



NYSE CGW FIX Gateway Specification

NYSE Arca Options
NYSE American Options
NYSE Bonds

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1 Overview

1.1 About this Document

This document describes the implementation of the FIX 4.0, 4.1 and 4.2 Protocols used by the NYSE Arca Exchange accessible via the NYSE CGW FIX Gateway.

It includes information pertaining to FIX communication with the following venues via the NYSE CGW FIX Gateway:

- NYSE Arca Options
- NYSE American Options
- NYSE Bonds

This document assumes the reader thoroughly understands the FIX 4.0, 4.1 and/or FIX 4.2 protocol available at <http://www.fixprotocol.org/>. This document is not intended as a guide to constructing a FIX client. Rather, it is a checklist to ensure that a firm's FIX client, constructed according to the FIX 4.0, 4.1, and 4.2 specifications, will be compatible with the NYSE CGW FIX Gateway on the ambiguous details of the FIX specification.

1.2 About the NYSE CGW FIX Gateway

The NYSE CGW FIX Gateway strictly follows the FIX 4.0, FIX 4.1 and 4.2 standards. Firms utilizing FIX 4.0, 4.1, or 4.2 systems should easily interface with the NYSE CGW FIX Gateway.

As new features become available in future versions of the FIX protocol and are implemented in the NYSE CGW FIX Gateway, NYSE Arca makes them available in all past FIX versions. As a result, any new fields introduced in FIX 4.3 and beyond that are supported by NYSE Arca can be available in FIX 4.0, 4.1, and 4.2.

1.3 NYSE CGW FIX Certification

NYSE Arca offers a FIX gateway testing environment that can be used for certification and by clients to test changes made to their FIX engines. This environment supports most Arca specialized order types and is available daily from 4:00 AM EST to 8:00 PM EST. Please send an email to firmtesting@nyse.com to obtain the appropriate connectivity information.

Other Contacts

The NYSE Market Support teams have a centralized phone number: +1 212-896-2830. Through this number, clients are able to reach all support contacts for Trading, Technical, Market Data and Client Relationship Services. Below are the options to quickly get you to the most appropriate team.

+1 212-896-2830

Option 1 - Trading Support

- Sub-Option 1 - NYSE/NYSE MKT Equities
- Sub-Option 2 - NYSE ARCA Equities / NYSE Bonds
- Sub-Option 3 - NYSE Options

Option 2 - API Connectivity/Order Routing Support

- Sub-Option 1 - Production support
- Sub-Option 2 - UAT support

Option 3 - SFTI Network Operations and Colocation Support

Option 4 - Market Data Support

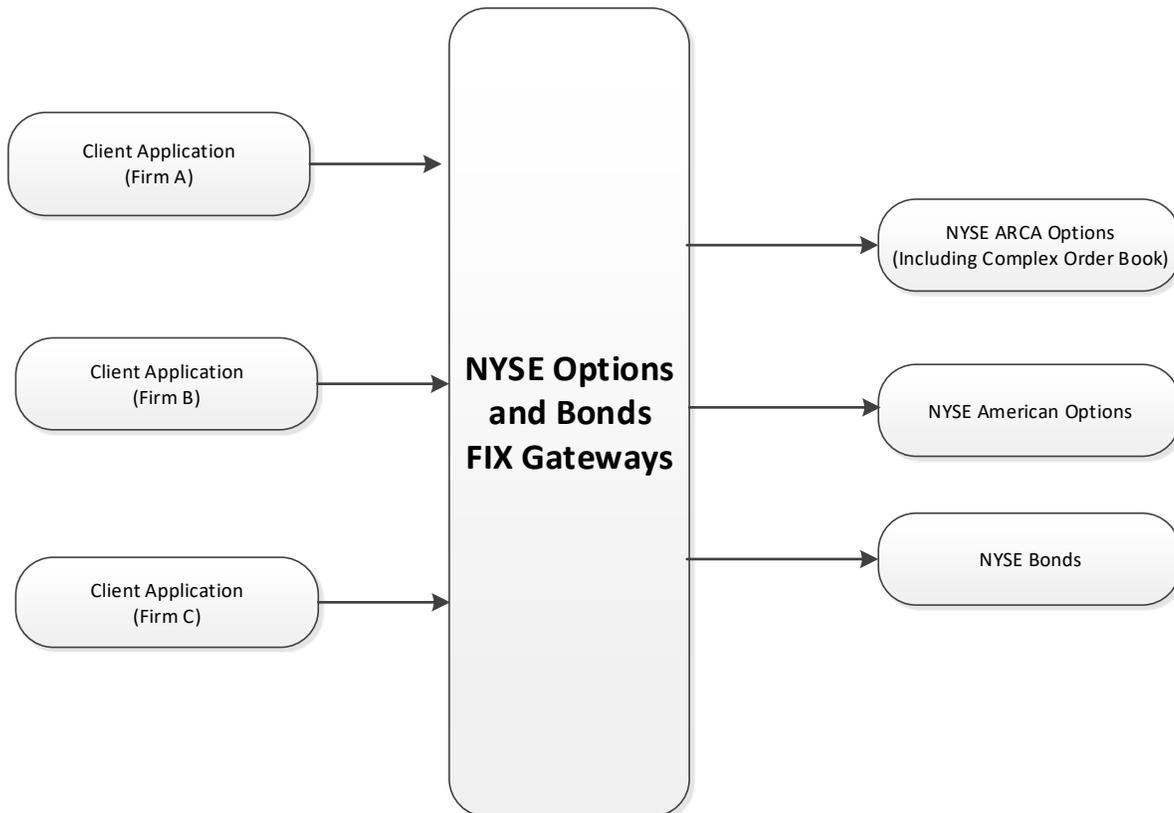
Option 5 - Client Relationship Services

Option 6 - Other technical support inquiries

2 System Architecture

Each client sends orders to their assigned session and port on the NYSE CGW FIX Gateway. The NYSE CGW FIX Gateway then routes the order to the appropriate destination.

- The NYSE CGW FIX Gateway is designed to route orders to all destinations.



3 NYSE CGW FIX Gateway Exchange-Specific Information

3.1 Decimalization

For NYSE Bonds trading, NYSE Arca will accept orders in price increments out to the 3rd decimal place. NYSE Arca will round the price up or down depending upon whether it's a bid or an ask.

Clients are required to accept sub-penny values in execution reports sent by NYSE Arca. It is possible that a client can receive a price out to the 8th decimal place, or .12345678. This may occur when an order is routed out to another exchange for price improvement.

3.2 Hours of Operation (EST)

Hours of Operation for NYSE Arca/NYSE American Options Exchanges

Order acceptance begins at 5:30 AM.

9:30 AM – 4:00 PM

Hours of Operation for NYSE Bonds

Session 1 (Early Session) – 4:00 AM – 8:00 AM

Session 2 (Core Session) – 8:00 AM – 5:00 PM

Session 3 (Late Session) – 5:00 PM – 8:00 PM

3.3 Trading Session ID

FIX 4.2 introduces specifying a list of TradingSessionID values in an order. Because TradingSessionID (336) is a repeating field, it is necessary to also send NoTradingSessions (386) to indicate the number of TradingSessionID tags that will be sent in the message. The NYSE CGW FIX Gateway supports these fields in FIX 4.0 and 4.1. Firms have several options in identifying the TimeInForce parameters, it is highly recommended that firms using a combination of TradingSessionID values to specify the sessions for which participation is desired.

Bonds only – Session 1 (TradingSessionID value “P1”) orders participate in:

- Opening Bond Auction
- Session 1 (Early Session)
- Core Bond Auction
- Expire at 8:00 AM

Options & Bonds – Session 2 (TradingSessionID value “P2”) orders participate in:

- Opening Auction (Options)/Core Bond Auction (Bonds)
- Session 2 (Core Session)
- Expiration:
 - Options – 4:00 PM
 - Bonds – 5:00 PM

Bonds only – Session 3 (TradingSessionID value “P3”) orders participate in:

- Session 3 (Late Session)
- Expire at 8:00 PM

Both NoTradingSessions (386) and TradingSessionID(336) tag(s) need to be accurately (and in unison) specified on the order. Tag 336 (repeating or not, depending upon how many trading sessions you are specifying in Tag 386) should

immediately follow Tag 386, else the order will reject with the message: “Tag 336 (TradingSessionID) contains incorrect group count 1 for message type D. Expected count to be 0”

Examples of this new requirement and how they need to be specified in a FIX Order Message:

386=1 | 336=P1 (Early Session)

386=1 | 336=P2 (Core Session)

386=1 | 336=P3 (Late Session)

386=2 | 336=P1 | 336=P2 (Early and Core Sessions)

386=2 | 336=P2 | 336=P3 (Core and Late Sessions)

386=3 | 336=P1 | 336=P2 | 336=P3 (All three trading sessions)

TradingSessionID may be combined with a DAY order to provide accurate control of order execution. Combinations of TradingSessionID values may be used. For example, a DAY order might be specified with TradingSessionID values of “P1” “P2” and “P3”.

DAY orders with no TradingSessionID qualifiers default to being valid for Sessions 1 and 2 if placed between 3:30 AM and the end of the Core Session (that is, they go live upon entry and expire at the end of the Core Session), and will be rejected if entered during the Late Session.

3.4 Extended Hours

Extended hour trading was not well defined in the FIX specification prior to FIX 4.2. As a temporary solution, NYSE Arca introduced the concept of a “Day+” order, which spans all trading sessions. Day+ orders must be represented as follows:

- Specify a TimeInForce of DAY (59=0) with NoTradingSessions(386)=3 and repeating TradingSessionID(336) values of “P1” “P2” and “P3” (386=3, 336=P1, 336=P2, 336=P3) .

3.5 Multi Day Orders (GTCs and GTDs)

To send multi day orders clients must send the following on their order messages:

Good Till Cancel (GTC) – Options & Bonds

- Valid for the Core Session only
- TimeInForce (Tag 59) = 1 (GTC)
- The ClOrdID (Tag 11) must begin with the current date. No exceptions. The format of the ClOrdID must start with YYYYMMDD. Example: 11=20080623-XXXXXXX or 11=20080623XXXXXXX

Good Till Date (GTD) – Bonds Only

- Valid for the Core Session only
- TimeInForce (Tag 59) = 6 (GTD)
- ExpireTime (Tag 126). Note that ExpireTime is formatted in UTC (formerly GMT), and although the time must be provided as per the format of this tag, only the date portion will be used to determine order expiration. All GTDs expire at the end of the Core Session on the date specified
- The ClOrdID (Tag 11) must begin with the current date. No exceptions. The format of the ClOrdID must start with YYYYMMDD. Example: 11=20080623-XXXXXXX or 11=20080623XXXXXXX

Note: If you receive a reject after sending a GTC or GTD Order with “58= GTCs not allowed on this connection”, then you need to contact the Client Connectivity Team to have your FIX session enabled for GTCs and GTDs.

3.6 Timed Orders (Bonds only)

NYSE Bonds offers a Timed Order which allows customers to specify the time an order becomes effective and/or the time it shall expire. Timing functionality only works for orders set to both become effective and expire on the same date they are entered.

To properly designate a Timed Order, customers must send the following on their order messages:

- TimelnForce (Tag 59) = 6 (GTD).
- One or more of the following are required to be sent, or the order will be rejected: EffectiveTime (Tag 168), ExpireTime (Tag 126), or TradingSessionID (Tag 336).
- If provided, EffectiveTime and ExpireTime must always be designated with the current date.

Please note:

- The Timed Order must be entered in the session for which it is meant to become effective. For example, if a Timed Order is entered during Session 1 for an Effective Time that occurs in Session 2, the order will be rejected.
- If sent, TradingSessionID will always override EffectiveTime and ExpireTime. In that case, the beginning or ending time of the trading session will be used.
- If ExpireTime is the only tag provided, the order will be live upon entry and will expire at the time specified.
- If EffectiveTime is the only tag provided, the order will go live at the time specified and will expire at the end of the Late Session.
- Although the FIX tag formats for EffectiveTime and ExpireTime require granularity down to the second, NYSE Bonds will only activate or expire orders to the minute specified.
- An order entered with an EffectiveTime designating a future date will be rejected. An order entered with an ExpireTime designating a future date will be accepted, but will act as a GTD order (see section “Multi Day Orders”).

3.7 Defined FIX Fields

The following FIX fields have been added or created due to customer demand. They are used to assist customers in trade reconciliation and also for billing purposes.

LastMkt (Tag 30)

The FIX LastMkt field will be specified on execution reports containing trades.

Values for this field:

- AO – NYSE American Options
- PB – NYSE Bonds
- PO – NYSE Arca Options

The client may need this field for back office clearing and reporting purposes.

ExecBroker Field (Tag 76) – Options only

NYSE Arca and NYSE American Options executions provide a value in tag 76 when an order is executed at an away market.

On CUBE order principal executions, the value PCPL is provided when the initiating CUBE order trades against the accompanying contra-side order. Both buy and sell execution reports are marked with PCPL.

Liquidity Indicator (Tag 9730)

The Liquidity indicator is a proprietary FIX field sent on execution reports by ARCA Exchange for Options and Bonds trades to indicate what effect an order has had on the liquidity of the book. Clients' rates are determined by whether an order adds or removes liquidity from the book. The LiquidityIndicator is FIX Tag 9730 and is registered at fixprotocol.org.

Here are the values that clients can expect to receive in this field:

<i>Executions on NYSE Arca</i>	
A	Added liquidity. (Options & Bonds)
R	Reduced liquidity. (Options & Bonds)
O	Neutral. (Options)
P	BOLD Added liquidity. (Options)
F	BOLD Removed liquidity. (Options)

<i>Routed Orders</i>	
X	Routed to another venue. (Options)

Tag 9730 is a configurable setting that is turned on at the demand of the customer. You must submit a request to have this field sent. Please email connectivity@nyse.com to request this on your sessions.

ArcaEX ID (Tag 9731) – Options only

This proprietary tag (9731) is populated by a numeric ID that is generated by the NYSE Arca Options and NYSE American Options Exchanges on executions, and is unique per Exchange, per day.

This tag is not included in the execution message by default. It is a configurable setting at the session level that is turned on at the request of the customer. Please email connectivity@nyse.com to request this on your sessions.

Attributed Quote Indicator (Tag 9732) – Bonds only

This proprietary tag (9732) is set by the client to Y or N. The customer will set it to Y if they want their MPID distributed through the ArcaBook quote feed instead of the standard ARCHIP.

3.8 Trade Bust and Trade Correct Messaging

If or when the NYSE Arca Trade Desk changes or busts a trade, "Trade Break" or "Trade Correction" execution report messages can be sent outbound to the customer via FIX. **This is a per FIX session configurable option.** These messages will be defined in FIX with ExecTransType (20) =1 (Cancel) or 2 (Correct).

To request enabling this on a FIX session, please send an e-mail to connectivity@nyse.com with the name of the Firm, FIX session that you wish this enabled on and contact person.

4 NYSE Arca & NYSE American Options Information

4.1 Symbology

NYSE Arca & NYSE American Options support the OCC explicit style of symbology for entering options orders.

OCC Explicit – up to 6 characters

Symbol (55) = MSFT

MaturityMonthYear (200) = 201301

PutOrCall (201) = 1

StrikePrice (202) = 20

MaturityDay (205) = 19

4.2 Options Specific FIX Tag Information

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for NYSE American and NYSE Arca Options.

Tag	Field	Description	Req.	Values
55	Symbol	OCC Explicit Underlying Symbol	Y	OCC Explicit Underlying Symbol
77	OpenClose	Indicates status of client position in the option.	Y	O = Open C = Close
167	SecurityType	Identifies type of instrument.	Y	OPT = Options
200	MaturityMonth	Indicates Maturity Month	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	Y	0 = Put 1 = Call
202	StrikePrice	Indicates Strike Price	Y	0 – 99999999.9999
204	CustomerOrFirm	Indicates Client role in order	Y	0 = Customer 1 = Firm 2 = Broker 3 = Marketmaker 8 = Professional Customer
205	MaturityDay	Indicates Maturity Day for series	Y	DD
207	SecurityExchange	MIC code of the exchange.	C*	XASE (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
231	ContractMultiplier	Indicates the ratio or multiply factor to convert from contracts to shares (e.g. 1.0, 100, 1000, etc).	C*	Numerical Value (*Required if number of shares in options series is not equal to 100.)

