LeavesQty***. If the resulting ***LeavesQty*** is less than or equal to zero the order is cancelled. This results in safer behavior when the replace request overlaps partial fills for the current order, leaving the TPH in total control of the exposure of the order.

A **Cancel/Replace** should not be issued until the ack for the previous **Cancel/Replace** has been received for that order (or the New Order Ack for the first **Cancel/Replace**). The FIX handler will reject a new **Cancel/Replace** if it has not seen the prior **Cancel/Replace** return from the Matching Engine.

Cancel/Replace requests that merely reduce ***OrderQty*** may be overlapped if the existing ***ClOrdID*** is re-used. This is the only case where re-use of the existing ***ClOrdID*** is allowed.

A maximum of 1,679,615 **Cancel/Replace** requests may be made to a single order each trading day. Once the 1,679,615th modification is made, then the next user-generated message on the order should be an **Order Cancel Request**.

Tag	Field Name	Req'd	Description
35	***Standard Message Header***	Y	MsgType= G
97	***PossResend***	N	Y = Indicates an application level resend. If the ***ClOrdID*** does not indicate an already pending Cancel/Replace, the cancel is treated as normal. If ***ClOrdID*** does indicate an already pending Cancel/Replace then the resent Cancel/Replace is ignored. N = (default) Indicates a new cancel.
1	***Account***	N	Ignored - value preserved from original order

Tag	Field Name	Req'd	Description
11	***ClOrdId***	Y	Unique ID chosen by TPH. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. A leading tilde (~) cannot be sent on any ***ClOrdId*** and will result in a reject. These are reserved for internal use by CFE and could be received as a result of a system-generated ***ClOrdId***. Duplicate order ***ClOrdIds*** will be rejected (or ignored if PossResend= Y).
41	***OrigClOrdID***	N	***ClOrdID*** of the order to replace. In the case of multiple changes to a single order, this will be the ***ClOrdID*** of the most recent accepted change. ***OrderID*** must be sent if ***OrigClOrdID*** is not.
37	***OrderId***	N	***OrderId*** of the order to replace as supplied by CFE on the associated order acknowledgement. The ***OrderId*** is constant even in the event of multiple changes to a single order. ***OrigClOrdID*** must be sent if ***OrderId*** is not. If both the ***OrigClOrdID*** and ***OrderId*** are supplied, ***OrderId*** is used.
60	***TransactTime***	Y	Time **Cancel**/**Replace** initiated/released.
54	***Side***	N	Must match original order.
38	***OrderQty***	Y	Number of contracts for order. This will modify the ***OrderQty*** of the current order; it does not directly set the remaining quantity.
40	***OrdType***	N	Defaults to original order if not sent. 1 = Market 2 = Limit 4 = Stop Limit (Futures only) May replace Limit with Market and vice versa, but otherwise must match original order (or not sent).
44	***Price***	Y	Limit Price. Order rejected if priced finer than the minimum trading increment for the symbol.
99	***StopPx***	N	Defaults to original order if not sent
9619	***CancelOrigOnReject***	N	Default is configurable per port (N if not configured). N = Leave original order alone. Y = Cancel original order if replacement fails (an unsolicited cancel report will be sent for original order in this case).
1028	***ManualOrderIndicator***	Y	Y = Manual order entry N = Automated order entry
1031	***CustOrderHandlingInst***	N	Execution source code provided during order entry to describe broker service. A default value can be set using the "Default Customer Order Handling Instruction" port attribute. W = Desk (high touch) Y = Electronic (default) C = Vendor-provided platform, billed by Executing Broker G = Sponsored Access via Exchange API or FIX, provided by executing broker H = Premium algorithmic trading provider, billed by executing broker D = Other, including other-provided screen
25004	***OEOID***	Y	Identifies the Order Entry Operator responsible for this message. Minimum and maximum length is 3 and 18 characters, respectively. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe.

Tag	Field Name	Req'd	Description
21097	***FrequentTraderID***	N	Supplemental customer identifier used for billing related programs. 6 character alphanumeric (0-9, A-Z, or a-z) value.
	Standard Message Trailer	Y	

Security Definition Request (Options Only)

A **Security Definition Request** message is used to request that the system create a complex strategy. The resulting symbol (if accepted by the system) will be returned in a **Security Definition** message with the Cboe symbol in ***Symbol*** (55). Complex instruments must contain a minimum of 2 and a maximum of 16 legs. Creating new complex strategies is allowed for Options on Futures only.

Tag		Field Name	Req'd	Description
35		***Standard Message Header***	Y	***MsgType***= c
97		***PossResend***	N	N = (Default) indicates a new order. Y = Indicates an application level resend and is NOT SUPPORTED. For reasons of economy, Cboe does not track in primary storage the ***ClOrdID*** values of orders that are no longer live. For reasons of performance, Cboe does not access secondary storage to enforce unique ***ClOrdID*** values against orders that are no longer live. Without full duplicate ***ClOrdID*** value enforcement, it is not possible to safely implement the full behavior specified in the FIX 4.2 Protocol for ***PossResend***= Y . To remain economical, fast, and safe, all messages with ***PossResend***= Y will be ignored.
11		***ClOrdId***	Y	ID chosen by client. 20 characters or less. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe. A leading tilde (~) cannot be sent on any ***ClOrdId*** and will result in a reject. These are reserved for internal use by Cboe and could be received as a result of a system-generated ***ClOrdId***. If the ***ClOrdId*** matches a live order it will be rejected as duplicate (unless ***PossResend***= Y , see above). Note: Cboe only enforces the uniqueness of ***ClOrdID*** values among currently live orders, which includes long-lived, persisting GTC/GTD orders. However it is strongly recommended users maintain unique ***ClOrdID*** values.
60		***TransactTime***	Y	Time request initiated/released. Required by FIX 4.2.
167		***SecurityType***	Y	Indicates the type of security MLO = Multi-leg/Spread instrument
555 ***Repeating Group***		***NoLegs***	Y	The number of legs in this complex instrument. Must be a minimum of 2 legs and a maximum of 16 legs.
➔	654	***LegRefID***	Y	***Required tag to start each repeated group.*** Leg ID chosen by client. Five alphanumeric or space characters or less.
➔	600	***LegSymbol***	Y	The symbol id of for the simple Options on Futures instrument.

Tag		Field Name	Req'd	Description
➔	623	***LegRatioQty***	Y	Ratio of number of contracts in this leg per order quantity. All legs must be reduced (i.e., 2:2 must be sent as 1:1) in order to be accepted by the system when using this message type. Accepted values are 1 - 99,999.
➔	624	***LegSide***	Y	1 = Buy 2 = Sell

Order Protocol - CFE to TPH

Order Protocol - CFE to TPH contains Execution Report, Cancel Reject, Trade Cancel/Correct, and Security Definition (Options only) information.

Execution Report

Please note that **Execution Reports** with ***ExecType*** (150) = M are responses to Mass Cancel requests. Mass Cancel **Execution Reports** are compact and will only carry fields as stated in the description of ***ExecType*** that follows.

The ***MultilegReportingType*** (442) field can be used to determine whether a fill or partial fill corresponds to a Spread instrument, a Single leg instrument that is part of a Spread instrument execution or a Single leg instrument fill only (field will not be present in this case). Similarly, the ***SecondaryExecID*** (527) field can be used to distinguish Single leg instrument executions from Spread instrument executions and to identify Single leg instrument executions that comprise a Spread instrument execution.

- If the ***SecondaryExecId*** (527) field is not present, the **Execution Report** is associated with a Simple instrument.
- If the ***SecondaryExecId*** (527) field is present and is identical to the ***ExecId*** (17) field, the **Execution Report** represents a Spread instrument execution for which associate individual leg **Execution Reports** will follow.
- If the ***SecondaryExecId*** (527) field is present and not identical to the ***ExecId*** (17) field, the **Execution Report** represents a Simple instrument execution that comprises a Spread execution and the ***SecondaryExecId*** (527) field is set to the ***ExecId*** (17) field of the associated Spread execution.

For executions involving Spread orders, if both sides of a complex/spread trade are on the same order entry session, Cboe does not guarantee that the leg executions will not be interleaved between sides.

Tag	Field Name	Description
35	***Standard Message Header***	MsgType=8
52	***SendingTime***	GMT date-time that **Execution Report** was sent by CFE.
75	***TradeDate***	Business date of the **Execution Report**. Note that on CFE, ***TradeDate*** is not always the same as the calendar date. For example, the VX/VT products open for trading on the calendar day prior to the associated business date or ***TradeDate***. Executions that occur after the open and before midnight will have a ***TradeDate*** that is not the same as the calendar date of the execution.
20	***ExecTransType***	0 = New 1 = Cancel 2 = Correct 3 = Status 2 (Correct) is used for post-Settlement Execution Reports that update Trade At Settlement (TAS) trades with settlement offset prices and symbol changes as appropriate. 3 (Status) is used for Carried Order Restatements if associated port attribute is set.

Tag	Field Name	Description
17	***ExecID***	Day-unique ID of execution message. Will be zero when***ExecTransType*** = 3. Sent to the OCC in the Trade ID field.
527	***SecondaryExecID***	Field indicates whether a fill or partial fill (***ExecType*** (150) = 1 or 2) is a Spread instrument fill or a Simple instrument fill that comprises a Spread execution. If ***SecondaryExecID*** (527) is not present, the fill is a Simple instrument fill only. If ***SecondaryExecID*** is present and is the same as the ***ExecID*** (17) the fill represents a Spread execution for which associated Simple instrument fills will follow. Simple instrument fills associated with a Spread execution will contain a ***SecondaryExecID*** matching the ***ExecID*** of the associated Spread execution.
442	***MultilegReportingType***	1 = Simple instrument execution 2 = Simple instrument execution that is part of a Spread instrument execution. 3 = Spread instrument execution.
19	***ExecRefID***	Only present when ***ExecTransType*** = 1 (Cancel) or 2 (Correct). Refers to the ***ExecID*** of the message being cancelled or corrected.
150	***ExecType***	Reason for this execution report: 0 = New (acknowledgement of new order) 1 = Partial Fill 2 = Fill 4 = Canceled 5 = Replaced 8 = Rejected D = Restated M = Mass Cancel Complete For Standard FIX Drop, only ***ExecType*** = 1 (Partial Fill), 2 (Fill), and D (Restated) Execution Reports will be sent. For Order by Order FIX Drop, all ***ExecTypes*** will be sent. See FIX Drop Port information inFIX Drop Port Attributes. When responding to a Mass Cancel request,***ExecType*** = M. This indicates that the only tags present in this message are the following: ***Standard Message Header*** (35) ***SendingTime*** (52) ***ExecTransType*** (20) ***ExecType*** (150) ***MassCancelID*** (7695) ***CancelledOrderCount*** (7696)
378	***ExecRestatementReason***	Only present when 150=D 1 = GTC and GTD Restatement 4 = State Change 5 = Reduction of OrdQty 1 is used for GTC and GTD Carried Order Restatements if associated port attribute is set. 4 is used for post-Settlement Execution Reports that update Trade At Settlement (TAS) trades with settlement offset prices and symbol changes as appropriate. Restatements of Day orders on intraday system starts (for example, during holidays involving multiple trading segments for a day) will also use 4.

Tag	Field Name	Description
828	***TrdType***	If present, the Execution represents a Block or an ECRP trade. 1 = Block Trade 2 = ECRP Trade Block and ECRP trades will only appear on Standard FIX DROP connections and not on Order-By-Order DROP connections or FIX sessions.
11	***ClOrdID***	***ClOrdID*** of the order being accepted, executed or rejected. -or- ***ClOrdID*** of the cancel or replace request. -or- ***ClOrdID*** of the order subject to unsolicited cancel (***OrigClOrdID*** will not be present).
41	***OrigClOrdID***	***ClOrdID*** of the order being cancelled or replaced (for a solicited **Cancel** or **Cancel**/**Replace**, otherwise not present).
37	***OrderId***	***OrderId*** (supplied by CFE). Sent to the OCC in the Exchange Data field.
382	***NoContraBrokers***	Only present on trades. Always 1
375	***ContraBroker***	Only present on trades. Always CFE
39	***OrdStatus***	State of order: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected A = Pending Ack B = Calculated E = Pending Replace For FIX Drop, only ‘1’ or ‘2’ will be sent and will always equal ***ExecType*** (150). For Order by Order FIX Drop, all execution information will be sent. OrderStatus (39) will always = B for TAS post-settlement restatements.
103	***OrdRejReason***	Optional when ***ExecType*** is Rejected (8): 0 = Broker option 1 = Unknown symbol 2 = Exchange closed 3 = Order exceeds limit 5 = Unknown order 6 = Duplicate order 8 = Stale order
1	***Account***	Copied from order (available in FIX DROP)
59	***TimeInForce***	Copied from order unless overridden by the system. For example, Market orders are implicitly IOC. Post-settlement restatement messages for TAS executions for which the associated order was submitted with ***TimeInForce*** = 4 (FOK) will include ***TimeInForce*** = 3 (IOC).
126	***ExpireTime***	Copied from order
110	***MinQty***	Copied from order
439	***CMTANumber***	Copied from order
440	***ClearingAccount***	Copied from order

Tag	Field Name	Description
55	***Symbol***	Copied from order For FIX DROP and Order by Order DROP only, Execution Reports for Futures will always contain "Expiration Symbology" in fields ***Symbol*** (55), ***MaturityMonth*** (200), and ***MaturityDay*** (205). ***Symbol*** will always contain the Product identifier associated with the traded instrument (e.g., 'VX'). ***MaturityMonth*** and ***MaturityDay*** specify the expiration of the traded instrument. Note if ***MultilegReportingType*** (442) is set to 3 (i.e., Spread execution), Expiration Symbology does not uniquely identify the traded option instrument, and in this case both ***Symbol*** (55) and ***SecurityID*** (48) contain the 6 character mapped SymbolID of the traded spread instrument. (Options only), ***SecurityDesc*** (107) and ***Symbol*** (55) are always populated for simple instruments. ***Symbol*** (55) will contain the 6-character mapped Symbol ID. Complex/spread instruments will only include ***Symbol*** (55).
200	***MaturityMonth***	Copied from order (Futures only). For FIX DROP and Order by Order DROP Execution Reports, ***MaturityMonth*** (200) specifies the month component of the expiration date of the traded instrument. For Spread executions (i.e., ***MultilegReportingType*** (442) = 3), ***MaturityMonth*** (200) is not included since ***Symbol*** (55) contains mapped SymbolID and not Expiration symbology.
205	***MaturityDay***	Copied from order (Futures only). For FIX DROP and Order by Order DROP Execution Reports, ***MaturityDay*** (205) specifies the day component of the expiration date of the traded instrument. For Spread executions (i.e., ***MultilegReportingType*** (442) = 3), ***MaturityDay*** (200) is not included since ***Symbol*** (55) contains mapped SymbolID and not Expiration symbology.
107	***SecurityDesc*** (Options only)	Long format description of Options instrument (e.g. "UX1A/K4 C2000").
48	***SecurityID*** (Futures only)	Present only for FIX DROP and Order by Order DROP Execution Reports. Field will always contain the associated symbol using the 6-character mapped symbol id.
142	SenderLocationID	Copied from order
167	***SecurityType***	Copied from order
54	***Side***	Copied from order
38	***OrderQty***	Copied from order Field not present on TAS post-settlement restatements.
424	***DayOrderQty***	For GTC and GTD orders only. Contracts remaining to be filled for the order at the beginning of the current business day (i.e., ***OrderQty*** - ***CumQty*** at the end of the previous business day).
14	***CumQty***	Cumulative quantity of contracts executed for the order over life of the order, which may be multiple business days in the case of GTC and GTD orders. Populated for leg fills related to complex executions.
425	***DayCumQty***	For GTC and GTD orders only. Cumulative quantity of contracts executed for the order during the current business day.
151	***LeavesQty***	Quantity of contracts or spread instruments still open for further execution. Will be zero if order is dead, otherwise will be (***OrderQty*** -***CumQty)***. Note: It is possible for ***LeavesQty*** to be zero when ***ExecType*** = 5 indicating that the order is dead. Field not present on TAS restatements.