Optional tags needed for certain option orders:

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
1	Account	If this field is present, we copy the information into execution messages referring to this order. This field can be used for clearing information.	N	Customer defined up to 10 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
277	TradeCondition	Space-delimited list of conditions describing a trade (Floor Cross Only)	N	Valid OPRA Trade Condition Code
439	Clearing Firm	Used to specify OCC number for CMTA if session is enabled for give-ups.	N	≤ 4 characters
440	ClearingAccount	Give-up subaccount for give-up enabled sessions May also be used to specify CMTA, will override Tag 439 if both tags are populated on a non give-up enabled session.	N	≤ 4 characters
526	OptionalData	Customer Defined Identifier used for clearing purposes.	N	Customer defined up to 16 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
752	StrategyIndicator	Strategy Indicator (Floor Cross Only)	N	2 = Multi Leg Order
1003	TradeID	The unique ID assigned to the trade entity (Floor Cross Only)	N	Up to 9 characters Originator of the trade + Contra ID (Example: 1003=“MMID” + “MMID”)
7929	CAPStrategyIndicator	Qualifier for CAP strategy (Floor Cross Only)	N	Y = Yes N = No
9416	ExtendedExecInst	Extended Execution Instruction (Floor Cross Only)	N	C = Clear customer volume from book

4.3 Specific FIX Tag Information for Market Maker Orders

In addition to the required tags in section 5.3, option orders that are entered in a market maker (204=3) capacity must have a valid MarketMaker ID (MMID) in the SenderSubID field. If you are a local market maker you must enter your options MMID in Tag 50. If you are entering the order as an away market maker you must enter “MM-XXX” (where XXX equals the away MMID) in Tag 50.

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
50	SenderSubID	Local or Away MMID. If Local Market Maker, then 50 = MMID If Away Market Maker, then 50 = “MM-(MMID of away Market Maker)”	Y	Customer defined. For Market Makers this value will be agreed up on between the exchange and client.
204	CustomerOrFirm	Indicates Client role in order	Y	3 = Marketmaker

Market maker quoting is not available in FIX for options. For additional details on Options market making, please refer to our latest Market Maker Direct Technical Specification.

4.4 OCC “Optional Data”

Any orders entered through the FIX protocol for which firms want information passed to clearing and back to them via the Options Clearing Corporation (OCC) Digital Data Service (DDS) must place that information in FIX Tag1 - Customer Account and/or FIX Tag 526 - Optional Data.

4.5 Floor Cross (40=R) NYSE American Options TNT Specification Information

Introduction:

The NYSE ARCA/NYSE American Options Exchange provides a high-speed electronic trading environment along with the ability to conduct crowd trading on the floor. Market Makers will be encouraged to participate in trading in a variety of ways:

- MMs will be able to quote into the automated market electronically;
- MMs will be able to send order flow into the automated market electronically;
- MMs will be able to participate in or initiate open outcry trades in the crowd with electronic affirmation and trade delivery process.

This document describes the API that supports the reporting floor cross trades and affirming their involvement in such trades. Other interface specifications describe how market makers interface with the electronic system to submit quotations, orders, and receive drop copies of executions.

The plan is to use a simple FIX version 4.2 message set to communicate floor cross information between the exchange’s system and market makers. Besides standard session logon messages, the interface will include 2 application messages to be used as follows:

- 1) FIX execution report:
 - a. Used to report a Floor Cross or Open Outcry trade to the exchange’s system;
 - b. Used by exchange to acknowledge receipt of a Floor Cross or Open Outcry trade;

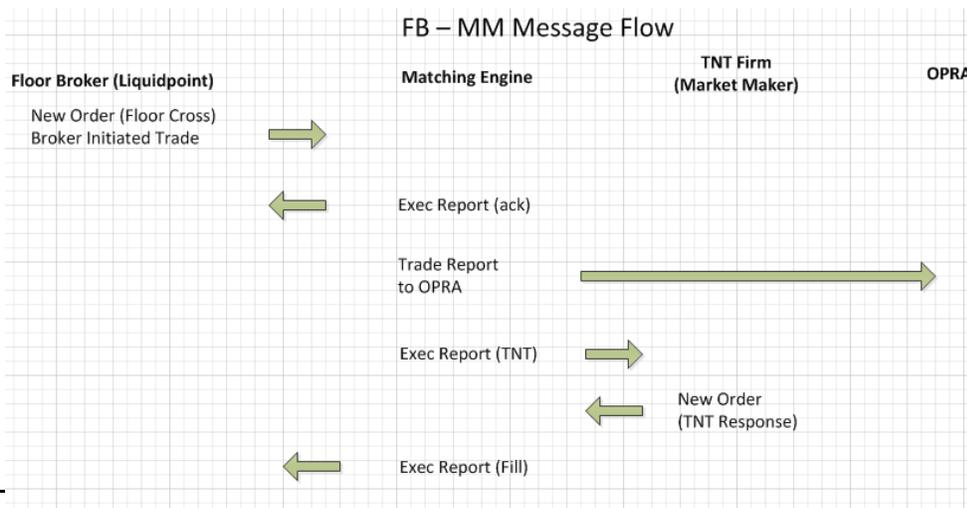
- c. Used by the exchange to deliver a Trade Notification (TNT) to the market maker's system to be affirmed.
- 2) FIX new order single: used by Market Makers to send a TNT Response to affirm participation in a trade that was sent via a TNT.

Market makers will be involved in trades with Floor Brokers counterparties as well as trade where other Market Makers are the counterparty. The processing flow for each scenario is described in the following sections.

When a Market Maker trades with a Floor Broker:

- 1) Broker initiates entry using Dash Blaze system, regardless of side.
- 2) Dash sends the trade message to exchange system as floor cross identifying contra side MM ID.
- 3) Exchange system sends ack back to Dash to confirm receipt of the trade message.
- 4) Exchange system will send FIX exec report fill message to Dash.
- 5) Exchange system will send trade message to OPRA immediately upon receipt of the floor cross trade.
- 6) Exchange system recognizes that this is a FB-MM trade and sends FIX exec report TNT to MM via the TNT session they are subscribed to.
- 7) MM is expected to send FIX new order message to Exchange system to affirm TNT including the trade ID that was sent on TNT.
- 8) Exchange system will send data to clearing only message after MM response received. This will initiate downstream processes to send data to GEMS, Online Extract and OCC.
- 9) If MM does not respond, this constitutes a DK on the trades and it will not settle. No explicit non-affirm message.
- 10) Trading Official will have ability to manually affirm MM side of trade and record that affirmation was done manually. When this happens, Exchange system will send the trade message to downstream processes to send data to GEMS, Online Extract and OCC.
- 11) Trading Official will also have ability to bust trade.

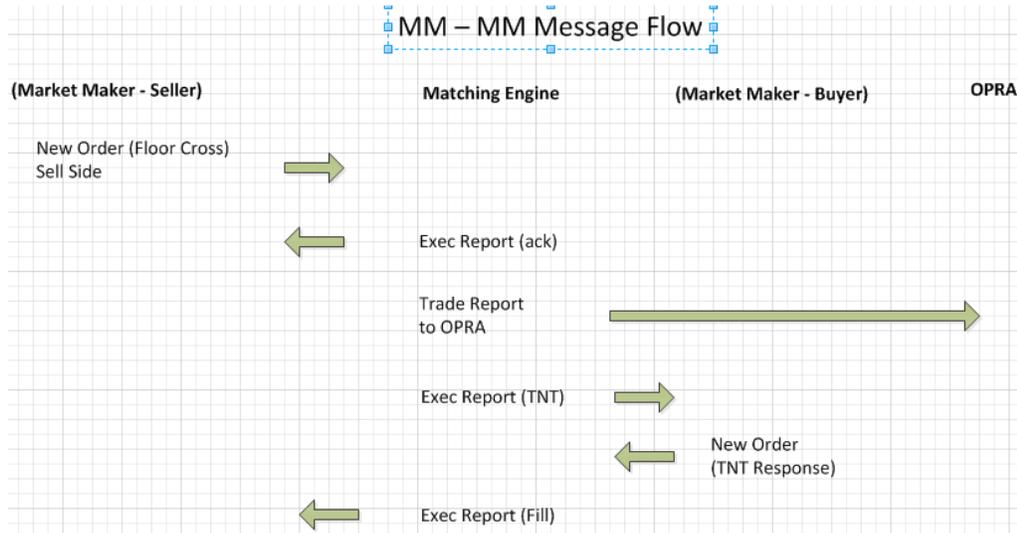
Diagram:



When a Market Maker trades with another Market maker:

- 1) Sell side MM sends FIX exec report floor cross to Exchange system will have ID of contra side MM with unique trade ID. Exchange system sends exec report ack back to sell side MM to confirm receipt of floor cross order.
- 2) Exchange system will send message to OPRA immediately upon receipt of sell MM side of floor cross.
- 3) Exchange system recognizes that this is a MM-MM trade and sends FIX exec report TNT to buy side MM or MM's clearing firm.
- 4) Buy side MM is expected to send FIX New Order floor cross message to Exchange system in response to TNT FIX exec report including trade ID that was sent on TNT.
- 5) Exchange system will send one FIX exec report fill message to sell side MM, no report to buy side.
- 6) If buy side MM FIX floor cross side not received within N seconds of sell side, Exchange system will generate an alert. Trading Official will then follow up with market makers.
- 7) Trading Official will have ability to manually affirm buy MM's side of trade and record that affirmation was done manually. When this happens, exchange system will send FIX exec report fill messages to sell side MM only.
- 8) Trading Official will have ability to bust trade. No FIX exec reports sent. Trade will be manually busted in clearing system as well.

Diagram:



9) Notes on Market Maker connectivity to Exchange system:

- a. All MM's trading open outcry must have FIX connection into Exchange system via the FIX floor trading gateway.
- b. A dedicated FIX gateway will be available for all MM connections.
- c. The Market maker Direct quoting API will not be used for this type of messaging.

10) FIX message types used to support TNT functionality

- a. FIX execution report
 - i. Use Tag 40 (ordertype) populated with value = R to represent floor cross trade coming from Dash.
 - ii. Use Tag 128 (DeliverToCompID) with value = MMID to send TNT to appropriate Market Maker.
- b. Market Maker TNT response – New Order Single
 - i. Use Tag 1003 populated with value = Trade ID (Tag 1003) from execution report.
 - ii. Use Tag 128 to identify OTPID of the ContraParty (the MM traded with).
 - iii. Tag 40 OrdType should be "R".
 - iv. Tag 54 Side should be same as the TNT message.

4.6 Self Trade Prevention

Self Trade Prevention (STP) is available for Market Maker Quotes and Single Leg orders entered with a capacity of Market Maker on NYSE Arca and NYSE American Options. A quote/order that would execute at a price level locking a contra-side quote/order entered with the same OTPID/ATPID (or MMID linked to the same OTPID/ATPID) will be cancelled with reason text “Self Trade Prevention”.

Available STP Types consist of Cancel Old, Cancel New, and Cancel Both, and are applied to quotes and orders as follows:

- **Market Maker Quotes** – the Exchange defaults all Market Maker Quotes with STP Type Cancel Old. To change the default STP Type configuration per Underlying Symbol for a given MMID, the Self Trade Prevention Request may be used. Once accepted, the requested STP Type will be applied to all quotes entered for that symbol by that MMID, on a go-forward basis. STP configurations are persisted overnight.
- **Market Maker Orders** – Self Trade Prevention is available for Single Leg orders entered using the NYSE Arca UGW Binary Gateway or CGW FIX Gateway, with a capacity of Market Maker (CustomerOrFirm = 3). STP Type is specified on an order-by-order basis using the field/tag NoSelfTrade (in FIX, tag 7928). To opt out of STP, the firm should null pad the field (Binary) or omit the tag from the order (FIX).

The Exchange defaults PNP orders only with STP Type Cancel Old. To change the STP Type, the firm should send the order with the desired value in the field/tag NoSelfTrade (in FIX, tag 7928). An option to opt-out of STP is not available for PNP orders.

STP Type cannot be changed on a Cancel/Replace Request. The new order inherits the STP Type of the order it is replacing.

Below are the instances where Self Trade Prevention for Options will not apply:

- Self Trade Prevention will not apply if a CMTA is defined in the ClearingAccount Field on either the old or the new order.
- Self Trade Prevention will not apply for any tracking order types, cross orders, or Complex orders
- Self Trade Prevention will not apply to Auction Trading

4.7 Defaulting BOLD on all Orders

Defaulting one of the BOLD values on all orders is a configurable setting that is turned on at the request of the customer. Please email connectivity@nyse.com to request this on your sessions. For sessions configured with a BOLD default, firms may override the default and opt out of BOLD on an order-by-order basis by specifying ExtendedExecInst (9416) = D (Do Not BOLD).

4.8 Display Price Update Acknowledgement (Optional) - for Re-Pricing PNP & Re-Pricing ALO Orders

The Re-pricing PNP order (NYSE Arca & American Options) and Re-Pricing ALO order (NYSE Arca Options) may be sent with an optional instruction to receive unsolicited Display Price Update Ack:

ExtendedPNP (9417) = A - Repricing PNP or ALO with Display Price Update Acks

If on arrival, such order is assigned a display price different from its limit price, the Exchange will send a Display Price Update Ack to the session that entered the order each time the display price of the resting order is updated. The Ack will be formatted as an Execution Report with a custom ExecType value, and will indicate the updated display price and display quantity:

- MsgType (55) = 8 - Execution Report
- ExecType (150) = U - Unsolicited

- Price (44) - updated display price
- LeavesQty (151) - updated display quantity
- Text (58) = Text - DisplayPrice Updated

4.9 FIX Give-Up Functionality

Firms can perform give-ups on single sided or crossing orders by contacting Connectivity to configure their FIX session to enable give-up functionality and reaching out to Client Relationship Services to set up a list of sub-account look ups and authorize the give-ups. Once enabled, the FIX session will accept the sub-account value in Tag 440 and the exchange will use the sub-account along with the session details to look up and perform the give-up.

- Orders entered on a give-up enabled session with an invalid sub-account in Tag 440 will be rejected.
- For Service Bureau sessions using Tag 440 give-ups, Tag 440 must be included on all orders as well as both sides of a crossing order and must always be populated with a valid sub-account, or else the order will be rejected.
- Non-Service Bureau sessions which are give-up enabled may omit Tag 440 for orders which are not being given up.
- A session configured to use Tag 440 for the sub-account entry should use Tag 439 to specify a CMTA if desired. CMTA should not be sent in Tag 440 on a session configured to send a give-up subaccount in Tag 440, this will result in the order being rejected for invalid sub-account.
- Crossing orders (CUBE, QCC) support separate give-ups on each side of a cross by specifying different Tag 440 values on either side of the new order cross message. To perform a give up on only one side of a cross, send Tag 440 with a valid sub-account for that side only and omit Tag 440 on the non give-up side.
- Give up functionality is available for both single leg and complex orders.

5 NYSE Bonds Information

5.1 Introduction

The NYSE Bonds trading platform provides a more efficient and transparent way to trade a variety of Fixed Income products. The platform incorporates the design of the current NYSE Arca all-electronic trading system. This system provides investors with the ability to readily obtain transparent pricing and trading information.

5.2 Bonds Symbology

Symbology for NYSE Bonds relies on the 9 Character CUSIP SecurityID (Tag 48) of the bond along with the IDSource Tag (22) identifying CUSIP as the source to read off of.

Tag 55 is not required on Bond orders via FIX. However, NYSE will return 55 = N/A on all Execution Reports regardless if any information was sent originally in the Bonds FIX New Order Single, Cancel, or Cancel/Replace message.

Please note: RIC or ISIN SecurityIDs are not allowed for NYSE Bond orders.

5.3 NYSE Bonds Specific FIX Tag Information

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for a New Order – Single message for Bonds.

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
167	SecurityType	Identifies type of instrument.	Y	OPT = Options CORP = Corporate Bonds TBOND = Treasury Bond TBILL = Treasury Bill TNOTE = Treasury Note
48	SecurityID	CUSIP Identifier	Y	CUSIP Identifier
22	IDSource	Indicates whether a CUSIP will be used.	Y	1 = CUSIP
47	Rule80A	Indicates capacity on order	Y	A = Agency P = Principal
423	PriceType	Specified for Bonds orders. Indicates percentage of Par.	N	1 = percentage of Par 4 = Discount – percentage points below par (Used for TBILL only)

5.4 Ex-Clearing Bonds FIX Information

Certain bonds issued by firms on the market do not always clear DTCC (Depository Trust & Clearing Corporation – <http://www.dtcc.com/>) and clearing for these bonds have to be handled directly with the firm traded with (Firm to Firm). These bonds are known as “Ex-Clearing” bonds

In the case of an “Ex-Clearing” bond trade, NYSE will return certain tags in the Execution Report of the Partial Fill or Fill to help the Buyer or Seller identify the counterparty (ContraParty) that they traded with in order for the 2 firms to clear the trade on their own.

The following FIX Tags are sent back on a Partial Fill or Fill Execution Report on an Ex-Clearing Bond:

375	ContraBroker	Contains the ContraBroker on the execution	C	Will contain the NYSE Bonds MPID of the contra
382	NoContraBrokers	Indicates the number of contras on a fill	C	If this tag is present in an execution report the recipient must clear directly with the contra party in Tag 375 (ContraBroker)

6 Session Protocol

This section discusses issues pertaining to the FIX Session Protocol, which is responsible for providing reliable, ordered transport of FIX Application messages.

All messages sent by your firm must have one SenderCompID and TargetCompID that is agreed upon in advance with NYSE Arca, and a TargetSubID of "ARCA".