Tag	Field Name	Description
32	***LastShares***	Quantity of contracts traded on this fill (zero for nonfills). Must request opt-in at firm or port level for "Report MTP Fields" to receive this field on a MTP triggered cancel/restatement where both sides were cancelled. ***LastShares*** is set to the number of contracts that would have been matched in the event of cancel on account of MTP.
44	***Price***	Copied from order
31	***LastPx***	Price of this fill (zero for non-fills). Must request opt-in at firm or port level for "Report MTP Fields" to receive this field on a MTP triggered cancel/restatement where both sides were cancelled. ***LastPx*** is set to the price at which ***LastShares*** would have matched in the event of cancel on account of MTP.
6	***AvgPx***	Average price of executions for this order weighted by trade size. Zero if ***CumQty*** is zero or if a leg fill related to a complex execution.
426	***DayAvgPx***	For GTC and GTD orders only. Average price per contract of executions on current business date (***TradeDate***). Zero if ***DayCumQty*** is zero.
99	***StopPx***	Copied from order
198	***SecondaryOrderID***	Present on a MTP triggered cancel. Must request opt-in at firm or port level for "Report MTP Fields" to receive this field.
9730	***TradeLiquidityIndicator***	Present for acknowledgements and fills (150 =0, 150 = 1 or 150 = 2): 1st Character A = Trade Added Liquidity R = Trade Removed Liquidity C = Market opening/re-opening trade 2nd Character (***must opt-in to receive***) U = Qualifying Market Turner order. Only sent when first character value = A. State Change Tracking Order acks (150=0), modify acks (150=5) and restatements (150=D with 378=4 or 378=1) will carry 9730 messages defined as follows: A = Zero or more immediate partial remove fills followed by posting. AU = Zero or more immediate partial remove fills followed by posting as market turner. R = Zero or more immediate partial remove fills followed by a cancel (or full fill).
9882	***FeeCode***	Specific fee code associated with execution. See the Fee Schedule for the respective market for possible values.
9617	***ModifySequence***	FIX Drop only. Base 36. Number of times order has been replaced.
9688	***OrigCompID***	FIX Drop only. ***TargetCompID*** of original FIX exec report FIX Drop port must be configured to send this optional field.
9689	***OrigSubID***	FIX Drop only. ***TargetSubID*** of original FIX exec report FIX Drop port must be configured to send this optional field.
60	***TransactTime***	GMT date-time that transaction occurred
58	***Text***	If present, indicates reason for reject or cancel. Format is one letter reason code followed by colon and space followed by free form text (e.g., "N: No Liquidity at price"). See Reason Codes for a list of valid reason codes.
7695	***MassCancelID***	Mass cancel ID provided when ***ExecType*** = M (Mass Cancel Complete) indicating a Mass Cancel operation has completed.
7696	***CancelledOrderCount***	Number of orders cancelled from a Mass Cancel request.
9702	***CTICode***	Copied from order
1028	***ManualOrderIndicator***	Copied from order

Tag		Field Name	Description
25004		***OEOID***	Copied from order
47		***OrderCapacity***	Copied from order if provided
77		***OpenClose***	Copied from order
21050		***ClearingPrice***	Present in restatement execution reports in which the originally reported fill price (***LastPx*** (31)) is transformed prior to clearing. TAS executions are reported at the time of execution as a differential to the contract settlement price. Post-settlement the execution price offset with the contract settlement price and reported in the ***ClearingPrice*** (21050) field of the restatement.
21053		***ClearingSymbol***	Present in restatement **Execution Report** message in which the symbol associated with execution at the time of the execution (***Symbol*** (55)) is transformed prior to clearing. Present only in restatement **Execution Report** messages for TAS instruments for which the execution clears with a different symbol than the symbol from the original **Execution Report**. Field contains the new mapped symbol ID that will used for clearing. For TAS restatement **Execution Report** messages, the field will contain the mapped symbol ID of the standard futures instrument (i.e. "VX") with same expiration as the originally traded TAS instrument.
21097		***FrequentTraderID***	Copied from order
1031		***CustOrderHandlingInst***	Copied from order
555 ***Repeating Group***		***NoLegs*** (Options only)	Copied from order
→	564	***LegPositionEffect*** (Options only)	Copied from order
		Standard Message Trailer	

Cancel Reject

Rejects a **Cancel** or **Cancel**/**Replace** request.

When a **Cancel**/**Replace** is rejected, by default the original order is left alive. A **Cancel Reject** should not be used as a sign that the original order has been cancelled. Even if the ***CancelOrigOnReject*** = Y option is being used a separate unsolicited cancel will be sent to close out the original order.

Tag	Field Name	Description
35	***Standard Message Header***	MsgType='9'
11	***ClOrdID***	***ClOrdID*** from the Cancel or Cancel/Replace request.
41	***OrigClOrdID***	***ClOrdID*** of the order that failed to be cancelled or replaced.
37	***OrderId***	***OrderId*** of order that failed to be cancelled or replaced. NONE if ***CxlRejReason*** = 1 (Unknown).
39	***OrdStatus***	***OrdStatus*** of order that failed to be cancelled or replaced.
1	***Account***	Copied from **Cancel** or **Cancel**/**Replace** request.
434	***CxlRejResponseTo***	1 = Cancel 2 = Cancel/Replace

Tag	Field Name	Description
102	***CxlRejReason***	0 = Too late to cancel. 1 = Unknown order. 2 = Broker Option. 3 = Already pending cancel or pending replace. This field will not be reflected back on risk rejects.
58	***Text***	Free form text
7695	***MassCancelID***	***MassCancelID*** from a **Cancel Request** where ***MassCancel*** is set.
	Standard Message Trailer	

Trade Cancel/Correct

Sends a trade/cancel or correct message for trade breaks and adjustments.

Trade Cancel/Correct (UCC) is an optional message that must be enabled at the port level. It may be enabled for current-day only or for all cancels and corrections. Only the ***Price*** of a trade may be corrected, all other details remain the same. Trade cancels and corrections do not alter live order state.

Tag	Field Name	Description
35	***Standard Message Header***	MsgType='UCC'
20	***ExecTransType***	1=Trade Cancel 2=Trade Correct
17	***ExecID***	Day-unique id of execution message.
19	***ExecRefID***	Refers to the ***ExecID*** of the message being cancelled or corrected.
37	***OrderID***	***OrderID*** of the original trade being cancelled/corrected
11	***ClOrdID***	***ClOrdID*** of the original trade being cancelled/corrected
55	***Symbol***	Copied from original trade being cancelled/corrected
200	***MaturityMonth***	Copied from original trade being cancelled/corrected
205	***MaturityDay***	Copied from original trade being cancelled/corrected
54	***Side***	Copied from original trade being cancelled/corrected
9730	***TradeLiquidityIndicator***	Copied from original trade being cancelled/corrected
128	***DeliverToCompID***	Copied from ***OnBehalfOfCompID*** (115)
439	***CMTANumber***	Copied from original trade being cancelled/corrected (if present)
440	***ClearingAccount***	Copied from original trade being cancelled/corrected (if present)
9620	***CorrectedPrice***	Only for Trade Corrects. Corrected price
32	***LastShares***	Quantity of contracts on the original trade being cancelled/corrected
31	***LastPx***	Price on the original trade being cancelled/corrected.
42	***OrigTime***	GMT date-time of original trade.
60	***TransactTime***	GMT date-time of cancel/correct.
	Standard Message Trailer	

Security Definition (Options Only)

This message is a response to a **Security Definition Request** where the **Security Definition Request** is accepted or rejected.

Tag		Field Name	Description
35		***Standard Message Header***	***MsgType***='d'
11		***ClOrdID***	***ClOrdID*** from the Security Definition Request request.
167		***SecurityType***	Copied from Security Definition Request.
55		***Symbol***	Cboe Symbol ID of created instrument.
323		***SecurityResponseType***	1 = Accept As-Is (legs were not modified) 2 = Accept With Revisions (legs were modified) 5 = Reject Security Proposal "Accept As-Is" only applies if the input legs matches exactly the complex security definition. Any re-ordering of legs, reduction of ratios, or other changes will result in a value of "Accept with Revisions".
555 ***Repeating Group***		***NoLegs***	Copied from **Security Definition Request**. Note ordering of legs may be different if ***SecurityResponseType*** (323) = 2.
➔	654	***LegRefID***	Copied from Security Definition Request.
➔	600	***LegSymbol***	Copied from Security Definition Request.
➔	623	***LegRatioQty***	Copied from Security Definition Request. Note ratio may be reduced if ***SecurityResponseType*** (323) = 2.
➔	624	***LegSide***	Copied from Security Definition Request.
8641		***NoOfComplexInstruments***	The number of complex instruments created by the TPH in the underlying futures symbol in the current trading session.
58		***Text***	Free form text message.
		Standard Message Trailer	

Purge Port Protocol - TPH to CFE

A Purge Port may be created using either the FIX or BOE protocol. For BOE Purge Port messaging please refer to the Cboe Titanium Cboe Futures Exchange BOE Version 3 Specification .

The system limits the rate at which identical Mass Cancel and Purge Orders requests can be submitted to the system. Requests are restricted to twenty (20) messages per second per port.

An identical Mass Cancel message is defined as a message having all of the same ***CustomGroupID***, ***Symbol***, ***Clearing Firm***, ***Instrument Type Filter,*** and ***GTC Order Filter*** field values, as a previously received message.

Purge Request

Request the cancellation of a subset (or all) open orders across multiple logical ports/sessions (i.e. match capacity allocations).

This differs from a Mass Cancel sent via an **Order Cancel Request** as the **Purge Request** is applied across all the TPH's sessions, not just the session on which the **Order Cancel Request** was received. In addition, the **Purge Request** message optionally accepts a list of one or more ***CustomGroupID*** (7699) values as part of the order matching filter.

- **Purge Request** requires sending ***MassCancelInst*** (7700).
- Optionally, ***OnBehalfOfCompID*** (115), ***Symbol*** (55), ***MassCancelID*** (7695) and list of ***CustomGroupID*** (7699) values may also be sent.
- ***Symbol*** (55) and ***CustomGroupID*** (7699) are mutually exclusive. Messages containing both will be rejected.
- A maximum of 10 ***CustomGroupID*** (7699) values may be sent in one message.
- If cancelling by ***OnBehalfOfCompID*** (115) by using F as the first character of ***MassCancelInst*** (7700) in combination with one or more ***CustomGroupId*** (7699), only orders entered matching both ***CustomerGroupId***

(7699) and the EFID will be cancelled.

- A **Purge Acknowledgement** (35= 8, 150= M) may be requested by setting the Acknowledgement Style to S or B, in which case the ***MassCancelID*** (7695) field must be provided or the Purge Request will be rejected.

Tag	Field Name	Req'd	Description
35	***Standard Message Header***	Y	MsgType='F'
97	***PossResend***	N	Y = Indicates an application level unsolicited resend. If ***ClOrdID*** has not yet been seen, the cancel is treated as normal. If ***ClOrdID*** already exists, the resent cancel is ignored. N = (default) indicates a new cancel.
60	***TransactTime***	Y	Time cancel initiated/released. Required by FIX 4.2.

Tag	Field Name	Req'd	Description
7700	***MassCancelInst***	Y	At least one character must be provided (Clearing Firm Filter). Contiguous characters must be specified up to total length. Truncated/unspecified characters will default to values indicated (Default) below. ***1st Character : Clearing Firm Filter*** A = No filtering by clearing firm relationship is performed. F = All orders sent under the clearing relationship specified in ***OnBehalfOfCompId*** (115) will be cancelled. ***2nd Character : Acknowledgement Style*** M = (Default) Individual Execution Reports are sent for each cancelled order. S = Single summary Execution Report sent once all cancels have been processed. Single Execution Report will contain ***MassCancelId*** (7695) and ***CancelledOrderCount*** (7696). ***MassCancelId*** (7695) must be specified or the Order Cancel Request will be rejected. B = Both individual Execution Reports and single summary Execution report. Also requires ***MassCancelId*** (7695) to be specified. ***3rd Character : Lockout Instruction*** N = (Default) No lockout L = Lockout until corresponding Risk Reset received. Lockout can be used only with Clearing Firm Filter set to 'F', otherwise the Order Cancel Request will be rejected. Lockout will apply to all new orders and cancel/replace orders for the EFID (and ***Symbol*** (55) or ***CustomGroupId*** (7699), if specified), regardless of other filtering in the ***MassCancelInst***. ***4th Character : Instrument Type Filter*** B = (Default) Cancel both Simple and Spread orders S = Cancel Simple orders only C = Cancel Spread orders only ***5th Character : GTC Order Filter*** C = (Default) Cancel GTC and GTD orders P = Don't cancel (preserve) GTC and GTD orders ***6th Character : Security Type*** F = (D) Cancel orders (Futures only) O = Cancel orders (Options only) A = Cancel Both Futures and Options orders If ***Symbol*** (55) is specified, it must contain a valid product symbol (e.g., 'VX'), in which case only orders associated with the specified product will be cancelled. A self-imposed lockout can be released using the ***RiskReset*** (7692) field of the New Order Single message. If ***Symbol*** (55) is not specified a zero ***CustomGroupId*** (7699) values are specified, a Firm level reset is required. If ***Symbol*** is specified, a Product level reset is required. If one or more ***CustomGroupId*** values are provided a Custom Group level reset is required. For more information, refer to the CFE Risk Management Specification.
7695	***MassCancelID***	N	This field will be echoed back in the resulting order execution report when the Acknowledgement Style value of the ***MassCancelInst*** (7700) = S or 'B'. Purge requests containing a ***MassCancelID*** that is currently outstanding will be rejected.
55	***Symbol***	N	Futures product symbol (upper case). Limits cancellations to only orders with the specified product.

Tag		Field Name	Req'd	Description
7698 Repeating Group		***CustomGroupIDCnt***	N	Number of repeating ***CustomGroupIDs*** (7699) included in this message. Integer 0-10
→	7699	***CustomGroupID***	N	***CustomGroupID*** (7699) to cancel. Only present if ***CustomGroupIDCnt*** (7698) is non-zero. Number of repeating groups must match number specified in ***CustomGroupIDCnt*** (7698).
1028		***ManualOrderIndicator***	Y	Y = Manual order entry N = Automated order entry
25004		***OEOID***	Y	Identifies the Order Entry Operator responsible for this message. Minimum and maximum length is 3 and 18 characters, respectively. Characters in ASCII range 33-126 are allowed, except for comma, semicolon, and pipe.
		Standard Message Trailer	Y	

Purge Port Protocol - CFE to TPH

Purge Port Protocol - CFE to TPH contains Purge Acknowledgement and Purge Reject information.

Purge Acknowledgement

A response to a **Purge Request** will only be sent when the ***MassCancelID*** (7695) is populated on a **Purge Request**. This includes cases where the Acknowledgement Style of ***MassCancelInst*** = S or B.

Tag	Field Name	Description
35	***Standard Message Header***	MsgType='8'
52	***SendingTime***	GMT date-time that execution report was sent by CFE.
20	***ExecTransType***	3 = Status
150	***ExecType***	Reason for this execution report: M = Mass Cancel Complete
7695	***MassCancelID***	Copied from original **Purge Request**.
7696	***CancelledOrderCount***	Number of orders cancelled from a **Purge Request** with the specified ***MassCancelID***.

Purge Reject

Rejects a **Purge Request**.