Only the following FIX Session MsgTypes may be sent to the NYSE CGW FIX Gateway:

- Sequence Reset
- Logon
- Logout
- Heartbeat
- Test Request
- Resend Request
- Reject

6.1 Sequencing and Reconnecting

ARCA resets inbound and outbound numbers to 1 at midnight Eastern Time, which could lead to problems if your firm remains connected at midnight. Since FIX 4.0 does not support 24-hour connections well, your firm is required to log out before midnight, and connect again sometime after midnight. We do not implement FIX 4.1 24-hour connections via the ResetSeqNumFlag field. In the event of a network or FIX gateway host failure during the day NYSE Arca does provide backup sessions under the same SenderCompID on alternative FIX gateways at customer request. Please note that these backup sessions are totally independent and will need to be connected to with inbound and outbound sequence numbers equal to 1. These sessions will not check orders sent as PossDupFlag=Y against orders sent previously on other Fix sessions with the same SenderCompID. These orders will be processed normally.

NYSE ARCA staff will not modify the incoming and outgoing sequence numbers of your live FIX sessions. If you are using FIX version 4.0 and need to reconnect, they can assist you with providing the sequence number the exchange is expecting you to login with. In the event that you are using FIX 4.1 or 4.2, and need to reset your sequence numbers, set ResetSeqNumFlag (tag 141) to Y.

Please use caution when forcing a sequence number change as sequence mismatch scenarios typically indicate a serious problem. Coordination with members of the NYSE ARCA Connectivity group is always recommended.

6.2 Logon

The logon message must be the first message you send after establishing a TCP connection on the port agreed upon with ARCA. EncryptMethod must be 0 – None, or 5 – PGP/DES-MD5, as agreed upon with ARCA. Your firm must wait for a Logon from ARCA before sending other messages and beginning gap fill operations.

If your firm disconnects during the trading day and reconnects again, the logon you will receive in reply may have a sequence number greater than expected. It is critical that your firm detects this condition and issues a Resend Request to retrieve any missed Executions.

Your firm must specify a heartbeat interval in the Logon message, which the NYSE CGW FIX Gateway will use to determine if the connection is active. The heartbeat information is documented in the Heartbeat and Test Request section.

6.3 Logout

It is your firm's responsibility to log out at the end of each day before midnight Eastern Time. You must verify, **prior to logout**, that there are no live or pending orders, otherwise your firm may miss trade reports.

The party initiating the logout must be the party that breaks the TCP connection to ARCA. This requirement allows for both sides to issue a Resend Request should the logout or its reply arrive with a sequence gap. If you receive a logout with a sequence gap, as per the protocol specification, issue a Resend Request and then your own logout.

6.4 Heartbeat and Test Request

The ARCA Host will use the heartbeat interval specified by the client in the Logon message to determine if the client is alive and the networks connecting your firm to NYSE Arca are functional. A value of 0 will disable this check, and the ARCA Host will not send test requests nor break the connection if the client becomes idle. We recommend a heartbeat interval of 30 seconds. A value too small will waste bandwidth, and a value too large will defeat the purpose of the heartbeat. After HeartBtInt + 2 seconds of inactivity, the ARCA Host will send a Test Request to determine if the firm is still active. After $2 * \text{HeartBtInt} + 4$ seconds of inactivity, the ARCA Host will send a logout and immediately drop the connection. ARCA expects that your firm will use a similar method to determine if the ARCA Host is active.

6.5 Resend Request

If your firm receives a Resend Request with a sequence gap, it is critical that you resend the appropriate messages first before sending your own Resend Request.

The FIX protocol specification defines two methods to recover from gaps in messages. One method, should your firm receive messages 1-10, then 15, would be to request 11-14 and then process 15. We recommend against this method because it can cause certain race conditions that increase recovery time. Instead, we recommend that your firm discard message 15, and request messages 11-999999. ARCA will resend all messages with sequence numbers greater than or equal to 11. Note that this circumstance refers to the general case; the FIX protocol specification outlines more specific recovery behavior for certain out of sequence Administrative messages.

6.6 Reject

We recommend that your firm use the Reject message as sparingly as possible. As per the FIX specification, any message your firm rejects will not be resent. Your firm should keep a record of which messages the FIX Host rejects, and never resend them.

We will send a reject (Msgtype=3) in the event that a customer has sent a properly formatted message, but a data field (price for example) is not populated with a proper value.

6.7 Sequence Reset

It is required that a Sequence Reset – Gap Fill occurs in sequence. For instance, if resending 10-15, and 11-14 are Administrative messages other than Reject, the client should resend 10, then 11 should be a Sequence Reset – Gap Fill, with a NewSeqNum of 15, and then resend 15. As per the specification, all messages in answer to a Resend Request must be flagged Poss Dupe. We interpret this part of the specification to mean that the Sequence Reset – Gap Fill itself must be flagged Poss Dupe as well. This requirement is implied in FIX 4.0 and is made explicit in FIX 4.1.

A Sequence Reset – Gap Fill is the preferred method for handling errors. NYSE Arca will never send a Sequence Reset – Reset automatically. It is only sent by manual intervention, possibly to stop an endless loop of Resend Requests and resends, and we recommend that your firm do the same. We make no attempt to recover skipped messages when we receive a Sequence Reset – Reset, which is advantageous to breaking out of an infinite resend loop.

7 FIX Application Protocol

This section describes some of the FIX Application messages. It is not a complete reference and should be used in conjunction with the FIX protocol specification. Below is a quick legend to the Message tables that follow:

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
Tag #	Field Name	Field Description	O = Options B = Bonds	Y = Required N = Not Required C = Conditional	Valid Values for Field

7.1 New Order – Single

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a New Order – Single message. Any other fields specified in the message are ignored.

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		O, B	Y	MsgType = D
1	Account	If this field is present, we copy the information into execution messages referring to this order. This field can be used for clearing information.	O, B	N	Customer defined up to 10 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all orders sent today.	O, B	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
18	ExecInst	Used to specify values for different order types.	O, B	N	1 = Not Held (NOW orders only; Options) 6 = PNP (Options) f = Intermarket Sweep Order - ISO (Options) M = PNP Plus (Complex Options) G = AON (Options & Bonds)
22	IDSource	Indicates whether a CUSIP will be used.	B	Y	1 = CUSIP
38	OrderQty	Indicates quantity on order.	O, B	Y	1 - 999,999

Tag	Field	Description	Platform	Req.	Values
40	OrdType	Indicates order type.	O, B	Y	1 = Market (Options) 2 = Limit (Options & Bonds) 3 = Stop (Options) 4 = Stop Limit (Options) 9 = AutoMatch Limit (Options Cross) R = Floor Cross (Options)
44	Price	Indicates price on order in decimals. For Bonds indicates percentage of par.	O, B	Y	.01 - 99999.99 (Limit order only) CORP Bonds: 2 decimals with increment of 0.01
48	SecurityID	CUSIP Identifier	B	Y	CUSIP Identifier
50	SenderSubID	This field, if present, will be copied into the TargetSubID field of all messages referring to the order.	O	N	Customer defined. For Market Makers this value will be agreed upon between exchange and client.
52	SendingTime	This value must be within 60 seconds of the current time, or we will reject the order.	O, B	Y	Time in UTC format. YYYYMMDD-HH:MM:SS
54	Side	Side of the order.	O, B	Y	1 = Buy 2 = Sell
55	Symbol	This field must contain a valid symbol in upper case lettering.	O	Y	Valid Symbol, or OCC Root Symbol for Options
57	TargetSubID	This field is required. The value must be "ARCA" for production. All messages referring to the order will have the SenderSubID set to this value.	O, B	Y	ARCA
59	TimeInForce	If a value is not present in this field, the default is Day. **Note: IOC is not a valid TIF on Reserve orders.	O, B	N	0 = Day (Options & Bonds) 1 = GTC (Options & Bonds) 2 = At the Opening (Options) 3 = IOC (Limit Only; Options) 4 = FOK (Limit Only; Options & Bonds) 5 = GTX (Options) 6 = GTD (Bonds)
77	OpenClose	Indicates status of client position in the option.	O	Y	O = Open C = Close
97	PossResend	An order sent with PossResend set is checked to see if it matches an existing order with the same	O, B	N	Y

Tag	Field	Description	Platform	Req.	Values
		ClOrdID. If not, it is treated as a new order. If it is a duplicate, we will ignore the message if the order is on file.			
99	StopPx	Set to dictate stop price on stop orders (Options Only)	O	N	.01 - 99999
110	MinQty	Set to indicate quantity for minimum eligible fill on discretion orders	B	N	≥ 1
111	MaxFloor	Used for reserve orders.	O, B	N	≥ 1 for NYSE Arca Options ≥ 1 for NYSE Bonds
115	OnBehalfOfCompID	This field normally is ignored, although can be used for clearing information.	O, B	N	Agreed upon clearing value.
126	ExpireTime	This field contains the date and time when an order expires. This field should only be specified when TimeInForce = GTD.	B	N	Time in UTC format. YYYYMMDD-HH:MM:SS NOTE: The Seconds component of this field is ignored.
128	DeliverToCompID	MMID of Directed Order Contra.	O	N	Used for directed orders and Floor Cross (40=R) TNTs only. Will contain the MMID of the contra party the sender is directing their order to.
167	SecurityType	Identifies type of instrument.	O, B	Y	OPT = Options CORP = Corporate Bonds TBOND = Treasury Bond TBILL = Treasury Bill TNOTE = Treasury Note
168	EffectiveTime	This field contains the date and time when an order becomes live. This field should only be specified when TimeInForce = GTD.	B	N	Time specified in UTC time. YYYYMMDD-HH-MM-SS
200	MaturityMonthYear	Indicates maturity month and year.	O	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	O	Y	0 = Put 1 = Call
202	StrikePrice	Indicates Strike Price	O	Y	0 – 99999999.9999
203	Covered/Uncovered	Indicates covered or uncovered for options cross order.	O	N	E = Exposed (Agency) Side C = Covered (Shadow) Side
204	CustomerOrFirm	Indicates client role in order.	O	Y	0 = Customer 1 = Firm 2 = Broker 3 = Marketmaker 8 = Professional Customer

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
205	MaturityDay	Indicates Maturity Day for series with more than one expiration date in a month.	O	Y	DD
207	SecurityExchange	MIC code of the exchange	O (NYSE American Only)	C*	XASE = NYSE American Options Exchange (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
231	ContractMultiplier	Indicates the ratio or multiply factor to convert from contracts to shares (e.g. 1.0, 100, 1000, etc).	O	N*	Numerical Value (Required if number of shares in options series is not equal to 100)
277	TradeCondition	Space-delimited list of conditions describing a trade (Floor Cross Only)	O	N	Valid OPRA Trade Condition Code
336	TradingSessionID (NOTE: REPEATING GROUP!)	Indicates trading session order is designated for. Refer to section 3.3 for more details. NYSE Arca & NYSE American Options will only accept orders for the “Core” session.	O, B	N	P1 = Pre Open (Bonds) P2 = Core (Options & Bonds) P3 = Post Market (Bonds)
386	NoTradingSessions	The number of instances of TradingSessionID values following.	O, B	N	1 - 3 (Must precede 336 Tag(s))
423	PriceType	Specified for Bonds orders. Indicates percentage of Par.	B	N	1 = percentage of Par 4 = Discount – percentage points below par (Used for TBILL only)
439	ClearingFirm	Indicates OCC number of the clearing firm for CMTA.	O	N	≤ 4 characters
440	ClearingAccount	Give-up subaccount for give-up enabled sessions May also be used to specify CMTA, will override Tag 439 if both tags are populated on a non give-up enabled session.	O	N	≤ 4 characters
448	PartyID	Required if 204=3 on options cross order.	O	N	MMID
526	OptionalData	Customer Defined Identifier used for clearing purposes.	O	N	Customer defined up to 16 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘“’

Tag	Field	Description	Platform	Req.	Values
					(double quotation mark)
548	CrossID	Unique identifier for a crossorder.	O	N	Customer defined up to 20 numeric characters
752	StrategyIndicator	Strategy Indicator (Floor Cross Only)	O	N	2 = Multi Leg Order
1003	TradeID	The ID assigned to the trade entity (Floor Cross Only)	O	N	Up to 9 characters Originator of the trade + Contra ID (Example: 1003="MMID" + "MMID") (Required on TNT Notification and TNT Response)
7928	NoSelfTrade	Self Trade Prevention available for Single Leg orders entered with a capacity of Market Maker (CustomerOrFirm/tag 204 = 3).	O	N	N = Cancel New O = Cancel Old C = Cancel Both
7929	CAPStrategy	Qualifier for CAP strategy (Floor Cross Only)	O	N	Y = Yes N = No
9416	ExtendedExecInst	Additional execution instruction, used in several functions.	O	N	1 = Fast Cancel replace A = Add Liquidity Only C = Request COA (Options complex order auction) W = Expose Order Info Only (BOLD) X = Expose Order Info and Capacity Only (BOLD) Y = Expose Order Info and Participant ID Only (BOLD) Z = Expose Order Info, Capacity, and Participant ID (BOLD) D = Do Not Bold (override default session configuration)
9417	ExtendedPNP	Used for additional PNP instruction.	O	N	B = PNP Blind S = Re-pricing PNP or Re- pricing ALO - without Display Price Update Acks A = Re-pricing PNP or Re- pricing ALO - WITH Display Price Update Acks L = PNP Light (Options Only)
9076*	StockLegGiveUp* *Reserved for future use	Cross orders. Provides give-up information for StockLeg only. Must be a 5 character text string.	O	N	≤ 5 characters

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
9732	Attributed Quote	Set to Y if to indicate that the firm's MPID should be distributed through the ARCABook quote feed instead of the standard ARCHIP.	B	N	Y
	Standard Footer		O, B	Y	

7.2 Order Cancel Request

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for an Order Cancel Request. Any other fields specified in the message are ignored.

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		O, B	Y	MsgType = F
1	Account	For bulk cancel requests this must be populated with the 5 Character ATPID/OTPID	O	C	5 character ATPID/OTPID
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	O, B	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
18	ExecInst	This value must match the original order.	O, B	C	1 = Not Held (NOW Order Only; Options) 6 = PNP (Options) f = Intermarket Sweep Order - ISO (Options) G=AON (Options & Bonds) *Required if specified on the original order.
22	IDSource	This value must match the original order.	B	Y	1= CUSIP
37	OrderID	If present, the value must exactly match the Order ID the exchange assigns to the order.	O, B	N	Numerical, up to 20 characters
38	OrderQty	This value must match the original order.	O, B	Y	1 - 999,999

Tag	Field	Description	Platform	Req.	Values
40	OrdType	This value must match the original order.	O, B	Y	1 = Market (Options) 2 = Limit (Options & Bonds) 3 = Stop (Options) 4 = Stop Limit (Options) 9 = AutoMatch Limit (Options Cross) R = Floor Cross (Options)
41	OrigCLOrdID	This value must match the CLOrdID of the order, or replaced order, being cancelled. This value is the CLOrdID of the most current successful change. If the order was not changed/replaced, then this will be the CLOrdID of the original order.	O, B	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘“’ (double quotation mark)
44	Price	This value must match the original order.	O, B	Y	.01 - 99999.99
48	SecurityID	This value must match the original order.	B	Y	CUSIP Identifier
52	SendingTime	This value must be within 60 seconds of the current time, or we will reject the order.	O, B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
54	Side	This value must match the original order.	O, B	Y	1=Buy 2=Sell
55	Symbol	This value must match the original order.	O	Y	Valid Symbol or OCC Options Series Symbol
57	TargetSubID	This field is required. The value must be “ARCA” for production. All messages referring to the order will have the SenderSubID set to this value.	O, B	Y	ARCA
59	TimeInForce	This value must match the original order. **Note: IOC is not a valid TIF on Reserve orders.	O, B	C	0 = Day (Options & Bonds) 1 = GTC (Options & Bonds) 2 = At the Opening (Options) 3 = IOC (Limit Only; Options) 4 = FOK (Limit Only; Options & Bonds) 5 = GTX (Limit Only; Options) 6 = GTD (Bonds) *Required if specified on the original order.
97	PossResend	A change request sent with PossResend set is checked to see if it matches an existing order	O, B	N	Y

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
		with the same ClOrdID.			
99	StopPx	This value must match the original order.	O	C	.01 - 99999 * Required if specified on the original order.
111	MaxFloor	This value must match the original order.	O, B	C	≥ 1 for NYSE Arca Options ≥ 1 for NYSE Bonds * Required if specified on the original order.
126	ExpireTime	This value must match the original order.	B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
167	SecurityType	This must match the value of the original order.	O, B	Y	OPT = Options CORP = Corporate Bonds TBOND = Treasury Bond TBILL = Treasury Bill TNOTE = Treasury Note
168	EffectiveTime	This value can be changed.	B	N	Time specified in UTC time. YYYYMMDD-HH-MM-SS
200	MaturityMonth	This must match the value of the original order.	O	Y	YYYYMM
201	PutOrCall	This must match the value of the original order.	O	Y	0 = Put 1 = Call
202	StrikePrice	This must match the value of the original order.	O	Y	0 – 99999999.9999
205	MaturityDay	This must match the value on the original order.	O	Y	DD
207	SecurityExchange	MIC code of the exchange.	O (NYSE American Only)	C*	XASE (*For routing to NYSE American only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
423	PriceType	This must match the value of the original order.	B	C	1 = percentage of Par 4 = Discount (On Treasury Bills – TBILL only) * Required if specified on the original order.
440	ClearingAccount	This must match the value of the original order.	O	C	≤ 4 characters
	Standard Footer		O, B	Y	

7.3 Cancel/Replace Request

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for an Order Cancel/Replace (Change) Request. Any other fields specified in the message are ignored.