Tag	Field Name	Description
35	***Standard Message Header***	MsgType='9'
39	***OrdStatus***	8 = Rejected
434	***CxlRejResponseTo***	1 = Cancel
102	***CxlRejReason***	2 = Broker Option
58	***Text***	Free form text message with additional reject information.
7695	***MassCancelID***	***MassCancelID*** from the **Purge Request**
	Standard Message Trailer	

Implementation Issues

Automatic Cancel on Disconnect or Malfunction

Open orders for a TPH will be cancelled automatically if no messages have been received from the TPH for two heartbeat intervals. The set of open orders cancelled will include Good 'Til Cancel (GTC) and Good 'Til Date-Time (GTD) orders if the Cancel On Disconnect port setting is configured to include GTC and GTD orders. This is done to prevent orders from being stuck in an unknown state in the event of telecommunications failure. TPHs should choose their heartbeat interval carefully based on the latency and reliability of their telecommunications channel. The minimum supported interval is 5 seconds, and this is also the recommended interval if the latency and reliability of your telecommunications channel support it. Execution reports for the automatically cancelled orders are available upon reconnection. TPHs are responsible for rerouting orders to other market centers based on their business needs. This should be rare, but all open orders may also be cancelled in the event of a complete or partial system malfunction.

Note that Port Cancel on Disconnect behavior is in effect from the time persisted orders are reloaded to the book to the end of the Cancel-Only period. Clients may modify this port attribute via the logical port request tool available on the customer web portal.

Service Bureau (ISV) Configuration

Service Bureaus require special configuration. ***OnBehalfOfCompID*** should be set for **New Order**, **Order Cancel** and **Cancel**/**Replace** messages sent to CFE. Orders with an unknown ***OnBehalfOfCompID*** will be rejected. ***ClOrdId*** values are required to be unique only within a given ***OnBehalfOfCompID***.

Execution Report and **Cancel Reject** messages sent by CFE will have the ***DeliverToCompID*** set.

Orders must be cancelled or replaced using the same ***OnBehalfOfCompID*** as was sent on the Order.

Common Session Level Issues

CFE uses FIX 4.2 as specified by the FPL document Version 4.2 (with Errata 20010501) with business level extensions described in our own FIX spec. The session level of the FPL spec is followed as closely as possible.

The version with errata cleared up many ambiguities with session level present in the earlier Version 4.2 (March 1, 2000).

Important notes direct from the public FPL spec (bold is emphasis/notes added by CFE):

FINANCIAL INFORMATION EXCHANGE PROTOCOL / FIX MESSAGE FORMAT AND DELIVERY / Ordered Message Processing

The FIX protocol assumes complete ordered delivery of messages between parties. Implementers should consider this when designing message gap fill processes. Two options exist for dealing with gaps, either request all messages subsequent to the last message received or ask for the specific message missed while maintaining an ordered list of all newer messages. For example, if the receiver misses the second of five messages, the application could ignore messages 3 through 5 and generate a resend request for messages 2 through 5, or, preferably 2 through 0 (where 0 represents infinity). Another option would involve saving messages 3 through 5 and resending only message 2. In both cases, messages 3 through 5 should not be processed before message 2.

FINANCIAL INFORMATION EXCHANGE PROTOCOL / SESSION PROTOCOL / Logon

After the initiator has been authenticated, the acceptor will respond immediately with a confirming **Logon** message.

FINANCIAL INFORMATION EXCHANGE PROTOCOL / SESSION PROTOCOL / Message Recovery

When the incoming sequence number does not match the expected number corrective processing is required. Note that the SeqReset-Reset message (CFE: this refers only to GapFillFlag=No 123=N) to be used only to recover from a disaster scenario vs. normal resend request processing) is an exception to this rule as it should be processed without regards to its MsgSeqNum. If the incoming message has a sequence number less than expected and the PossDupFlag is not set, it indicates a serious error. It is strongly recommended that the session be terminated and manual intervention be initiated. If the incoming sequence number is greater than expected, it indicates that messages were missed and retransmission of the messages is requested via the Resend Request (see Ordered Message Processing).

If there are consecutive administrative messages to be resent, it is suggested that only one SeqReset-GapFill message be sent in their place. The sequence number of the SeqReset-GapFill message is the next expected outbound sequence number. The NewSeqNo field of the GapFill message contains the sequence number of the highest administrative message in this group plus 1. For example, during a Resend operation there are 7 sequential administrative messages waiting to be resent. They start with sequence number 9 and end with sequence number 15. Instead of transmitting 7 Gap Fill messages (which is perfectly legal, but not network friendly), a SeqResetGapFill message may be sent. The sequence number of the Gap Fill message is set to 9 because the remote side is expecting that as the next sequence number. The NewSeqNo field of the GapFill message contains the number 16, because that will be the sequence number of the next message to be transmitted.

Sequence number checking is a vital part of FIX session management. However, a discrepancy in the sequence number stream is handled differently for certain classes of FIX messages. The table below lists the actions to be taken when the incoming sequence number is greater than the expected incoming sequence number.

NOTE: In *ALL* cases except the Sequence Reset - Reset message, the FIX session should be terminated if the incoming sequence number is less than expected and the PossDupFlag is not set. A ***Logout*** message with some descriptive text should be sent to the other side before closing the session.

Table 1. Response by Message Type

Message Type	Action to Be Taken on Sequence # Mismatch
Logon	Must always be the first message transmitted. Authenticate and accept the connection.After sending a Logon confirmation back, send a ResendRequest if a message gap was detected in the Logon sequence number.

....

FINANCIAL INFORMATION EXCHANGE PROTOCOL / ADMINISTRATIVE MESSAGES / Resend Request

Note: the sending application may wish to consider the message type when resending messages ; e.g. if a new order is in the resend series and a significant time period has elapsed since its original inception, the sender may not wish to retransmit the order given the potential for changed market conditions. (The Sequence Reset-GapFill message is used to skip messages that a sender does not wish to resend.)

FINANCIAL INFORMATION EXCHANGE PROTOCOL / ADMINISTRATIVE MESSAGES / Sequence Reset (Gap Fill)

The sequence reset message is used by the sending application to reset the incoming sequence number on the opposing side. This message has two modes: Sequence Reset-Gap Fill when GapFillFlag is Y and Sequence Reset-Reset when GapFillFlag is N or not present. The Sequence Reset-Reset mode should ONLY be used to recover from a disaster situation which cannot be otherwise recovered via Gap Fill mode. The sequence reset message can be used in the following situations:

- During normal resend processing, the sending application may choose not to send a message (e.g. an aged order). The Sequence Reset - Gap Fill is used to mark the place of that message.
- During normal resend processing, a number of administrative messages are not resent, the Sequence Reset - Gap Fill message is used to fill the sequence gap created.

...

The sending application will initiate the sequence reset. The message in all situations specifies NewSeqNo to reset as the value of the next sequence number immediately following the messages and/or sequence numbers being skipped.

...

If GapFillFlag is present (and equal to Y), the MsgSeqNum should conform to standard message sequencing rules (i.e. the MsgSeqNum of the Sequence Reset-GapFill message should represent the beginning MsgSeqNum in the GapFill range because the remote side is expecting that next message).

The sequence reset can only increase the sequence number. If a sequence reset is received attempting to decrease the next expected sequence number the message should be rejected and treated as a serious error. It is possible to have multiple ResendRequests issued in a row (i.e. 5 to 10 followed by 5 to 11). If sequence number 8, 10, and 11 represent application messages while the 5-7 and 9 represent administrative messages, the series of messages as result of the Resend

Request may appear as SeqReset-GapFill with NewSeqNo of 8, message 8, SeqReset-GapFill with NewSeqNo of 10, and message 10. This could then followed by SeqReset-GapFill with NewSeqNo of 8, message 8, SeqReset-GapFill with NewSeqNo of 10, message 10, and message 11. One must be careful to ignore the duplicate SeqReset-GapFill which is attempting to lower the next expected sequence number. This can be detected by checking to see if its MsgSeqNum is less than expected. If so, the SeqReset-GapFill is a duplicate and should be discarded.

FIX Drop Ports

CFE offers two types of FIX Drop ports (Standard FIX Drop and Order by Order FIX Drop). Both port types do not accept orders. Their purpose is to provide real time information about order flow. They may be configured to send order flow based on various combinations of information relating to specific TPH firms, clearing EFIDs, and/or sessions. With proper authorization (e.g., clearing relationships), a single FIX Drop session can be used to obtain information about multiple TPHs.