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		O, B	Y	MsgType = G
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	O, B	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ‘,‘ (comma), ‘;‘ (semicolon), ‘ ‘ (pipe), ‘@‘ (at symbol) and ‘ ‘ (double quotation mark)
18	ExecInst	This value must match the original order.	O, B	Y	1 = Not Held (NOW orders only; Options) 6 = PNP (Options) f = Intermarket Sweep Order - ISO (Options) M = PNP Plus (Complex Options) G = AON (Options & Bonds)
22	IDSource	This value must match the original order.	B	Y	1 = CUSIP
37	OrderID	If present, the value must exactly match the Order ID the exchange assigned to the order.	O, B	N	Numerical, up to 20 characters (Required on fast cancel replaces)
38	OrderQty	This value can be changed	O, B	Y	1 - 999,999
40	OrdType	This value can be changed	O, B	Y	1 = Market (Options) 2 = Limit (Options & Bonds) 3 = Stop (Options) 4 = Stop Limit (Options) 9 = AutoMatch Limit (Options Cross) R = Floor Cross (Options)

Tag	Field	Description	Platform	Req.	Values
41	OrigClOrdID	<p>This value must match the ClOrdID of the order being changed.</p> <p>This value is the ClOrdID of the most current successful change. If the order was not changed/replaced, then this will be the ClOrdID of the original order.</p> <p>*if you are using the fast cancel message you must send the ClOrdID of the first order in the chain in this field.</p>	O, B	Y	<p>Customer defined up to 30 characters</p> <p>Characters in ASCII range 32-126 are allowed, except ‘, ‘ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘ ‘ (double quotation mark)</p>
44	Price	This value can be changed	O, B	Y	.01 - 99999.99 (Limit order only)
48	SecurityID	This value must match the original order.	B	Y	CUSIP Identifier
52	SendingTime	This value must be within 60 seconds of the current time, or we will reject the order.	O, B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
54	Side	This value must match the original order.	O, B	Y	1 = Buy 2 = Sell
55	Symbol	This value must match the original order.	O	Y	Valid Symbol or Options Root Symbol
57	TargetSubID	This field is required. The value must be “ARCA” for production. All messages referring to the order will have the SenderSubID set to this value.	O, B	Y	ARCA
59	TimeInForce	<p>This value must match the original order.</p> <p>** Note: IOC is not a valid TIF on Reserve orders.</p>	O, B	Y	0 = Day (Options & Bonds) 1 = GTC (Options & Bonds) 2 = At the Opening (Options) 3 = IOC (Limit Only; Options) 4 = FOK (Limit Only; Options & Bonds) 5 = GTX (Options) 6 = GTD (Bonds)
97	PossResend	A change request sent with PossResend set is checked to see if it matches an existing order with the same ClOrdID.	O, B	N	Y
99	StopPx	This value can be changed.	O	C	.01 - 99999 *Required if specified on the original order.
110	MinQty	Set to indicate quantity for minimum eligible fill on discretion orders	B	N	≥ 1

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
111	MaxFloor	Used for reserve orders. Maintains or adjusts the MaxFloor when included.	O, B	Y	≥ 1 for NYSE Arca Options ≥ 1 for NYSE Bonds
115	OnBehalfOfCompID	This field normally is ignored, although can be used for clearing information.	O, B	C	Agreed upon clearing value. * Required if specified on the original order.
126	ExpireTime	This value can be changed.	B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS * Required if specified on the original order
167	SecurityType	This must match the value of the original order.	O, B	Y	OPT = Options CORP = Corporate Bonds TBOND = Treasury Bond TBILL = Treasury Bill TNOTE = Treasury Note
168	EffectiveTime	This value can be changed.	B	N	Time specified in UTC time. YYYYMMDD-HH-MM-SS
200	MaturityMonth	This must match the value of the original order.	O	Y	YYYYMM
201	PutOrCall	This must match the value of the original order.	O	Y	0 = Put 1 = Call
202	StrikePrice	This must match the value of the original order.	O	Y	0 – 999999999.9999
205	MaturityDay	This must match the value on the original order.	O	Y	DD
207	SecurityExchange	MIC code of the exchange.	O (NYSE American Only)	C*	XASE (* For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
336	TradingSessionID (repeating field)	This value cannot be changed.	O, B	N	P1 = Pre Open (Bonds) P2 = Core (Options & Bonds) P3 = Post Market (Bonds)
386	NoTradingSessions	This value cannot be changed.	O, B	N	1 - 3 (Must precede 336 Tag(s))
423	PriceType	This must match the value of the original order.	B	C	1 = percentage of Par 4 = Discount (On Treasury Bills – TBILL only) * Required if specified on the

Tag	Field	Description	Platform	Req.	Values
					original order.
	<i>Standard Footer</i>		O, B	Y	

7.4 Fast Cancel/Replace

Fast cancel replace functionality is available on Options orders. One can change the volume and/or price only. All other fields will be ignored. Unlike standard cancel replace messages on our platform you will receive one execution report (MsgType=8) indicating that the order is replaced. You will not receive a pending cancel replace message.

To send a fast cancel replace you must include the ExtendedExecInst (Custom Tag 9416) = 1 in your cancel replace message. Unlike traditional cancel replaces where the ClOrdID changes each time you modify an order, the fast cancel replace maintains the ClOrdID of the first order that was entered, therefore you must send the ClOrdID of the first order in the order chain in the OrigClOrdID (Tag 41). The OrderID (Tag 37) of the original order must also be included.

***Please keep in mind, you must still send a unique ClOrdID (Tag 11) along with each Fast Cancel Replace, but the order will not be Replaced on that ClOrdID.**

This cancel replace logic is faster because all the fields in the replace message do not need to be parsed. Our matching engine will look at price and volume only and update the original order record.

7.5 Execution Reports

Clients can expect to receive an acknowledgement on any order placed as well as any subsequent fills in the form of an execution report or MsgType=8.

This message will also be sent unsolicited by the Exchange as a Display Price Update Ack for Re-pricing PNP and Re-pricing ALO orders sent with the optional instruction to receive such acks. See section, "Display Price Update Acknowledgement (Optional) - for Re-Pricing PNP & Re-Pricing ALO Orders."

In addition to requirements for the standard FIX message header, the following fields will be specified on these messages.

Tag	Field	Description	Platform	Req.	Values
	<i>Standard Header</i>		O, B	Y	<i>MsgType = 8</i>
1	Account	If this field is present, we copy the information into execution messages referring to this order. This field can be used for clearing information.	O, B	N	Returned from order
6	AvgPx	Indicates Average Price of fills on order	O, B	Y	.0001 - 99999999.9999
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm.	O, B	Y	Returned from request
14	CumQty	Indicates total quantity of fills on open order	O, B	Y	1 - 999,999
17	ExecID	Execution ID assigned by the exchange. Unique per session, per day.	O, B	Y	Numerical up to 20 characters (Options) Numerical up to 9 characters (Bonds)

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
19	ExecRefID	Returned on a trade break or trade correction only	O, B	N	Contains the ExecID (Tag 17) value of the Fill that is broken or corrected. Numerical up to 20 characters.
20	ExecTransType	All execution reports	O, B	Y	0 = New 1 = Cancel (Trade Break Only) 2 = Correct (Trade Correction Only)
22	IDSource	Indicates whether a CUSIP will be used.	B	Y	1 = CUSIP
30	LastMkt	Designates system of execution	O, B	Y	AO – NYSE American Options PO – NYSE Arca Options PB – NYSE Bonds
31	LastPx	Indicates price of fill	O, B	Y	.0001 - 99999999.9999
32	LastShares	Indicates quantity of fill	O, B	Y	1 - 999,999
37	OrderID	Order ID assigned by the exchange	O, B	Y	Numerical, up to 20 characters
38	OrderQty	Indicates quantity on order	O, B	Y	1 - 999,999
39	OrdStatus	Indicates status of order (Fix 4.0) or Indicates status or message (Fix 4.1 and 4.2)	O, B	Y	0 = New 1 = Partially Filled 2 = Filled 3 = Done For Day 4 = Cancelled 5 = Replaced 6 = Pending/Cxl Replace 8 = Rejected E = Pending Cxl/Replace (FIX 4.2 only)
40	OrdType	Indicates order type of order	O, B	Y	1 = Market (Options) 2 = Limit (Options & Bonds) 3 = Stop (Options) 4 = Stop Limit (Options) 9 = AutoMatch Limit (Options Cross)
44	Price	Indicates price on order in decimals.	O, B	C	0 - 99999.99 (Limit order only) *Please see NYSE Bonds Section on Treasuries on special price scaling.
48	SecurityID	CUSIP Identifier	B	Y	CUSIP Identifier
50	SenderSubID	Client receives value specified in	O, B	Y	ARCA

Tag	Field	Description	Platform	Req.	Values
		TargetSubID on order.			
52	SendingTime	Time sent by the exchange	O, B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
54	Side	Buy or Sell	O, B	Y	1 = Buy 2 = Sell
55	Symbol	This field must contain a valid symbol in upper case lettering.	O	Y	OCC Option Series Underlying
57	TargetSubID	Client will receive value specified in SenderSubID on order.	O, B	C	Value as defined in SenderSubID on the order.
58	Text	Gives additional information on how the New Order, Cancel, or Cancel/Replace Message was handled.	O, B	Y	Examples of Information Text: <ul style="list-style-type: none"> • New Order • Partially Filled • Filled • Expired • Cancelled • Replaced • Pending/Cxl Replace • Rejected • Order Reject Description
59	TimeInForce	If a value is not present in this field, the default is Day. **Note: IOC is not a valid TIF on Reserve orders.	O, B	N	0 = Day (Options & Bonds) 1 = GTC (Options & Bonds) 2 = At the Opening (Options) 3 = IOC (Limit Only; Options) 4 = FOK (Limit only; Options & Bonds) 5 = GTX (Limit Only; Options) 6 = GTD (Bonds)
60	TransactTime	Indicates time of transaction on acknowledgment or fill	O, B	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
63	SettlmType	Will be present in fill messages unless a bond is cleared in foreign currency	B	Y	1 = Same Day Cash 2 = T+1 3 = T+2 4 = T+3

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Platform</u>	<u>Req.</u>	<u>Values</u>
76	ExecBroker	Destination Exchange ID, when a routed order is printed at an away market. Or CUBE order principal execution identifier.	O	N	<u>Away Execution Codes:</u> ASE= NYSE American Options (If sent to Arca) BATS= CBOE BZX Options BOX= Boston Options Exchange CBO= CBOE CB2= CBOE (C2) EDGO = CBOE EDGX Options EMLD = MIAX Emerald MRCY = NASDAQ MRX (Mercury) ISX= NASDAQ ISE ISE2= NASDAQ GEMX (Gemini) MIAX= MIAX Options Exchange MPRL= MIAX Pearl NASD= NASDAQ BX Options NDQ= NASDAQ OMX NYO= ARCA Options (If sent to NYSE American Options) PHO= NASDAQ PHLX <u>CUBE Order Principal Executions:</u> PCPL = CUBE order execution identifier when the initiating CUBE order trades against the accompanying contra-side order. Both buy and sell execution reports are marked with PCPL
77	OpenClose	Indicates status of client position in the option.	O	Y	O = Open C = Close
99	StopPx	Set to dictate stop price on stop orders	O	N	.01 - 99999
103	OrdRejReason	Order Reject Reason	O, B	C	Values: 0 = Miscellaneous 1 = Unsupported Feature 3 = Invalid Data 4 = Too Late to Enter N = Too Marketable 7 = Order Rejected due to Options Risk Mitigation Breach (Options only)
118	NetMoney	LastShares * ((Face * LastPx / 100) + DailyInterestValue)	B	C	.1 - 99999999.99
120	SettlCurrency	Will be present if the currency is other than USD	B	C	GBP, EUR
150	ExecType	Indicates status of order (FIX 4.1 and 4.2 only)	O, B	Y	0 = New 1 = Partially Filled 2 = Filled

Tag	Field	Description	Platform	Req.	Values
					3 = Done For Day 4 = Cancelled 5 = Replaced 6 = Pending Cxl/Replace 8 = Rejected C = Billable Cancel (No Self Trade Only) E = Pending Cxl/Replace (FIX 4.2 only) U = Unsolicited
151	LeavesQty	Indicates open shares remaining on order	O, B	Y	1 - 999,999
159	AccruedInterestAmt	LastShares * DailyInterestValue	B	Y	.1 - 99999999.99
167	SecurityType	Identifies type of instrument.	O, B	Y	OPT = Options CORP = Corporate Bonds MLEG = Multi-Leg Options TBOND = Treasury Bond TBILL = Treasury Bill TNOTE = Treasury Note
200	MaturityMonthYear	Month and Year of the maturity (used for standardized futures and options).	O	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	O	Y	0 = Put 1 = Call
202	StrikePrice	Indicates Strike Price	O	Y	0 – 99999999.9999
204	CustomerOrFirm	Indicates client role in order.	O	Y	0 = Customer 1 = Firm 2 = Broker 3 = Marketmaker 8 = Professional Customer
205	MaturityDay	Indicates Maturity Day for series with more than one expiration date in a month.	O	Y	DD
375	ContraBroker	Contains the ContraBroker on the execution	B	C	Will contain the MPID of the contra
381	GrossTradeAmt	CumQty * Face * AvgPx / 100	B	Y	.1 - 99999999.99
382	NoContraBrokers	Indicates the number of contras on a fill	B	C	If this tag is present in an execution report the recipient must clear directly with the contra party in Tag 375 (ContraBroker)
423	PriceType	Percent of Par	B	Y	1 or 4 (On Treasury Bills – TBILL only)
526	OptionalData	Customer Defined Identifier used for clearing purposes.	O	N	Returned from order
548	CrossID	Unique identifier for a crossorder.	O	N	Returned from order
669	LastParPx	Last price expressed in percent-of-par	B	Y	0.000 – 9999999.999

Tag	Field	Description	Platform	Req.	Values
1003	TradeID	The ID assigned to the trade entity (Floor Cross Only)	O	Y	Returned from order
9416	ExtendedExecInst	Returned if used on original order message	O	C	1 = fast cancel replace * Required if specified on the original order.
9730	Liquidity Indicator	Indicates what effect an order has had on the liquidity of the book	O	N	Refer to Liquidity Indicator section for values
9731	ArcaExID	Execution ID assigned by the exchange. Unique per Exchange, per day.	O	N	Numerical up to 20 characters (Options). Sent only if configured for the session.
	Standard Footer		O, B	Y	

7.6 FIX Cancel Reject Message

For options orders only. In addition to requirements for the standard FIX message header, the following fields are returned by the application layer for a Cancel Reject Message:

Tag	Field	Description	Req.	Values
	Standard Header		Y	MsgType = 9
11	ClOrdID	Unique ID of the Cancel, or Cancel/Replace request as assigned by the firm.	Y	Returned from request
39	OrdStatus	This value is applied after the Cancel Reject function is completed.	Y	Valid values: 8 = Rejected
41	OrigClOrdID	Unique ID of the Cancel, or Cancel/Replace request as assigned by the firm.	Y	Returned from request
58	Text		Y	Reason for rejecting the Cancel Order Request.
102	CxlRejReason	Code to identify reason for cancel rejection.	N	Valid values: 0 = Too late to cancel 1 = Unknown order
167	Security Type	Indicates type of security.	Y	OPT = Options MLEG = Multi-Leg Options
434	CxlRejResponseTo	Identifies the type of request that a Cancel Reject is in response to.	Y	The valid values are: 1 – Order Cancel Request 2 – Cancel/Replace Request
	Standard Trailer		Y	

7.7 Auto Cancel on Disconnect Feature

At the client's request, a FIX session can be configured to automatically cancel all live open orders when your firm disconnects, except for those orders noted below. Please note that this feature does not guarantee that all outstanding orders will be successfully canceled. It is possible that trades may happen near the time your firm disconnects, and such trades will not be reported to you. Likewise, a cancel request may fail due to system problems at NYSE Arca, and orders may remain live and subject to execution.

This feature is intended to help your firm in emergency situations. **Firms must not rely upon this automatic cancellation as a normal business practice or to prevent liability of execution. This feature is also not a substitute for contacting the applicable trade desks to verify that all orders are indeed canceled and that the firm has received all trades.**

Options – excluded from cancellation are the following:

- GTC orders
- GTX orders
- AON orders

Live Order Retention (Options)

For NYSE American and NYSE Arca Options:

- By default, in the event a matching engine enters an unexpected state, all non-GTC orders will be cancelled. Gateway users will receive unsolicited cancels on all live orders on the impacted matching engine.
 - GTC orders are maintained and will be available after recovery.
- Alternatively - order sending firms may subscribe to Live Order Retention, which prevents non-GTC orders from being cancelled prior to recovery.
 - Re-pricing ALO and re-pricing PNP orders do not qualify for Live Order Retention and will always be cancelled, regardless of the firm's Live Order Retention setting.
 - Live Order Retention is available to be enabled for a Firm's TPID.
 - To subscribe for Live Order Retention, contact the Options Trade Desk at tradingox@nyse.com.