Standard FIX Drop

Standard FIX Drop ports only send execution information comprising **Execution Report** messages for Filled (150= 2), Partially Filled (150= 1) and Restated (150= D) for post-settlement restatement of TAS executions.

Block and ECRP executions are sent over Standard FIX Drop ports.

Order by Order FIX Drop

Order by Order FIX Drop ports are designed to send more than execution information.

All order message types are supported including, but not limited to Acknowledgements (150= 0), Partially Filled (150= 1), Filled (150= 2), Cancelled (150= 4), Replaced (150= 5), Rejected (150= 8), Restated (150= D), Order Cancel Rejects (35= 9) and optionally (if configured at the port level) Trade Breaks (35= UCC). If the Rejects/Cancels are due to incomplete clearing information, they may be unavailable on Order by Order FIX Drop ports.

Reject messages will be sent which originate from a FIX order entry session. However, rejects originating from a BOE order entry session will be suppressed. Block and ECRP executions are not sent over Order by Order FIX Drop ports.

Users of Order by Order FIX Drop must always be prepared to receive new/unknown FIX tag and FIX tag values for BOE/FIX ports being monitored. CFE reserves the right to add new FIX tags and to update values distributed on Order by Order FIX Drop with no notice.

Symbology on FIX and Order By Order Drop Execution Reports

Execution Report messages sent on FIX and Order By Order Drop ports will always contain both Expiration and Mapped Symbology. For Expiration Symbology, ***Symbol*** (55) contains the product identifier (e.g., VX) and ***MaturityMonth*** (200) and ***MaturityDay*** (205) specify the expiration date of the associated symbol. For Mapped Symbology, ***SecurityID*** (48) will contain the 6 character mapped symbol representation. It should be noted that Expiration Symbology is insufficient to uniquely identify the traded instrument in the case of Spread instrument executions.

FIX Drop Port Attributes

Unless specified, both types of FIX Drop ports can be configured with the following features:

Attribute	Default	Description
Send Trade Breaks	No	Enables Trade Break Messages (35=UCC). Please note that enabling trade breaks on Order by Order FIX Drop port will be dependent on enabling trade breaks on corresponding BOE and/or FIX order entry ports.
Unique Wash Execution Ids	No	Appends a '.B' or '.S' to ***ExecID*** (17) on all trades.
Concatenate CompID and SubID	No	Requires all FIX traffic to contain concatenated (combined) Comp and Sub ID's.
Send ***OrigCompID***/***OrigSubID***	No	Send ***OrigCompID*** (9688) and ***OrigSubID*** (9689).
Send ***Account***	No	Send ***Account*** (1).

Attribute	Default	Description
Send ***OrdType***	No	Send ***OrdType*** (40). Standard FIX Drop only. Order by Order FIX Drop will receive ***OrdType*** (40) based on FIX order entry port attribute "Echo Tag 40 on Ack".
Send 2nd Liquidity Character	No	Sends the second character in ***TradeLiquidityIndicator*** (9730).
Send Nanoseconds (effective 08/31/26)	No	Display nanosecond level timestamp granularity for ***TransactTime*** (60), ***OrigTime*** (42), and ***SendingTime*** (52). If send nanoseconds and microseconds are both selected, nanoseconds will override.

FIX Order Entry Port Attributes

The table below lists FIX order entry port attributes that are configurable on the port or firm level. Changes to these attributes can be made by submitting a request through the Logical Port Request form.

Attribute	Default	Description
Allowed Executing Firm Id(s)	All Executing Firm Ids	Executing Firm Id(s) allowed for trading on port.
Default Executing Firm Id	None	Default Executing Firm Id to use if none is sent on **New Order**.
Cancel on Disconnect	All	Cancels open orders upon order handler disconnect; both graceful and ungraceful. Cancel on disconnect behavior is in effect from the time persisted orders are reloaded to the book to the end of the cancel-only period. All = Cancel Day, GTC and GTD orders Day = Cancel only Day orders. None = Disabled
Cancel on ME Disconnect	All	Controls whether orders are cancelled or preserved on a Matching Unit failover and provides for the ability to preserve GTC orders (Day). In any event, if a failover takes longer than 5 minutes, all orders are cancelled (including GTCs). All = Cancel Day, GTC and GTD orders Day = Cancel only Day orders None = Disabled
Cancel on Reject[†]	No	Cancels an order upon a cancel or modify reject for that order.
Cancel Open Orders on DROP Port Disconnect	None	Only applicable if Reject Orders on DROP Port Disconnect has been enabled. When the last Standard FIX DROP port associated with an order handler session has disconnected, open orders, associated with the session are cancelled. All = Cancel Day, GTC and GTD orders Day = Cancel only Day orders None = Disabled Note this parameter applies to Standard FIX DROP ports and not Order-By-Order DROP ports (ODROP).
Carried Order Restatements	Yes	If the Carried Order Restatements port attribute is set, **Execution Report** messages representing orders carried forward from the previous business date will be made available to the TPH as described in Carried Order Restatements. Note that any changes made to any port attribute will not be enforced on carried GTC orders. Members who wish to apply updated port attributes to resting GTC orders must cancel those orders, and then resubmit them following the effective time of the port attribute change.
Concatenate CompID and SubId	No	Requires all FIX traffic to contain concatenated (combined) Comp and Sub Id's.
Default MTP Value[^†]	None	Specifies Default value for ***PreventMatch*** (7928).
Echo Tag 40 on Ack	No	Return ***OrdType*** (40) on FIX Ack. Note this value will also be returned on Order by Order FIX DROP.
Echo Tag 47 on Ack	No	Return ***OrderCapacity*** (47) on FIX Ack. Note this value will also be returned on Order by Order FIX DROP.

Attribute	Default	Description
Default Customer Order Handling Instruction	Y = Electronic	Sets a default ***CustOrderHandlingInst*** (1031) that will be used unless overridden at the individual order level. W = Desk (high touch) Y = Electronic (default) C = Vendor-provided platform, billed by Executing Broker G = Sponsored Access via Exchange API or FIX, provided by executing broker H = Premium algorithmic trading provider, billed by executing broker D = Other, including other-provided screen
Maximum Order Size	25,000 contracts	A system-wide maximum order size limit that is set by the CFE. TPHs may not request a change to this port attribute.
Microsecond Timestamp Granularity	No	Display microsecond level timestamp granularity for ***TransactTime*** (60), ***OrigTime*** (42) and ***SendingTime*** (52). These tags default to millisecond or second (***SendingTime*** (52)) granularity.
Multi-Segment Holiday Day Order Handling	None	Controls whether Day (***TimeInForce*** (59) = 0) orders and quotes are cancelled or preserved across holiday trading segments comprising a single business date. None = All Day orders and quotes on the book are carried between trading segments Cancel = All Day orders and quotes on the book at the conclusion of the current trading segment are cancelled back
Reject Orders on DROP Port Disconnect	No	Allows TPH to associate a FIX DROP port(s) to a FIX port(s). Once the association has been established and all FIX DROP ports associated with a FIX port experience a session disconnect, reject orders on the FIX port until at least one of the DROP port sessions have been reestablished.
Reject Orders on DROP Port Timeout(s)	30	Only applicable for sessions where "Reject Orders on DROP Port Disconnect" has been enabled. When the last associated FIX DROP port for the order entry session has disconnected, the reject/cancel actions will be taken on the order entry session if an associated FIX DROP port has not reestablished its connection in the defined time. Minimum value allowed is 0.
Report MTP Fields^	No	Enables ***LastPx*** (31) ***LastShares*** (32), and ***SecondaryOrderId*** (198) on **Execution Reports** caused by MTP.
Send Trade Breaks^	No	Enables **Trade Break** Messages (35='UCC').
Unique Wash Execution Ids	No	Appends a '.B' or '.S' to ***ExecID*** (17) on all trades.
Send 2nd Liquidity Character	No	Sends the second character in ***TradeLiquidityIndicator*** (9730).
Port Order Rate Threshold	Default and Max Allowed = 3000 msgs/sec 1 msg/sec for CFE test products	The maximum allowed message rate on the session. When the first non-administrative message is received, a one second window begins. During the second no more than 2,999 additional non-administrative messages will be allowed within that window. If the rate is exceeded all new orders in the time window are rejected, modifies are treated as cancels, and cancels are processed. Note: Order handler burst rates towards each matching unit may be limited as described in Architecture and Message in Flight Settings.

Attribute	Default	Description
Symbol Order Rate Threshold	Default and Max Allowed = 3000 msgs/sec	Functions the same as the Port Order Rate Threshold but is calculated at the symbol level. It is capped by the Port Order Rate Threshold. Note: Order handler burst rates towards each matching unit may be limited as described in Architecture and Message in Flight Settings.
Send Nanoseconds (effective 08/31/26)	No	Display nanosecond level timestamp granularity for ***TransactTime*** (60), ***OrigTime*** (42), and ***SendingTime*** (52). If send nanoseconds and microseconds are both selected, nanoseconds will override.

† Port attribute can be overridden via FIX on an order by order basis.

^ Requires certification.

Reason Codes

The following is a list of all reason codes used by CFE. These reason codes are used in a variety of contexts (order cancellations, order rejections, etc.). All reasons are not valid in all contexts. The reason code will be followed by free-form text. The specific text the system delivers may vary from the test listed below, to provide clarification of the reject reason. CFE may add additional reason codes without notice. Members must gracefully ignore unknown values.

Code	Description
A	Admin
B	Unknown maturity date
C	Unknown product name
D	Duplicate identifier (e.g., ClOrdID)
H	Halted
I	Incorrect data center
J	Too late to cancel
K	Order rate threshold exceeded
M	Liquidity available exceeds order size
N	Ran out of liquidity to execute against
O	ClOrdID doesn't match a known order
P	Can't modify an order that is pending
U	User requested
V	Would wash
X	Order expired
Y	Symbol not supported
Z	Unforeseen reason
f	Risk management firm level or custom group ID level
m	Market access risk limit exceeded
n	Risk defaults not set
o	Max open orders count exceeded
s	Risk management product level
u	Limit Up Limit Down (LULD)
y	Order received by CFE during replay

References

For more information on CFE Opening Process, please refer to the Cboe Titanium Cboe Futures Exchange Opening Process.

Support

Please direct questions or comments regarding this specification to cfetradedesk@cboe.com.

Revision History

Document Version	Date	Description
1.0.0	05/01/17	Initial version.
1.0.1	05/17/17	Added Cancel on ME Disconnect port attribute. Cleanup of minor typos and formatting.
1.1.0	07/14/17	Added additional fields to accommodate Spread instrument executions. Updated Mass Cancel and Purge fields to add additional filtering based on GTC orders and Spread instruments.
1.1.1	07/24/17	Introduced improved method of specifying Mass Cancel and Purge Orders operations using the ***MassCancelInst*** field. Modified and clarified explanation for Variance and TAS pending and restatement Execution Reports and associated custom fields for transformed symbol, price and size for clearing.
1.1.2	08/07/17	Renamed ***VariancePrice***, ***VarianceSize*** and ***NewSymbol*** to ***ClearingPrice***, ***ClearingSize*** and ***ClearingSymbol*** respectively. Removed ***TAS Price*** field using ***ClearingPrice*** instead to report transformed TAS execution price.
1.1.3	08/25/17	Clarified ***ClOrdId*** uniqueness in New Order Single to account for long-lived GTC orders. Added 'N' to optional field ***OpenClose*** values in **New Order Single** message. Clarified Cancel on Disconnect to apply whether graceful or ungraceful disconnect. Updated Cancel on ME Disconnect and Cancel on DROP Port Disconnect port attributes to provide ability to filter out GTC orders.
1.1.4	09/06/17	Corrected description of ***SecurityType***(167) field description in New Order Single. Value must be either FUT or MLEG and must match instrument type of specified symbol or new order will be rejected.
1.1.5	09/12/17	Clarified description of Carried Order Restatements and details of restatement delivery to connected TPH.
1.1.6	09/25/17	Added to documentation of ***Price*** field of **New Order Single** message to specify that orders that don't comply with tick increments or values outside of system price limits will be rejected. Removed ***CorrectedSize*** from **Trade Cancel/Correct** message as it does not apply to CFE. Added more detail to mass cancel and Purge Request, especially for Lockout behavior in ***MassCancelInst.***
1.1.7	10/03/17	Added missing ***CMTANumber*** (439) field to the Trade Cancel/Correct CFE to TPH message. Changed name of Tag 439 from ***ClearingFirm*** to ***CMTANumber*** for consistency.
1.1.8	10/17/17	Cboe branding/logo changes
1.1.9	10/30/17	Both Expiration and Mapped Symbology are provided for FIX and Order-By-Order DROP. Spec changes include clarification of 55, 200 and 205 fields for DROP and the addition of ***SecurityID*** (48) field which will always contain Mapped Symbology for DROP port Execution Reports. Added calculation of trade size in Variance units to VA pending Execution Report ***ClearingSize*** (21051) field. For consistency with VA, added***ClearingSize*** (21051) to the pending Execution Report for VAO trades.
1.1.10	11/02/17	Removed superfluous MTP comment from ***TradeLiquidityIndicator*** (9730) field in **Execution Report** message. Added value 'B' (Calculated) to ***OrdStatus*** (39) field of **Execution Report** message to be used for all TAS and Variance post-settlement restatements. Clarified that ***OrderQty*** (38) and ***LeavesQty*** (151) are not included for TAS and Variance post-settlement restatements.

Document Version	Date	Description
1.1.11	11/14/17	Added Port Order Rate Threshold and Symbol Order Rate Threshold port attributes. Updated description of ***MinQty*** (110) field in **New Order Single** message to clarify usage. Added Good 'till Date-Time orders ("GTD"), which includes support for ***TimeInForce*** (59) value of '6' and addition of ***ExpireTime*** (126) in **New Order Single** and **Execution Report** messages.
1.1.12	12/05/17	Combined the two 'f' Reason Codes into one line for clarity. Updated Purge Acknowledgement description to replace legacy ***MassCancel*** language with ***MassCancelInst***.
1.1.13	12/21/17	Clarified use of Expiration symbology vs. mapped SymbolID for Spread execution Execution Reports. Specifically, updated description of ***Symbol*** (55), ***MaturityMonth*** (200) and ***MaturityDay*** (205). Added ***OperatorId*** (25004) and ***ManualOrderIndicator*** (1028) as fields that may be changed with an Order Cancel/Replace Request. Added GTC and GTD ***TimeInForce*** (59) values as accepted for Stop and Stop Limit orders.
1.1.14	01/19/18	FIX Tags not defined in this specification are ignored. Updated description of the ***Capacity*** (47) to clarify meaning of C and F with respect to OCC ranges.
1.1.15	02/02/18	The ***TimeInForce*** value on an Execution Report may differ from what was sent in cases where the value is overridden by the system. ***MinQty*** was missing from **Execution Report** message and has been added.
1.1.16	02/27/18	Added session availability times and description of daily restart to Hours of Operation section. Documented the system limit of 1,295 Cancel/Replace Requests per order per day.
1.1.17	03/06/18	Added OCC Clearing Reference section to more clearly describe the FIX to OCC field mappings. Maximum number of Cancel/Replace Requests per order per day will be raised to 1,679,615 effective 3/18/18.
1.1.18	03/14/18	Changed valid Account field characters from 33-126 to 32-126 (i.e., space is a valid character). Effective 3/18/18, updated definition of the OperatorId field to include characters 33-126, except for comma, semicolon, and pipe with minimum length of 3 and maximum length of 18 characters.
1.1.19	04/10/18	***CumQty*** (14) to be populated on leg fills related to complex executions (effective 4/29/18).
1.1.20	04/26/18	Changed field name from ***OperatorID*** (25004) to ***OEOID*** (25004). Removed references to 150 = 3 (Done for Day). This feature is specific to other Cboe platforms.
1.1.21	05/30/18	Added section to Protocol Features detailing the conditions under which persisted orders can be cancelled while the associated product is in a suspended state.
1.1.22	07/20/18	For ***TradeLiquidityIndicator,*** added 2nd character value of 'U' to indicate qualifying Market Turner order. Added ***State Change Tracking*** definitions***.*** Added Fix port and Drop port attribute ***"***Send 2nd Liquidity Character***".*** Added Fix port attribute ***"***Enable State Change Tracking***".***
1.1.23	7/25/18	Removed Fix port attribute "Enable State Change Tracking". Already enabled by default on all CFE FIX ports.
1.1.24	8/7/18	Added notes to Order Cancel Request and Purge Request sections indicating request limits of 20 per second per port for identical requests.
1.1.25	10/9/18	Added ***FrequentTraderID*** (21097) to be used as a supplemental customer identifier for billing related programs.
1.1.26	10/10/18	Added description of Maximum Order Size limit set by CFE in Port Attributes section.