7.8 Bulk Cancel by TPID (Options)

If you want to bulk cancel your orders across an entire ATPID/OTPID (Options Trade Permit ID) without disconnecting your CGW FIX Gateway session(s), you may use this type of bulk cancel message. The bulk cancel by TPID message is **MsgType = F with the OrderID (37) field set to -888 and your 5 Character ATPID/OTPID in Tag 1 (Account).**

Excluded from cancellation are the following:

- GTC orders
- GTX orders
- AON orders

When the Exchange receives a bulk cancel by TPID request, it will not send an acknowledgment for the message. Instead, it will begin cancelling orders and sending back to the customer order cancelled messages for each of the orders that are canceled across all the sessions that trade under the TPID subject to cancellation.

In the event that orders subject to cancellation have been routed to other exchange destinations, a cancel pending acknowledgment for each of the routed orders will be sent to the gateway session from which the order originated. It may take longer to receive the out messages from the away destinations.

7.9 NYSE Bonds Order Types

Order Type	Fix tags	Description	Exchange Platform	Available Sessions
Limit Order	OrdType (40) = 2 (limit)	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy/sell at or above/below the consolidated best offer/bid for the security.	- Bonds	All Sessions
Reserve Order	OrdType (40) = 2 (Limit) MaxFloor (111) = (show size)	A limit order with a portion of the size displayed, and a reserve portion not displayed. A reserve replenishes the displayed order size as executions are received, up to the total order quantity; away markets are routed at their quoted size or larger (if applicable) when hitting the bid or taking liquidity. **Note: Reserve orders may not be designated as AON, FOK, or Minimum Quantity.	- Bonds	All Sessions
AON Order	OrdType (40) = 2 (Limit) ExecInst (18) = G (AON) MinQty (110) = Must be equal to the OrderQty	A limit order with instructions to fill the order in its entirety or not at all. If there is insufficient marketable contra-side interest to meet the required quantity, the order will be posted and/or traded through.	- Bonds	All Sessions
FOK (Fill or Kill) Order	OrdType (40) = 2 (Limit) TimeInForce (59) = 4 (FOK)	A limit order that is to be executed in whole or it will be cancelled.	- Bonds	All Sessions
Minimum Quantity	OrdType (40) = 2 (Limit) MinQty (110) = indicates the minimum number of bonds to trade	A limit order that is to be executed in a quantity equal to or greater than the specified minimum quantity, each time it trades. If there is insufficient marketable contra-side interest to meet the required quantity, the order will be posted and/or traded through. If the leaves on a Minimum Quantity order fall below the specified MinQty value, the order will be converted to a regular Limit order, and will be placed on the order book in price-time priority.	-Bonds	All Sessions

7.10 NYSE Arca & NYSE American Options Order Types

Order Type	Fix tags	Description	Exchange
Add Liquidity Only (ALO)	OrdType (40) = 2 ExecInst (18) = 6 ExtendedExecInst (9416)= A	<p>The ALO Order is a limit order that is posted to the book in order to add liquidity.</p> <p>The ALO Order is designed to assist traders in controlling their trading costs. By providing rather than removing liquidity, traders can limit or reduce take fees.</p> <p>The ALO order may be Day only, and may not be designated as IOC (Immediate or Cancel) or Good Till Cancel (GTC).</p> <p>ALO Orders will be rejected where, at the time of entry:</p> <ul style="list-style-type: none"> - The ALO is marketable - The ALO will lock or cross the market - The ALO order would interact with un-displayed orders 	-Arca
Re-pricing Add Liquidity Only (ALO)	OrdType (40) = 2 TimeInForce = 0 ExecInst (18) = 6 ExtendedExecInst (9416)= A Plus, must specify either with or without Display Price Update Acks: ExtendedPNP (9417) = S - without Display Price Update Acks OR ExtendedPNP (9417) = A - WITH Display Price Update Acks	<p>The ALO Order is a limit order that is posted to the book in order to add liquidity.</p> <p>The ALO Order is designed to assist traders in controlling their trading costs. By providing rather than removing liquidity, traders can limit or reduce take fees.</p> <p>The ALO order may be Day only, and may not be designated as IOC (Immediate or Cancel) or Good Till Cancel (GTC).</p> <p>If a Re-pricing ALO Order would lock local interest at or better than the NBBO, it will be assigned a working price and display price 1 MPV worse than the locking price.</p> <p>If a Re-pricing ALO Order would lock the NBBO with no local interest at that price, it will be assigned a working price at the contra-side NBBO and a display price 1 MPV worse than the locking price. If the NBBO improves to lock the display price of the Re-pricing ALO Order, the working price will update to the display price and the order will get a new priority timestamp.</p>	-Arca
AON (All or None)	ExecInst (18) = G	Order that will only fill if the entire order quantity can be matched.	-Arca -American

Order Type	Fix tags	Description	Exchange
Directed Order	OrdType (40) = 1 or 2 DeliverToCompID (128) = MMID of market maker	Firms that enter directed orders can specify the MMID of the market maker they are targeting with their directed order in the DeliverToCompID. Directed orders are designed to give preference to the directed market maker (based on value in tag 128) so long as that market maker is quoting at the NBBO at time of order receipt. If the directed market maker is not quoting at NBBO at time of order receipt, the directed order will process as a standard limit or market order.	-Arca -American
ISO Intermarket Sweep Order	OrdType (40) = 2 ExecInst (18) = f TimeInForce (59) = 3	These orders execute against the fully displayed size of any Protected Bid or Offer (each exchange's best bid and best offer, or "BBO"). ISOs allow a large trade to fill against quotes priced worse than the NBBO while simultaneously meeting the requirement to sweep the top of the book at all eligible protected markets. A broker can sweep and then fill the remainder of an order, so long as simultaneous "ISO Orders" are sent out to trade against the protected quotes on away markets. ISO Orders will interact with all resting orders except Tracking Orders and are never routed out.	-Arca -American
Opening Only Order – Limit	OrdType (40) = 2 (Limit) TimeInForce (59) = 2	Opening Only – Limit orders are orders that are executable only within the opening auction. If the order is not executed in the auction, the balance is cancelled.	-Arca -American
Limit Order	OrdType (40) = 2 (limit)	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy/sell at or above/below the consolidated best offer/bid for the security	-Arca -American
Opening Only Order – Market	OrdType (40) = 1 (Market) TimeInForce (59) = 2	Opening Only – Market orders are orders that are executable only within the opening auction. If the order is not executed in the auction, the balance is cancelled.	-Arca -American
Market Order	OrdType (40)=1 (market)	An order to buy or sell that is to be executed at the best price obtainable.	-Arca -American
NOW order	OrdType (40) = 2 (Limit) TimeInForce (59) = 3 (IOC) ExecInst (18) = 1	NOW orders are Limit Orders that are to be executed in whole or in part on the exchange, with any unexecuted portion routed to other markets for immediate execution. Any portion not immediately executed by the market route shall be cancelled. If a NOW Order is not marketable when it is submitted to NYSE Arca Options or NYSE American Options, it will be cancelled.	-Arca -American

Order Type	Fix tags	Description	Exchange
Post No Preference (PNP)	OrdType (40) = 2 ExecInst (18) = 6	PNP orders are Limit Orders that are to be executed in whole or in part on NYSE Arca Options or NYSE American Options. Any portion not executed is posted to the book without routing any portion of the order to another exchange. PNP orders that would lock or cross the NBBO are cancelled.	-Arca -American
Re-pricing Post No Preference (PNP)	OrdType (40) = 2 TimeInForce (59) = 0 (Day), ExecInst (18) = 6 Plus, must specify either with or without Display Price Update Acks: ExtendedPNP (9417) = S - without Display Price Update Acks OR ExtendedPNP (9417) = A - WITH Display Price Update Acks	PNP orders are Limit Orders that are to be executed in whole or in part on NYSE Arca Options or NYSE American Options. Any portion not executed is posted to the book without routing any portion of the order to another exchange. When locking/crossing away markets, the Re-pricing PNP will display one MPV worse than the contra-side NBBO but have a working price equal to the contra-side NBBO. For description of Display Price Update Acks, see section, "Display Price Update Acknowledgement (Optional) - for Re-Pricing PNP & Re-Pricing ALO Orders."	-Arca -American
Post No Preference Blind (PNP B) Order	OrdType (40) = 2 ExecInst (18) = 6 ExtendedPNP (9417) = B	PNP B orders are limit orders that do not route. If upon receipt, a PNP B order locks/ crosses an away market, it will first trade any available size at NBBO on the exchange and then go blind, rather than cancel back to the firm. Non-marketable PNP B orders will post to the book and disseminate to OPRA. Once posted, the PNP B orders stands its ground and does not go blind if locked/crossed by an away BBO.	-Arca -American
PNP Light Only Order	OrdType = 2 ExecInst = 6 ExtendedPNP = L	PNP LO orders are limit orders that do not route to away markets. Marketable incoming PNP LO orders will trade against any displayed interest and post remaining shares to the NYSE Arca book. PNP LO orders that lock or cross the National Best Bid and Offer (NBBO) will cancel back to the order sending firm. Incoming PNP LO orders will also cancel back to the order sending firm under the following conditions: If incoming PNP LO order is marketable against any non-displayed interest present in the NYSE Arca book, including resting PNP Blind (PNP B) orders and hidden portions of reserve orders. Once posted and disseminated, the PNP LO order will stand its ground, i.e. it will not route or cancel if locked/crossed by an away BBO.	-Arca
Reserve Order	OrdType (40) = 2 (limit) MaxFloor (111) = (show size)	A limit order with a portion of the size displayed, and a reserve portion not displayed. A reserve replenishes the displayed order size as executions are received, up to the total order quantity; away markets are routed at their quoted size or larger (if applicable) when hitting the bid or taking liquidity.	-Arca

Order Type	Fix tags	Description	Exchange
Stop Limit Order	OrdType (40) = 4 Price (44) = Limit Price StopPx (99) = Stop Limit Price	<p>A Stop Limit Order becomes an active Limit Order when the stop price is reached. A Stop Limit Order to buy is triggered when the option is bid, or trades, at or above the specific stop price. A Stop Limit Order to sell becomes a Limit Order when the option is offered, or trades, at or below the specified stop price. Order execution is fully automated. If the active limit order is not marketable it will post in the exchange's book.</p> <p>A stop limit order (elected or unelected) may be cancel/replaced to a regular market or limit order by sending a cancel/replace and specifying the new order type and limit price (if applicable). Once elected, a stop limit order may not be "re-stopped" via cancel/replace'. Any cancel/replace of an elected stop limit must either change the order type to regular market or limit, or keep the original order type and stop price and change only the limit price or quantity.</p>	-Arca -American
Stop Order	OrdType (40) = 3 (Stop) StopPx (99) = Stop Price	<p>A Stop Order becomes an active Market Order when the stop price is reached. A Stop Order to buy is triggered when the option is bid, or trades, at or above the specified stop price. A Stop Order to sell is activated when the option is offered, or trades, at or below the specified stop price. Order execution is fully automated.</p> <p>A stop order (elected or unelected) may be cancel/replaced to a regular market or limit order by sending a cancel/replace and specifying the new order type and limit price (if applicable). Once elected, a stop order may not be "re-stopped" via cancel/replace.</p>	-Arca -American
FOK (Fill or Kill) Order	OrdType (40) = 2 (Limit) TimeInForce (59) = 4 (FOK)	A Limit Order designated FOK is to be executed in full as soon as such order is received. If execution is not possible, the entire order will be immediately cancelled. FOK orders will not route to other markets.	-Arca -American
Immediate or Cancel (IOC)	OrdType (40) = 2 (Limit) TimeInForce (59) = 3 (IOC)	A Limit Order designated with an IOC modifier is to be immediately executed, in whole or in part, and the portion not so executed is to be treated as cancelled. IOC orders will not route to other markets.	-Arca -American

8 NYSE Arca/NYSE American Complex Option Orders

8.1 Introduction

Clients can send complex orders of up to 5 legs to NYSE Arca Options and NYSE American Options for execution. These orders will be specified in one FIX message containing multiple legs. Complex orders offer price protection filters based on the total dollar amount and the price yielded by the ratio of the smallest value derived from leg size times price. If net debit/credit exceeds a multiple of the smallest value derived from leg size times price through the net NBBO, the matching engine will reject the order. The Complex Order is sent as a MsgType(35)=AB. The “parent” section of the Complex Order will be identified with Side(54)=S(as defined) and contain NoLegs(555) to specify the number of legs in the order. The “parent” section will also contain Price(44) with the value equal to the net price of the spread and OrderQty(38) will contain the multiplier used to calculate the quantity on each leg. The qty for the leg will be calculated as LegRatioQty(623) X OrderQty(38) = the Leg quantity. Each individual leg of the Complex Order should begin with LegSymbol(600) and should also include LegCFIcode(608), LegSecurityType(609), LegMaturityDate (611), LegStrikePrice(612), LegSide(624), LegRatioQty(623), LegPositionEffect(564), and LegRefID(654).

Fills for Complex Orders will only take place when at least a partial of each leg can be satisfied. It is not possible to receive fills for only certain legs of a Complex Order and not others. Leg ratios will be preserved when partial executions occur. Clients will receive execution reports for each individual leg of a complex order for fills. Each fill messages will reference the ClOrdID(11) of the order in addition to the LegRefID(654) of the individual leg.

8.2 General Information

1. All legs, within a complex order, can be priced in penny increments.
2. Complex orders will be represented on a Net Price basis expressed in up to 2 decimal places.
3. Complex orders will be accepted only, no complex quotes.
4. No multi-issue baskets, restricted to one underlying for all option legs.
5. Up to 5 legs per order.
6. Any Legal Ratio (of user-defined leg volumes) will be accepted.
7. Current electronic complex rules state that Legal Ratio cannot be greater than 1:3, 3:1.
8. Limit order types are accepted. The price will be expressed on net debit/credit basis for the sum of all legs.
9. Cancel/Replace functionality is supported
10. TIF periods accepted are: Day (59=0), GTC (59=1), IOC (59=3), FOK (59=4), and GTX (59=5).
11. Order-to-Order trading and order-to-screen (simple) market legs will be the execution mechanisms for complex orders.
12. All Complex order transactions must occur on or within the Options (derived) BBO markets.
 - NYSE Arca Options – At a given price, complex order transactions will trade vs. the legs prior to trading vs. any contra complex order interest resting in the complex order book.
 - NYSE American Options – At a given price, complex order transactions will trade vs. contra complex order interest resting in the complex order book prior to trading vs. the legs, except when the leg market consists of customer orders.
13. Halting a Symbol – when an underlying security is halted, all trading in complex symbols for that underlying will also be halted.
14. The ClOrdID for complex orders must be limited to 25 characters.
15. Multi-legged (complex) orders are disseminated via “notification” to the XDP Options Data Feed.
 - Notifications are changes to the Top of Complex Order Book (COB).
 - Failed execution attempt due to BBO violation results in rebroadcast of Top of Book.
 - Cancellation of complex order at top of book will result in rebroadcast of Top of Book message.
16. Complex orders that interact with the leg markets will always be considered incoming orders.
 - Complex orders will always receive price improvement, if available, from the screen market legs, i.e. where the net debit/credit price on the complex is more aggressive than the simple market, trade at the simple market displayed net debit/credit price.

- Complex orders trading vs. the screen market legs will always be considered “liquidity removing” and screen market legs considered “liquidity adding”.
17. Marketable orders will trade immediately, with no auction or delay in processing.
 18. XDP subscriptions will be available for the complex order book.
 1. Top of Book Messages
 2. New Instrument Messages
 19. In order to identify and organize complex instruments and orders, the Exchange will disseminate Complex FAST (SeriesIndex, ComplexIndex) identifiers via XDP.

8.3 Complex Order Instruments

Complex order symbols will use the explicit data fields to identify the complex instrument. For each leg, the symbol field will be the OCC code.

Customer FIX Gateway

1. Incoming order messages will be received via FIX connections using standard FIX format.
 2. Each leg must include open/close indicators. LegPositionEffect values should be O and C for open and close.
 3. Reporting leg fills via FIX
 - a. For a 3-leg instrument, three execution reports will be sent back, one for each leg fill. Each has the LegRefID from its corresponding leg but aside from that it looks the same as other fills on simple orders and the fills on legs will be sent with the value of 2 in the 442 (MultiLegReportingType)
 - i. One ClOrdID will tie all fills together.
- Reporting Messaging for Complex Orders via FIX
 1. Ack
 - a. Report per leg + 1 per parent
 2. Reject
 - a. 1 Parent message
 3. Replace
 - a. Report per leg + 1 per parent
 4. Pending Cxl
 - a. 1 Parent message (then report per leg)
 5. Canceled
 - a. Report per leg
 6. Fill
 - a. Report per leg
 7. Cancel reject
 - a. 1 Parent message

Canceling a Complex Order:

Customers must specify one of the option leg instruments of the complex order in the cancel message along with the value of MLEG in the 167(SecurityType).