Document Version	Date	Description
1.1.27	04/02/19	Added note identifying nomenclature change from logical port to match capacity.
1.1.28	06/12/19	Removed references to Firm Risk Reset as they do not apply to CFE.
1.1.29	02/05/20	Added note indicating that the reason code text is followed by free-form text that may vary from the text listed, to provide clarification of the reject reason. Clarified description of ***TransactTime*** (60).
1.1.30	05/05/20	Modified Start of queuing period for the CFE Test Product 'ZVXT'. Modified message rate for CFE test products to 10 messages per second (effective TBD). Added Maximum Open Order Limits section.
1.1.31	05/07/20	Postponement for changes to ZVXT trading schedule and test message rate limit.
1.1.32	05/13/20	Modified Start of queuing period for the CFE Test Product 'ZVXT'. Modified message rate for CFE test products to 10 messages per second (effective 5/31/20).
1.2.0	05/21/20	Added ***CustOrderHandlingInst*** (1031) field to **New Order Single**, **Order Cancel**/**Replace**, and **Execution Report** messages. The field may be defaulted at the port level using the 'Default Customer Order Handling Instruction' port attribute (effective 6/28/20).
1.2.1	09/22/20	Added note indicating availability of daily settlement price for VXT will be updated to 3:00 (effective 10/26/20).
1.2.2	12/11/20	Updated ***ClOrdID*** (11) descriptions to indicate that a leading tilde (~) cannot be sent on any ***ClOrdId*** and will result in a reject.
1.2.3	07/28/21	Added 'Section 1.4.1 - Architecture' to provide high level overview of protocol architecture and source IP blocking feature.
1.2.4	11/02/21	Updated ***CxlRejReason*** (102) description to indicate that 2 = Broker Option.
1.2.5	12/06/21	Added ***SenderLocationID*** (142) field to **New Order Single** and **Execution Report** messages to identify the country code of the person or system submitting the order using the ISO 3166 two-character code (effective 02/27/22).
1.2.6	12/16/21	Added ***SenderLocationID*** (142) field to **Standard Message Header** messages (effective 02/27/22). Removed ***SenderLocationID*** (142) field from **New Order Single** messages.
1.2.7	01/26/22	Updated Logical Port Request form link. Updated ***PreventMatch*** description to indicate that N = None (do not prevent match at any level) and on new orders, an empty ***PreventMatch*** string (NUL filled) results in default Port Attribute settings applied.
1.2.8	02/28/22	Noted that for executions involving Spread orders, if both sides of a complex/spread trade are on the same order entry session, Cboe does not guarantee that the leg executions will not be interleaved between sides.
1.2.9	03/21/22	Added a note indicating an order with a country code for a comprehensively sanctioned country will be rejected.
1.2.10	05/26/22	Updated ZVXT Test Product Pre-Open period and maximum number of inbound messages per second on FIX ports for CFE Test Products (effective 06/12/22). Noted the number of allowed GTC/GTD orders in test classes is three per session per matching unit (effective 06/12/22).
1.2.11	06/16/22	Added Section 1.3 - Holiday Sessions to provide submission timeframes and session disconnect information for holidays.
1.3.0	07/29/22	Major updates to introduce Options on Futures (effective 07/10/2304/03/23). Re-certification required before TPHs may trade options on the CFE platform (effective 07/10/23 04/03/23).

Document Version	Date	Description
1.3.1	08/10/22	Added ***PossDupFlag*** (43) = Y, indicating a message resend and should be used during FIX Replay. Noted in Microsecond Timestamp Granularity Port Attribute description "these tags default to millisecond or second (***SendingTime*** (52)) granularity." Noted Reject messages will be sent which originate from a FIX order entry session. However, rejects originating from a BOE order entry session will be suppressed.
1.3.2	09/09/22	Added ***NoLegs*** (555) and ***LegPositionEffect*** (564) to **New Order Single** and **Execution Report** messages (effective 07/10/23 04/03/23). Clarified ***RiskReset*** (7692) = R indicates product-level risk/lockout reset and ***RiskReset*** (7692) = I indicates Firm-level risk/lockout reset (effective 07/10/23 04/03/23).
1.3.3	01/19/23	Updated effective date for Options on Futures (effective 07/10/23).
1.3.4	05/08/23	Updated reject text for persisted orders attempting to be canceled outside of trading hours to more accurately reflect when an order is known but the request is not currently being accepted (effective 05/21/23).
1.3.5	06/08/23	***OrdType*** = Stop Limit will not be allowed for Options on Futures orders (effective 07/10/23).
1.3.6	07/03/23	Removed "Duplicative Order Protection Order Count Threshold" and "Duplicative Order Protection Action" port attributes.
1.3.7	07/20/23	Updated ***LeavesQty*** (151) description to indicate the field will be sent on single-leg instrument fills resulting from spread executions (effective 08/28/23).
1.3.8	07/31/23	Noted modifications to quotes or orders and order cancellations will result in the same time priority behavior (effective 10/01/23).
1.3.9	01/22/24	Added new **Security Definition Request** and **Security Definition** messages (Options Only) (effective 03/25/24).
1.3.10	02/02/24	Updated section 1.5 to include latency expectations as well as Members/TPH's responsibility to monitor the status of the messages they send to the exchange.
1.3.11	08/06/24	Added new Section 1.2 - Certification Requirement.
1.3.12	01/15/25	Updated with Cboe Titanium branding.
1.3.13	10/13/25	Updated to include Cancel-Only Period and Multi-Segment Holiday Day Order Handling port attribute (effective 01/12/26~~11/17/25~~). Added Multi-Segment Holiday Day Order Handling port attribute inFIX Order Entry Port Attributes (effective 01/12/26~~11/17/25~~). Updated table to include new Cancel-Only Period (effective 01/12/26~~11/17/25~~).
1.3.14	11/05/25	Updated Cancel-Only Period and Multi-Segment Holiday Day Order Handling port attribute effective date to 01/12/26.
1.3.15	11/18/25	Updated ***BeginSeqNo*** description from "auto-generated request ID" to "Sequence number of first message in range to be resent" in Resend Request messages.
1.3.16	01/05/26	Updated Carried Order Restatements, Cancellation of Carried Orders or Quotes Between Sessions, and Submission Time Frames for Holidays to reflect the new time that persisted orders are added back into the order book.
1.3.17	01/14/26	Updated Session Disconnect for Holidays, Automatic Disconnect on Cancel or Malfunction, and FIX Order Entry Port Attributes to explain behavior of Cancel on Disconnect with regards to the new cancel-only period.
1.3.18	05/04/26	In Reason Codes, defined code u as Limit Up Limit Down (LULD). Added information on Message in Flight.
1.3.19	06/29/26	Updated Order Cancel Request to deprecate Lockout instruction on the Mass Cancel message (effective 08/24/26)
1.3.20	6/30/26	Added "Send Nanoseconds" to FIX Drop Ports Attributes and FIX Order Entry Port Attributes (effective 08/31/26).