8.4 Core Trading

- Incoming complex orders will first check for execution opportunities vs. contra complex orders within the complex order book.
- Executable Complex Orders – No auction or delay in processing.
- Ratio of complex order legs must be preserved.

- Incoming complex orders that trade vs. resting complex orders in the book will receive price improvement.
- Incoming complex orders that trade vs. screen markets will receive price improvement.

8.5 Complex Order Auction - Need to Know

- Complex order Auction (COA) is a price improvement mechanism for a single sided (ie not paired with guaranteed order) complex order.
- To mark a complex order for Complex Order Auction (COA) – FIX Tag 9416 = C.
- COAs should not be sent during pre-open hours (earlier than 9:30am).
- Current Complex Order Auction Parameter (configurable) – Complex Order must improve the same-side derived BBO (Best bid or Offer) of the leg markets. If not, no auction.
- When FIX Tag 9416 = C and COA parameters have been met, an RFQ will be sent over XDP indicating price improvement auction has commenced.
 - Side and Size are included in the RFQ message.
- Time period is configurable not to exceed 1 second.
- Auctions can end early:
 - Leg prices in the display book update to lock or cross auction price.
 - An incoming complex order creates an execution opportunity versus the legs or another complex order.
 - An incoming same side complex order marked for COA arrives that is priced more aggressively than the initiating complex order.
 - Non marketable complex orders that arrive in the COB during a COA will post to COB and be disseminated over XDP top of book message (if at best price).
 - After the one second RFQ period is up or has ended early, the initiating complex order matched against contra orders in a pro rata auction.
- Complex orders sent in response to RFQ can be marked with a time in force (TIF) = 5 (GTX). This will cancel the complex order at the conclusion of the auction. Complex orders marked as day will post or trade any leaves quantity that remains after auction.

8.6 FIX Order and Trade Dissemination

Execution Report

Complex order executions are reported as individual FIX Execution Reports, per leg. Firms receive the Standard Execution Report from NYSE Arca and NYSE American if they use the FIX Order Entry connection.

An Order Entry connection receives orders from a firm's order routing system. The orders are automatically executed and the reports are returned to the firm.

The Execution Report message:

- Confirms the receipt or rejection of an order
- Confirms the changes to an existing order
- Provides order status information
- Provides fill information on working orders
- Provides information on trade busts and adjustments
 - Trade busts or adjustments are performed independently of the order.
 - Busting a trade does not recreate an order or add the quantity to an open order.
 - Trades are adjusted by sending a bust, followed by a new trade.
- Adjusting a trade does **not** affect the open quantity of an order.

Order Cancel Reject

The Order Cancel Reject message is used when an Order Cancel Request or Order Cancel/Replace Request cannot be honored.

Message requests that change the price or quantity of an order are only performed when an outstanding quantity exists. Filled orders cannot be changed.

Reasons for rejecting a Cancel Order Request:

- Order was not found.
- Order does not exist because it was already filled.
- Cancel can't be routed to the target system for a technical reason.

Order Reject

The Order Reject message is used when an order does not contain valid data and cannot be processed or when an order can't be routed to the target system for a technical reason.

Cancel/Replace

Clients are able to change the quantity or price via a Cancel/Replacement message type.

8.7 Trade Reporting

Trade Reporting to OPRA

Complex trades will be reported as individual trades and marked as spread transactions.

- OPRA will not support dissemination of Complex order BBO markets
- Trades in complex products must be disseminated to OPRA as trade reports in their leg components marked as "spread" trades

NYSE Arca and NYSE American Solutions to Data Mitigation Issue

For dark series (due to data mitigation) NYSE Arca Options and NYSE American Options will light up the single market legs when receiving a complex order that includes the individual components.

8.8 Post Trade Processing

Drop Copies

Drop copies of individual leg trade reports for complex orders are supported. You can receive the drop copies via FIX through a current Drop Copy FIX session, or you may request a new one. For your Drop Copy session request, please e-mail Connectivity@nyse.com or call NYSE Market Support (see section, "NYSE CGW FIX Certification").

Post Trade Adjustments

Post trade allocation of complex orders is supported. Leg ratios must be preserved.

Trade Reporting to OCC

Individual legs of complex orders will be reported to OCC.

ArcaVision User Interfaces

All complex trade data will be reported using Complex symbology.

8.9 FIX Application Protocol for Complex Orders

This section describes the FIX Application messages used in sending and receiving messages. We only support FIX 4.0, 4.1 and 4.2 at the session level. For Complex Orders, we retrofitted the AB Message type that is defined in FIX 4.3 to be used in FIX 4.0, 4.1 and 4.2 rather than invent a new message type.

Complex Order – Multi-Leg

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for a New Order Single (Multi Leg):

Tag	Field	Description	Req.	Values
	Standard Header		Y	MsgType = AB
1	Account	If this field is present, we copy the information into execution messages referring to this order. This field can be used for clearing information.	N	Customer defined up to 10 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark) Note: Firms must specify a ClOrdID value for the entire multi-leg order in tag 11.
18	ExecInst	Used to specify values for different order types	N	M = PNP Complex Plus
38	OrderQty	Quantity ordered	Y	Number of times the spread is available.
40	OrdType	Type of order	Y	2 = Limit
44	Price	The net price of the spread.	N	Debit (Explicit negative value) is Willing To Pay -0.00 Credit (Implicit positive value) is Wants Cash Back 0.00
50	SenderSubID	Assigned value used to identify specific message originator	N	Customer defined. For Market Makers this value will be agreed upon between exchange and client.
54	Side	Side of order	N	S = As Defined (for use with MultiLeg instruments)
57	TargetSubID	This field is required and the value must be “ARCA”. Exchange response messages will send it back in SenderSubID.	Y	ARCA

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
59	TimeInForce	Specifies how long the order remains in effect. Absence of this field is interpreted as DAY.	N	The valid values are: 0 = Day 1 = GTC (Good Till Cancel) 3 = IOC (Immediate or Cancel) 5 = GTX (Good Till Cross)
167	SecurityType	Indicates type of security.	Y	MLEG = Multi-Leg
204	CustomerOrFirm	Indicates client role in order.	Y	0 = Customer 1 = Firm 2 = Broker/Dealer 3 = MarketMaker 8 = Professional Customer
207	SecurityExchange	MIC code of the exchange.	C* (For NYSE American)	XASE = NYSE American Options Exchange (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
439	ClearingFirm	Indicates OCC number of the clearing firm for CMTA.	N	≤ 4 characters
440	ClearingAccount	Give-up subaccount for give-up enabled sessions May also be used to specify CMTA, will override Tag 439 if both tags are populated on a non give-up enabled session.	N	≤ 4 characters
555	NoLegs	Number of InstrumentLeg repeating group instances.	Y	2 - 5
9076*	StockLegGiveUp* * Reserved for future use	Give-up information for Stock Leg only.	N	≤ 5 characters
	Component block <InstrumentLeg>		Y	
564	LegPositionEffect	PositionEffect for leg of a multileg See PositionEffect (77) field for description	Option legs only	Option legs only. The valid values are: O = Open C = Close
600	LegSymbol	Multileg instrument's individual security's Symbol. *This should be the first tag in the leg.	Y	For option leg, this is the OCC Root symbol.
608	LegCFICode	Individual security CFI code for the multi-leg instrument.	Y	For Options: OC = Option – Call [OPT] OP = Option – Put [OPT]

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
609	LegSecurityType	Indicates Type of Security.	Y	Valid Values: OPT = Options
610	LegMaturityMonthYear	Multileg instrument's individual security's MaturityMonthYear.	N	Option legs only. Expiration month and year in the YYYYMM format.
611	LegMaturityDate	Multileg instrument's individual security's Day.	Y	Option legs only. Expiration Date in the YYYYMMDD format.
612	LegStrikePrice	Multileg instrument's individual security's StrikePrice.	Y	0 – 99999999.9999
614	LegContractMultiplier	Multileg instrument's individual security's ContractMultiplier.	C	Numerical Value *Required only on options legs if number of shares in options series is not equal to 100.
623	LegRatioQty	The ratio of quantity for this individual leg relative to the entire multi-leg security.	Y	Integer value (no decimals)
624	LegSide	The side of this individual leg (multileg security).	Y	The valid values are: 1 = Buy 2 = Sell
654	LegRefID	Unique customer assigned value for each leg.	Y	Customer defined up to 10 numeric characters
</InstrumentLeg>				
	Standard Trailer		Y	

FIX Cancel/Replace Request

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for a Cancel/Replace Request:

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		Y	MsgType = AC
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
18	ExecInst	The value must match the original order.	N	M = PNP Complex Plus
37	OrderID	If present, the value must exactly match the Order ID the exchange assigned to the order.	N	Numerical, up to 20 characters (Required on fast cancel replaces)
38	OrderQty	Quantity ordered	Y	Number of times the spread is

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
				available.
40	OrdType	Type of order	Y	2 = Limit
41	OrigClOrdID	This value must match the ClOrdID of the order being changed. This value is the ClOrdID of the most current successful change. If the order was not changed/replaced, then this will be the ClOrdID of the original order. *if you are using the fast cancel message you must send the ClOrdID of the first order in the chain in this field.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
44	Price	The net price of the spread.	N	Debit (Explicit negative value) is Willing To Pay -0.00 Credit (Implicit positive value) is Wants Cash Back 0.00
54	Side	This value must match the original order.	N	B = As Defined (for use with MultiLeg instruments)
57	TargetSubID	This field is required and the value must be "ARCA". Exchange response messages will send it back in SenderSubID.	Y	ARCA
59	TimeInForce	This value must match the original order.	N	The valid values are: 0 = Day 1 = GTC (Good Till Cancel) 3 = IOC (Immediate or Cancel)
167	Security Type	This value must match the original order.	Y	MLEG = Multi-Leg
204	CustomerOrFirm	Indicates client role in order.	N	0 = Customer 1 = Firm 2 = Broker/Dealer 3 = MarketMaker 8 = Professional Customer
207	SecurityExchange	MIC code of the exchange.	C* (For NYSE American)	XASE – NYSE American Options (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
555	NoLegs	Number of InstrumentLeg repeating group instances.	Y	2 - 5
	Component block <InstrumentLeg>		Y	
564	LegPositionEffect	PositionEffect for leg of a multileg See PositionEffect (77) field for description	Option legs only	Option legs only. The valid values are: O = Open C = Close
600	LegSymbol	Multileg instrument's individual security's Symbol. *This should be the first tag in the leg.	Y	For option leg, this is the OCC Root symbol.
608	LegCFICode	Individual security CFI code for the multi-leg instrument.	Y	For Options: OC = Option – Call [OPT] OP = Option – Put [OPT]
609	LegSecurityType	Indicates Type of Security.	Y	Valid Values: OPT = Options
610	LegMaturityMonthYear	Multileg instrument's individual security's MaturityMonthYear.	N	Option legs only. Expiration month and year in the YYYYMM format.
611	LegMaturityDate	Multileg instrument's individual security's Day.	Y	Option legs only. Expiration Date in the YYYYMMDD format.
612	LegStrikePrice	Multileg instrument's individual security's StrikePrice.	Y	Option legs only. Strike price for an option. The valid values are: 0 – 99999999.9999
614	LegContractMultiplier	Multileg instrument's individual security's ContractMultiplier.	C	Numerical Value (Required only on options legs if number of shares in options series is not equal to 100)
623	LegRatioQty	The ratio of quantity for this individual leg relative to the entire multi-leg security.	Y	Integer value (no decimals)
624	LegSide	The side of this individual leg (multileg security).	Y	The valid values are: 1 = Buy 2 = Sell
654	LegRefID	Unique customer assigned value for each leg.	Y	Customer defined up to 10 numeric characters
</InstrumentLeg>				
	Standard Trailer		Y	

FIX Cancel Request

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for a Cancel Request:

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		Y	MsgType = F
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark) Can be the Parent ClOrdID or ClOrdID of any option leg.
38	OrderQty	Quantity ordered	Y	Quantity from Order Message
41	OrigClOrdID	This value must match the ClOrdID of the order, or replaced order, being cancelled. This value is the ClOrdID of the most current successful change. If the order was not changed/replaced, then this will be the ClOrdID of the original order.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
54	Side	Must match side of original order	Y	Must match side of original order. (B is the only valid value)
55	Symbol	This value must match the original order.	Y	Valid OCC Root or Explicit Symbol.
167	SecurityType	Must match side of original order.	Y	OPT = Option (If the cancel request is on a leg)
200	MaturityMonthYear	Month and Year of the maturity (used for standardized futures and options).	Y	YYYYMM
201	PutOrCall	This must match the value of the original order.	Y	0 = Put 1 = Call
202	StrikePrice	This must match the value of the original order.	Y	0 – 99999999.9999
205	MaturityDay	This must match the value on the original order.	Y	DD
207	SecurityExchange	MIC code of the exchange.	C* (For NYSE American)	XASE – NYSE American Options (* For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
	Standard Trailer		Y	

Please Note: A Cancel on any leg of a complex order will result in all the legs of the order being canceled.

FIX Execution Report

In addition to requirements for the standard FIX message header, the following fields are returned by the application layer for an Execution Report Message:

Tag	Field	Description	Req.	Values
	Standard Header		Y	MsgType = 8
1	Account	If this field is present, we copy the information into execution messages referring to this order. This field can be used for clearing information.	N	Returned from order
6	AvgPx	Indicates Average Price of fills on order	Y	.0001 - 99999999.9999
11	ClOrdID	Unique ID of the new Order, Cancel, or Cancel/Replace request as assigned by the firm.	Y	Returned from request
14	CumQty	Total number of filled options.	Y	Valid values are 0 – 100000000
17	ExecID	Execution ID assigned by the exchange. Unique per session, per day.	Y	Numerical up to 20 characters
19	ExecRefID	Reference identifier used with Trade Cancel and Trade Correct execution types.	N	This field contains the ExecID value.
20	ExecTransType	Identifies the trade type.	Y	The valid values are: 0 = New 1 = Cancel 2 = Correct
31	LastPx	Price of the last fill.	Y	The valid values are: 0 – 99999999.9999
32	LastShares	Quantity of bought/sold contracts on the last fill.	Y	The valid values are: 0 – 100000000
37	OrderID	Order ID assigned by the exchange	Y	Numerical up to 20 characters
38	OrderQty	Indicates quantity on order	Y	Returned from Order
39	OrdStatus	Current status of the order.	Y	The valid values are: 0 = New 1 = Partially filled 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected E = Pending Cxl/ Replace(for FIX v4.2)
40	OrdType	Indicates order type of order	Y	Returned from Order
44	Price	Indicates price on order in	N	Returned from Order

<u>Tag</u>	<u>Field</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
		decimals.		
54	Side		Y	Returned from Order
55	Symbol	This field must contain a valid symbol in upper case lettering.	Y	OCC option symbol for a series that is specified on the order.
58	Text	Gives additional information on how the New Order, Cancel, or Cancel/Replace Message was handled.	Y	Examples of Information Text: <ul style="list-style-type: none"> • New Order • Partially Filled • Filled • Expired • Cancelled • Replaced • Pending/Cxl Replace • Rejected • Order Reject Description
59	TimeInForce	If a value is not present in this field, the default is Day.	N	Returned from Order
60	TransactTime	Indicates time of transaction on acknowledgment or fill	N	Date and time of execution/order creation (expressed in GMT). The format is: <i>YYYYMMDD</i> and <i>HHMMSS</i> .
77	OpenClose	Indicates status of client position in the option.	Y	Returned from Order
150	ExecType	Describes the order execution.	Y	The valid values are: 0 = New 1 = Partially filled 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected E = Pending Cancel Replace(for FIX v4.2)
151	LeavesQty	Number of options that are open for further execution.	Y	Valid values are 0 – 100000000 If OrdStatus is Canceled or Rejected (no longer active), then LeavesQty = 0. Otherwise, LeavesQty = OrderQty – CumQty
200	MaturityMonthYear	Month and Year of the maturity (used for standardized futures and options).	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	Y	Returned from Order
202	StrikePrice	Strike Price for an Option.	Y	0 – 99999999.9999
204	CustomerOrFirm	Indicates client role in order.	Y	Returned from original Order 0 = Customer 1 = Firm 2 = Broker/Dealer

Tag	Field	Description	Req.	Values
				3 = MarketMaker 8 = Professional Customer
207	SecurityExchange	MIC Code of Exchange	N	Returned from original order.
442	MultilegReportingType	Used to indicate what an Execution Report represents (e.g. used with multi-leg securities, such as option strategies, spreads, etc.).	Y	Indicates the type of Execution Report. For example, option strategy, spreads and so on. The valid values are: 2 – Individual leg of a multi-leg security
548	CrossID	Unique identifier for a cross order.	O	Customer defined up to 20 numeric characters
654	LegRefID	Unique customer assigned value for each leg.	Y	Returned from order
	Standard Trailer		Y	

FIX Cancel Reject Message

In addition to requirements for the standard FIX message header, the following fields returned by the application layer for a Cancel Reject Message:

Tag	Field	Description	Req.	Values
	Standard Header		Y	MsgType = 9
11	ClOrdID	Unique ID of the Cancel, or Cancel/Replace request as assigned by the firm.	Y	Returned from request
39	OrdStatus	This value is applied after the Cancel Reject function is completed.	Y	Valid values: 8 = Rejected
41	OrigClOrdID	Unique ID of the Cancel, or Cancel/Replace request as assigned by the firm.	Y	Returned from request
58	Text		Y	Reason for rejecting the Cancel Order Request.
102	CxlRejReason	Code to identify reason for cancel rejection.	N	Valid values: 0 = Too late to cancel 1 = Unknown order
167	Security Type	Indicates type of security.	Y	MLEG = Multi-Leg
434	CxlRejResponseTo	Identifies the type of request that a Cancel Reject is in response to.	Y	The valid values are: 1 = Order Cancel Request 2 = Cancel/Replace Request
	Standard Trailer		Y	

8.10 Accepted Order Types for Complex Orders

Order Type	Fix tags	Description	Exchange Platform	Available Sessions
Limit Order	OrdType (40) = 2 (limit)	An order to buy or sell at a specified price or better. A marketable limit order is a limit order to buy/sell at or above/below the consolidated best offer/bid for the security. For limit orders, the price will be expressed on net debit/credit basis for the sum of all legs.	Complex Orders -Arca -American	- core
PNP+ Complex Order	OrdType (40) = 2 ExecInst (18) = M	<p>PNP+ Complex orders are designed to provide the sender price improvement over the leg markets at the time of execution. Upon receipt, our matching engine will validate the price of a PNP+ Complex order against the leg markets and if the order is marketable against these leg markets or would post to the book at a price less than one MPV (minimum price variation) away from all of the leg markets, the order will price back one MPV from the derived (net price) BBO and post to the complex order book.</p> <p>PNP+ Complex orders will track the screen markets to both better and worse prices, always maintaining a one MPV buffer.</p> <ul style="list-style-type: none"> • If leg markets improve so a resting PNP+ Complex order is marketable against the legs, the PNP+ Complex order will price back one MPV and repost. • If the leg markets worsen, the PNP+ Complex order will repost at the more aggressive price, up/down to the net debit or credit price of the order, always remaining one MVP distance from the leg markets. • If an incoming marketable contra side PNP+ Complex order is received, it will immediately trade against the posted order, as long as the execution price is at least 1 MPV away from either side of the complex BBO. 	Complex Orders -Arca	- core

9 NYSE Arca/NYSE American Option Cross Orders

9.1 FIX Application Protocol for NYSE Arca/NYSE American Cross Orders

This section describes the FIX Application messages used in sending and receiving cross messages. Execution reports in response to new cross orders include the same additional tags. CUBE is available on NYSE American Options, QCC is available on NYSE American Options and NYSE Arca Options.

New Cross Order

In addition to requirements for the standard FIX message header, the following fields are used by the application layer for a single New Order:

Tag	Field Name	Description	Req.	Values
	Standard Header		Y	MsgType = s
38	OrderQty	Number of contracts specified on the order.	Y	Please see table below for current minimum order sizes.
55	Symbol	OCC options symbol for a series.	Y	
59	TimeInForce	Specifies how long the order remains in effect.	Y	3 = IOC
60	TransactTime	Time this order request was initiated/released by the trader, trading system, or intermediary.	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
167	SecurityType	Identifies type of instrument.	Y	OPT
200	MaturityMonthYear	Month and Year of the maturity (used for standardized futures and options).	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	Y	0 = Put 1 = Call
202	StrikePrice	Indicates Strike Price	Y	0 – 999999999.9999
205	MaturityDay	Indicates Maturity Day for series with more than one expiration date in a month.	Y	DD
207	SecurityExchange	MIC code of the exchange.	C* (For NYSE American)	XASE – NYSE American Options (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
548	CrossID	Unique identifier of the order, which is assigned by the sender. It is critical that this ID is unique for all cross messages sent today.	Y	Customer defined up to 20 numeric characters

552	NoSides	Number of side repeating group instances. ** This should be the last tag in the message header, after Tag 9202 and before the SidesRepeating Group begins.	Y	2* * First side is the “initiating/exposed” side. Second side is the “counter-party/covered” side.
9202	SpecialOrdType	Defines the proper processing of a new cross order.	Y	F = CUBE Facilitation (minimum OrderQty = 50 contracts) P = CUBE Price Improvement (minimum OrderQty = 1 contract) S = AON CUBE Solicitation (minimum OrderQty = 500 contracts)* Q = Qualified Contingent Cross “QCC” (minimum OrderQty = 1000) * Covered side order is treated as All or None.
	Sides Repeating Group (x2)		Y	Initiating/exposed group first, then counter-party/covered group.
1	Account	Account identifier	N	Customer defined up to 10 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
11	CIOrdID	Side group anchor— MUST be first tag in the group. Unique ID of the new Order request as assigned by the firm.	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark) Note: Firms must specify a value for the entire Crossorder in tag 548 CrossID.

40	OrdType	Type of order	Y	<p>Qualified Contingent Cross (Tag 9202 = Q):</p> <ul style="list-style-type: none"> • Initiating side – may be either: <ul style="list-style-type: none"> ○ 1 = Market ○ 2 = Limit • Contra side – may be either: <ul style="list-style-type: none"> ○ 1 = Market ○ 2 = Limit • Initiating and contra side OrdType need to be the same value <p>CUBE (Tag 9202 = F, P or S):</p> <ul style="list-style-type: none"> • Exposed side – must be 2 = Limit • Covered side – may be any of: <ul style="list-style-type: none"> ○ 1 = Market* ○ 2 = Limit ○ 9 = AutoMatch Limit* <p>*Not available for Tag 9202 = "S"</p>
44	Price	Price of side.	Y (If 40≠1)	.01-99999.99
50	SenderSubID	Required if 204=3 on options cross order.	N	<p>Customer defined.</p> <p>For Market Makers this value will be agreed upon between exchange and client.</p>
54	Side	Order side. The counter-party/covered side must be the opposite of the initiating/exposed.	Y	1=Buy 2=Sell
77	OpenClose	Indicates status of client position in the option.	Y	O = Open C = Close
203	CoveredOrUncovered	Indicates covered or uncovered for options cross order.	Y	E = Exposed (Agency) Side C = Covered (Shadow) Side
204	CustomerOrFirm	Indicates client role in order.	Y	0 = Customer 1 = Firm 2 = Broker/Dealer 3 = MarketMaker* 8 = Professional Customer
439	ClearingFirm	Indicates OCC number of the clearing firm for CMTA.	Y	≤ 4 characters

440	ClearingAccount	Give-up subaccount for give-up enabled sessions May also be used to specify CMTA, will override Tag 439 if both tags are populated on a non give-up enabled session.	N	≤ 4 characters
526	OptionalData	Customer defined. Used for clearing purposes.	N	Customer defined up to 16 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
	Standard Trailer		Y	

Minimum Order Size and Exposure Time parameters by Crossing Order Type

Crossing Order Type	Minimum Order Size	Exposure Time
CUBE Facilitation (SpecialOrdType = F)	50 contracts	500 – 750 millisecond random timer
CUBE Price Improvement (SpecialOrdType = P)	1 contract	500 – 750 millisecond random timer
AON CUBE Solicitation (SpecialOrdType = S)	500 contracts	500 – 750 millisecond random timer
Qualified Contingent Cross “QCC” (SpecialOrdType = Q)	1,000 contracts	N/A

New Cross Order – Multi-Leg

Tag	Field Name	Description	Req.	Values
	Standard Header		Y	MsgType = As (uppercase A, lowercase s)
38	OrderQty	Quantity ordered	Y	Number of times the spread is available
59	TimeInForce	Specifies how long the order remains in effect.	Y	3 = IOC
60	TransactTime	Time this order request was initiated/released by the trader, trading system, or intermediary.	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
167	SecurityType	Indicates type of security.	Y	MLEG = Multi Leg
207	SecurityExchange	MIC code of the exchange.	C* (For NYSE American)	XASE – NYSE American Options (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)
548	CrossID	Unique identifier of the order, which is assigned by the sender. It is critical that this ID is unique for all cross messages sent today.	Y	Customer defined up to 20 numeric characters
552	NoSides	Number of side repeating group instances.	Y	2* *First side is the “initiating/exposed” side. Second side is the “counter-party/covered” side.
9202	SpecialOrdType	Special order type.	Y	F = CUBE Facilitation (minimum OrderQty = 50 contracts) P = CUBE Price Improvement (minimum OrderQty = 1 contract) S = AON CUBE Solicitation (minimum OrderQty = 500 contract)* Q = Qualified Contingent Cross “QCC” (minimum OrderQty = 1000) *Covered side order is treated as All or None.
	Sides Repeating Group (x2)		Y	Initiating/exposed group first, then counter-party/covered group.
1	Account	Account identifier	N	Customer defined up to 10 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)

11	ClOrdID	Side group anchor—MUST be first tag in the group. Unique ID of the new Order request as assigned by the firm. It is critical that this ID is unique for all messages sent today.	Y	Customer defined up to 25 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark) Note: Firms must specify a value for the entire Crossorder in tag 548 CrossID.
40	OrdType	Type of order	Y	Qualified Contingent Cross (Tag 9202 = Q): <ul style="list-style-type: none"> Initiating side – must be 2 = Limit Contra side – must be 2 = Limit CUBE (Tag 9202 = F, P or S): <ul style="list-style-type: none"> Exposed side – must be 2 = Limit Covered side – may be either: <ul style="list-style-type: none"> 2 = Limit 9 = AutoMatch Limit* *Not available for Tag 9202 = S
44	Price	The net price of the spread to the customer that enters the order.	Y (If 40≠1)	Max Price: 9999.99 Min Price: -9999.99
50	SenderSubID	Required if 204=3 on options cross order.	N	Customer defined. For Market Makers this value will be agreed upon between exchange and client.
203	CoveredOrUncovered	Indicates covered or uncovered for options cross order.	Y	E = Exposed (Agency) Side C = Covered (Shadow) Side
204	CustomerOrFirm	Indicates client role in order.	Y	0 = Customer 1 = Firm 2 = Broker 3 = Marketmaker* 8 = Pro Customer CUBE (Tag 9202 = F, P or S) – Covered side CustomerOrFirm cannot be set to 0 = Customer
439	ClearingFirm	Indicates OCC number of the clearing firm for CMTA.	Y	≤ 4 characters
440	ClearingAccount	Give-up subaccount for give-up enabled sessions May also be used to specify CMTA, will override Tag 439 if both tags are populated on a non give-up enabled session.	N	≤ 4 characters

526	OptionalData	Customer defined. Used for clearing purposes.	N	Customer defined up to 16 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
555	NoLegs	Number of legs. Two, three, four and five options legs.	Y	2 - 5
9076*	StockLegGiveUp* *Reserved for future use	Provides give-up information for Stock Leg only.	N	≤ 5 characters
	Component Block <Instrument Leg>		Y	
	Legs Repeating Group		Y	2 - 5 option instances
564	LegPositionEffect	OpenClose value for a single leg.	N	O = Open C = Close
600	LegSymbol	Underlying Symbol. *This should be the first tag in the leg.	Y	OCC Root symbol.
608	LegCFICode	Individual security CFI code for the multi-leg instrument.	Y	For Options: OC = Option – Call [OPT] OP = Option – Put [OPT]
610	LegMaturityMonthYear	Multileg instrument's individual security's MaturityMonthYear.	N	Expiration month and year in the YYYYMM format.
611	LegMaturityDate	Multileg instrument's individual security's Day.	N	YYYYMMDD
612	LegStrikePrice	Multileg instrument's individual security's strike price.	N	0 – 99999999.9999
623	LegRatioQty	The ratio of quantity for this individual leg relative to the entire multi-leg security.	Y	Integer value (no decimals)
624	LegSide	The side of this individual leg (multileg security).	Y	The valid values are: 1 = Buy 2 = Sell
654	LegRefID	Unique customer assigned value for each leg.	Y	Customer defined up to 10 numeric characters
	<InstrumentLeg>			
	<i>End Sides Repeating Group</i>			
	Standard Trailer		Y	

9.2 Post-Trade Allocation

The Post-Trade Allocation message (PTA) can be used to split one CUBE trade into a maximum of 10 smaller trades, and assign CMTAs for each of the smaller trades and/or individually modify the following characteristics:

- MMID
- OpenClose (Tag 77)
- Clearing Firm/CMTA (Tag 439)
- CustomerOrFirm (Tag 204) - cannot be changed from customer to firm

- Optional Data

The PTA message can only be used to split trades from the current day and only one trade can be split at a time. The entire quantity of the trade must be re-allocated. A single Acknowledgement message responds to a PTA message, regardless of the number of allocations.

When entering a PTA message:

- **ExecID (17)** must be populated with the ArcaExID (tag 9731) value from the original transaction (NOT the ExecID/tag 17 value).
 - The sum of all **AllocShares** in the repeating groups must equal the original trade quantity.
 - **AllocShares**, **OpenClose** and **CustomerOrFirm** are the only required repeating group items.
 - Values must be provided for the **Symbol**, **MaturityMonthYear**, **PutOrCall** and **StrikePrice** fields.
 - The remaining quantity to be left unchanged must be included in the repeating group with its original information and new quantity.
 - If there is an invalid value in any repeating group, the entire PTA message will be rejected.
 - A trade can only be allocated once.
 - A trade cannot be allocated after it has been adjusted in GEMS.
- * If a trade was split in GEMS and further adjusted with PTA, then volume will be misrepresented in GEMS and will require additional adjustments in GEMS to reconcile.

Allocation Message

<u>Tag</u>	<u>Field name</u>	<u>Description</u>	<u>Req.</u>	<u>Values</u>
	Standard Header		Y	MsgType=J
11	ClOrdID	Unique ID of the Order as assigned by the firm.	Y	Customer defined up to 30 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
17	ExecID	Unique identifier taken from tag 9731 of the original execution.	Y	Must be populated with the ArcaExID (tag 9731) value from the original transaction (NOT the ExecID/tag 17 value from the original transaction).
53	Shares	Total number of contracts in the original trade; to be fully allocated in repeating groups.	Y	Numerical Value
54	Side	Side of the Contra order.	Y	1=Buy 2=Sell
55	Symbol	The field must contain a valid symbol in upper case lettering.	Y	OCC Underlying or OCCExplicit Underlying Symbol.

60	TransactTime	Date and time when the allocation is generated.	N	Time specified in UTC time. YYYYMMDD-HH-MM-SS
70	AllocID	Unique identifier for Allocation message.	Y	Numerical Value
71	AllocTransType	Indicates the type of allocation.	Y	0 = New
73	NoOrders	Number of orders to be split	Y	1
78	NoAllocs	Number of repeating allocation entries to follow.	Y	1 - 10
167	SecurityType	Indicates type of security.	Y	OPT = Option
200	MaturityMonthYear	Month and Year of the maturity (used for standardized futures and options).	Y	YYYYMM
201	PutOrCall	Indicates Put or Call	Y	0=Put 1=Call
202	StrikePrice	Indicates Strike Price	Y	0 – 999999999.9999
205	MaturityDay	Indicates Maturity Day for series	Y	1 – 31
207	SecurityExchange	MIC code of the exchange.	Y	XASE – NYSE American Options
752	StrategyIndicator	Used to indicate if the allocation message represents a multi-leg instrument.	N	2 = Multi Leg Order
	Repeating Group			
50	SenderSubID	MMID. Required if 204=3 on options cross order.	N	MMID (Add “MM-” in front, for away market maker.)
77	OpenClose	Indicates status of client position in the option.	Y	O=Open C=Close
80	AllocShares	Number of contracts to be allocated to a specific party.	Y	Numerical Value
204	CustomerOrFirm	Used for options when delivering the order to an execution system to specify if the order is for a customer, firm, or Market Maker placing the order itself.	Y	0=Customer 1=Firm 2=Broker 3=Marketmaker 8 = Professional Customer
439	ClearingFirm	Indicates OCC number of the clearing firm for CMTA.	N	≤ 4 characters
526	OptionalData	Customer defined. Used for clearing purposes.	N	Customer defined up to 16 characters Characters in ASCII range 32-126 are allowed, except ‘,’ (comma), ‘;’ (semicolon), ‘ ’ (pipe), ‘@’ (at symbol) and ‘”’ (double quotation mark)
	Standard Trailer		Y	

Allocation Ack Message

<u>Tag</u>	<u>Field Name</u>	<u>Description</u>	<u>Req.</u>	<u>Comments</u>
	Standard Header		Y	MsgType=P
60	TransactTime	Date and Time when the Allocation ACK was generated.	Y	Time specified in UTC time. YYYYMMDD-HH-MM-SS
70	AllocID	Unique ID of the original allocation message.	Y	Numeric Value
87	AllocStatus	Status of the Allocation	Y	0 = Accepted (successfully processed) 1 = Rejected
88	AllocRejCode	Reason for Rejection. (AllocStatus = 1)	N*	0 = Unknown accounts 1 = Incorrect Qty 5 = Unknown Order ID 7 = Other
	Standard Trailer		Y	

10 Risk Mitigation (Options)

Activity-based controls are designed to help protect firms from excessive executions due to unusually rapid trading activity, and are configured per underlying symbol for a given firm's ATPID/OTPID. Once a configured risk mitigation limit is reached, the Options market will cancel all the firm's open orders for the affected symbol(s).

Firms may change their risk settings via gateway request or manually through the Customer Management Tool (CMT) user interface, but are not able to completely unsubscribe from Risk Mitigation using either product. For more information, please contact the Options Trade Desk.

- All Options order types as well as both single and complex orders are included in Options RM calculations.
- Order Sending Firms have a choice of configuring risk settings at either of two levels from the gateway – individually per underlying symbol, or for all underlying symbols traded by the firm using their ATPID/OTPID via a single request message.

Options RM settings are persisted on an overnight basis and remain in effect until changed by the Order Sending Firm.

Applicability to Orders Only

The CGW FIX Gateway allows firms to enter options orders only – not quotes. Therefore, these Options RM controls will only take into account a firm's order activity.

A similar solution is available to Market Maker quotes via the Options Market Maker Direct Gateway. However, those controls are entirely separate and only take into account a firm's quote activity.

RM limits must be set separately for orders and quotes, and risk calculations will not be aggregated between the two.

Minimum and Maximum Risk Limits

For each RM Type, the Exchange may set a minimum and maximum risk limit (RiskLimitAmount/Tag 1531). All Order Sending Firms will be able to select a RiskLimitAmount/Tag 1531 value at or within this range.

Auctions and Core Trading

Risk mitigation will apply during opening and post-halt auctions as well as core trading sessions. OTP/ATP Order Sending Firms will be able to adjust their risk limits at any time. They may also view the status of their risk settings at any given time via the Client Management Tool (CMT) user interface.

10.1 Risk Mitigation Types

Order Sending Firms may select from the following different types of Risk Mitigation controls:

1. **Transaction Based** counts the number of transactions that occur over a 100 millisecond time period.
2. **Volume Based** counts the number of contracts executed over a 100 millisecond time period.
3. **Percentage Based** calculates the number of contracts executed as a percent of order quantity over a 100 millisecond time period. This percentage is calculated for each of the firm's orders for a given symbol, and these individual percentages are summed and compared against the configured risk limit.

Example of Percentage Based: If a firm has four open orders for a given underlying symbol on the book, and specifies its percentage based risk limit for that underlying symbol to be 100%, its risk level would be calculated as follows:

	Order Quantity	# of Contracts Executed	Percentage
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			Calculation for the Underlying Symbol
Order 1	100	40	40%
Order 2	50	20	40%
Order 3	200	20	10%
Order 4	150	15	10%
Total	500	95	100%

When the aggregate percentage of contracts executed among all the firm's orders for this underlying symbol during the 100 millisecond time period reaches the specified limit of 100%, Percentage Based RM would be breached, and the remaining open quantity in the four orders would be cancelled by the Exchange. In this case, that occurs when 95 contracts are executed.

10.2 Risk Mitigation – Per Underlying Symbol

View Current RM Settings – Per Underlying Symbol Only via CMT User Interface

To simply view currently configured RM settings for a particular underlying symbol for the firm's TPID, an Order Sending Firm must use the Client Management Tool (CMT) user interface.

Configure RM – Per Underlying Symbol

To configure risk settings and enable order entry for a particular underlying symbol for the firm's TPID, send a Risk Mitigation Configure Request (MsgType = UCS) specifying the symbol. Risk setting updates can be sent on just one gateway session even if orders for the same underlying symbol will be sent from different sessions using the same TPID.

The example below is for Volume Based Risk Mitigation:

- MsgType (35) = UCS (Risk Mitigation Configure/Update Request)
- Repeating group – RiskLimits
 - NoRiskLimits (1669) = 1 (always set to 1, indicating one RiskLimit)
 - NoRiskLimitTypes (1529) = 1 (always set to 1, indicating one RiskLimitType)
 - RiskLimitType (1530) =
 - 14 = Volume based risk mitigation
 - 15 = Percentage of orders risk mitigation
 - 17 = Transaction based risk mitigation
 - RiskLimitAmount (1531) = valid risk limit value for the specified underlying symbol (depends on which RiskMitigationType is selected)
- Repeating group – RiskInstrumentScope
 - NoRiskInstrumentScopes (1534) = 1 (always set to 1, indicating one RiskInstrumentScope)
 - InstrumentScopeOperator (1535) = 1 (always set to 1, indicating instrument included)
 - InstrumentScopeSymbol (1536) = valid underlying symbol

Upon receipt of a Symbol-level Configure request, the Options trading platform will validate the request and send back to the customer gateway session a Configure Request Acknowledgement message (MsgType = UCT) with two status codes (RiskLimitRequestStatus/1762 and RiskLimitStatus/1763). These codes indicate whether the trading platform accepted and successfully applied the request, or rejected it.

Request to Cancel All Orders and Disable Order Entry – Per Underlying Symbol Only

Order Sending Firms may simultaneously cancel all open orders as well as disable order entry for an underlying symbol upon request, by sending a Mass Cancel Request (MsgType = UCA). This request will instruct the Options trading platform to cancel all the firm's eligible open orders from all gateway sessions for that underlying. It will also disable the firm's ability to enter new orders for the underlying symbol.

To cancel all open orders and disable order entry for a particular underlying symbol, send a Mass Cancel Request with:

- MsgType (35) = UCA
- Symbol (55) = valid underlying symbol
- MassActionType (1373) = 3 (Request to Cancel All Open Orders and Disable Order Entry for the Underlying Symbol)
- MassActionScope (1374) = 2 (All orders for Underlying Symbol)

Once the Options trading platform accepts and processes the request, a Risk Mitigation Alert message will be sent out to all gateway sessions that had open orders in that underlying symbol, and which are configured to receive RM Alerts. This configuration setting is controlled on a per session basis by the Exchange. By default, customers will not receive RM Alerts. Customers who wish to receive them should contact the NYSE API Connectivity/Order Routing Support team (see contact info at the beginning of this specification).

In addition, the firm will receive individual order cancelled messages for each order that was cancelled by the Exchange, regardless of the gateway session configuration for Risk Mitigation Alerts.

To re-enter the market, the Order Sending Firm will be required to re-enable order entry for the underlying symbol. See “Update Risk Limits/Enable Order Entry” below for instructions.

10.3 Risk Mitigation – Firm Level (All Underlying Symbols for a TPID)

To configure risk settings for all underlying symbols traded by a firm under their OTPID/ATPID, send a Risk Mitigation Configure Request (MsgType = UCS), excluding the RiskInstrumentScope repeating group.

The example below is for Volume Based Risk Mitigation:

- MsgType (35) = UCS (Risk Mitigation Configure/Update Request)
- Repeating group – RiskLimits
 - NoRiskLimits (1669) = 1 (always set to 1, indicating one RiskLimit)
 - NoRiskLimitTypes (1529) = 1 (always set to 1, indicating one RiskLimitType)
 - RiskLimitType (1530) =
 - 14 = Volume based risk mitigation
 - 15 = Percentage of orders risk mitigation
 - 17 = Transaction based risk mitigation
 - RiskLimitAmount (1531) = valid risk limit value for the specified underlying symbol (depends on which RiskMitigationType is selected)

EXCLUDE tags 1534, 1535, and 1536. These tags are used to specify an underlying symbol, so the lack of a symbol will indicate that the firm wants to apply the specified risk settings to all underlying symbols for the specified TPID.

Immediately upon receiving a firm level Configure request, the gateway will generate a single Configure Request Acknowledgement message (MsgType = UCT) and send it back to the customer before passing the request to the trading platform. All this message indicates is that the gateway received the request. The Acknowledgement message does NOT guarantee that the request will pass business validation, be accepted by the trading platform, or be successfully processed for all symbols.

Furthermore, if the request is subsequently rejected by the trading platform because it fails business validation, or in a very rare case updates some but not all symbols due to system error – a reject message will NOT be sent back to the customer.

To verify that a firm-level risk request was accepted and successfully applied, Order Sending Firms must use the Client Management Tool (CMT) user interface.

Alternatively, firms that wish to receive definitive Acknowledgements from the trading platform should use Underlying Symbol-level Configure requests only.

10.4 Risk Mitigation Breach Event

The following workflow details an Options RM breach event, where a firm's execution activity breaches their configured RiskLimitAmount for a given underlying symbol:

- Options RM calculations are done on a post-trade basis. Therefore, please note that an execution that would breach the threshold will not be prevented before the trade occurs.
- Once the limit for an underlying symbol has been breached, all eligible open orders for that underlying will be cancelled and any new incoming orders for that symbol will be rejected. CGW users will receive a UROUT for each cancelled order, and any new orders entered will be rejected with the custom FIX value OrdRejReason (103) = 7 – Order rejected due to Options Risk Mitigation Breach (Options only), and Text (58) = “Firm GRMP Disabled”.
- A Risk Mitigation Alert message will be sent out to all gateway sessions that had open orders in that underlying symbol, and which are configured to receive RM Alerts. This configuration setting is controlled on a per session basis by the Exchange. By default, customers will not receive RM Alerts. Customers who wish to receive them should contact the NYSE API Connectivity/Order Routing Support team (see contact info at the beginning of this specification).
- For CGW users, the firm will receive individual order cancelled messages for each order that was cancelled by the Exchange, regardless of the gateway session configuration for Risk Mitigation Alerts.

To re-enter the market, the Order Sending Firm will be required to re-enable order entry for the underlying symbol. See “Update Risk Limits/Enable Order Entry” below for instructions.

10.5 Update Risk Limits & Re-Enable Order Entry

Following an RM breach event, Order Sending Firms may simultaneously update risk limits for underlying symbols as well as re-enable order entry for those symbols by sending the field values below.

Per Underlying Symbol	Firm Level – OTPID/ATPID (All Underlying Symbols)
<p>Send a Risk Mitigation Configure Request (MsgType = UCS) with:</p> <p>Repeating group – RiskLimits</p> <ul style="list-style-type: none"> • NoRiskLimits (1669) = 1 (always set to 1, indicating one RiskLimit) • NoRiskLimitTypes (1529) = 1 (always set to 1, indicating one RiskLimitType) • RiskLimitType (1530) = <ul style="list-style-type: none"> ○ 14 = Volume based risk mitigation ○ 15 = Percentage of orders risk mitigation ○ 17 = Transaction based risk mitigation • RiskLimitAmount (1531) = valid risk limit value for the specified underlying symbol (depends on which RiskMitigationType is selected) <p>Repeating group – RiskInstrumentScope</p> <ul style="list-style-type: none"> • NoRiskInstrumentScopes (1534) = 1 (always set to 1, indicating one RiskInstrumentScope) • InstrumentScopeOperator (1535) = 1 (always set to 1, indicating instrument included) • InstrumentScopeSymbol (1536) = valid underlying symbol 	<p>Send a Risk Mitigation Configure Request (MsgType = UCS) with:</p> <p>Repeating group – RiskLimits</p> <ul style="list-style-type: none"> • NoRiskLimits (1669) = 1 (always set to 1, indicating one RiskLimit) • NoRiskLimitTypes (1529) = 1 (always set to 1, indicating one RiskLimitType) • RiskLimitType (1530) = <ul style="list-style-type: none"> ○ 14 = Volume based risk mitigation ○ 15 = Percentage of orders risk mitigation ○ 17 = Transaction based risk mitigation • RiskLimitAmount (1531) = valid risk limit value for the specified underlying symbol (depends on which RiskMitigationType is selected) <p>EXCLUDE tags 1534, 1535, and 1536.</p>

10.6 Gateway Session Disconnects

Risk Mitigation settings will persist following a customer session disconnect.

Orders entered on a customer gateway session that subsequently disconnected will be cancelled only if the session has the 'Cancel on Disconnect' property on.

10.7 Global Risk Mitigation

In addition to the above, NYSE American Options and NYSE Arca Options offer Order Sending Firms a Global Risk Mitigation control (Global RM). Global RM allows a firm to specify an aggregate limit for the number of symbol-level risk breaches that may occur over a fixed 100 millisecond time frame. Firms must contact the Options Trade Desk to establish their Global RM limit.

If the Global RM limit is breached, RM will be breached for all underlying symbols traded under the firm's ATPID/OTPID. All the firm's cancel eligible open orders for all symbols will be cancelled by the Exchange, and order entry by the firm will be disabled for all symbols.

- The Exchange sets a min/max threshold range for the Global RM limit, and firms can select a value within that range.
- Global RM is not dependent on the risk limit type configured for each underlying symbol.
 - Transaction, Volume, or Percentage of order
- Aggregated at OTPID/ATPID level
- Following a Global RM event, CGW users will receive an RM Alert for each underlying symbol, and a UROUT for each cancelled order. Additionally, both new orders and new Risk Mitigation Requests will be rejected with text "Firm GRMP Disabled".
- To re-enter the market after a Global RM event, the firm will need to submit a request by email to the Options Trade Desk at tradingox@nyse.com (order entry cannot be re-enabled through the gateway).
- Once globally re-enabled, firms will be able to re-enable each underlying symbol via gateway request.

10.8 Risk Mitigation Configure Request

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a Risk Mitigation Configure Request.

Tag	Field	Description	Platform	Req'd	Values
	<i>Standard Header</i>		O	Y	MsgType = UCS PartyRiskLimitsDefinition Request
1666	RiskLimitRequestID	Unique identifier of the request message.	O	Y	Customer defined up to 20 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)
1677	NoPartyRiskLimits	Unique identifier of the request message.	O	Y	1 = one PartyRiskLimit
→	1324	ListUpdateAction	O	Y	S = Configure/Update Risk Mitigation Settings and Enable Order Entry
→	1671	NoPartyDetails	O	Y	1 = one PartyDetail
→	1691	PartyDetailID	O	Y	ATPID/OTPID of Order Sending Firm
→	1692	PartyDetailIDSource	O	Y	D = Proprietary/Custom Code for TPID values
→	1693	PartyDetailRole	O	Y	13 = Order origination firm
→	1669	NoRiskLimits	O	Y	1 = one RiskLimit
→	1529	NoRiskLimitTypes	O	Y	1 = one RiskLimitType
→	1530	RiskLimitType	O	Y	14 = Volume based risk mitigation 15 = Percentage of orders risk mitigation 17 = Transaction based risk

						mitigation
→ → →	1531	RiskLimitAmount	Specifies the risk limit amount for the indicated RiskLimitType.	O	Y	0 to 999,999,999 (integer)
→ →	1534	NoRiskInstrumentScopes	Number in group.	O	C	For underlying symbol level risk request (for the firm's TPID) – 1 = one RiskInstrumentScope Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→ → →	1535	InstrumentScopeOperator	Instruction to include the Instrument Scopes specified.	O	C	For underlying symbol level risk request (for the firm's TPID) – 1 = instrument included Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→ → →	1536	InstrumentScopeSymbol	Used to indicate that the risk request should be applied to a specific underlying symbol.	O	C	For underlying symbol level risk request (for the firm's TPID) – populated with valid Underlying symbol for Options Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→ → →	1547	InstrumentScopeSecurityType	Used to limit the risk request to a specified security type.	O	Y	Identifies type of instrument. OPT = Options
→ → →	1616	InstrumentScopeSecurityExchange	Used for routing to/from a specified security exchange.	O	C* (NYSE American only)	XASE (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 1616 = XASE is not included.)
		Standard Footer		O	Y	

10.9 Risk Mitigation Mass Cancel Request (for Underlying Symbol)

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a Risk Mitigation Mass Cancel Request.

Tag	Field	Description	Platform	Req'd	Values
	Standard Header		O	Y	MsgType = UCA OrderMassActionRequest
11	ClOrdID	Unique identifier of the request message.	O	Y	Customer defined up to 20 characters Characters in ASCII range 32-126 are allowed, except ',' (comma), ';' (semicolon), ' ' (pipe), '@' (at symbol) and '"' (double quotation mark)

					**Note that the length of this tag in MsgType UCA deviates from the standard allowable length in other message types elsewhere in this specification.	
55	Symbol	Used to indicate that the risk request should be applied to a specific underlying symbol.	O	Y	Request per underlying symbol (for the firm's TPID) – populate with valid Underlying symbol for Options.	
167	SecurityType	Used to limit the risk request to a specified security type.	O	Y	Identifies type of instrument. OPT = Options	
207	SecurityExchange	Used for routing to/from a specified security exchange.	O	C* (NYSE American only)	XASE (*For routing to NYSE American Options only. Message is routed to NYSE Arca Options when 207 = XASE is not included.)	
453	NoPartyIDs	Number in group.	O	Y	1 = one PartyID	
→	448	PartyID	Firm identifier.	O	Y	ATPID/OTPID of Order Sending Firm
→	447	PartyIDSource	Describes the type of value specified in PartyID (448).	O	Y	D = Proprietary/Custom Code for TPID values
→	452	PartyRole	Describes the type of entity specifying the risk request.	O	Y	13 = Order origination firm
1373	MassActionType	Indicates a request to cancel orders and disable new order entry.	O	Y	3 = Request to Cancel All Open Orders and Disable Order Entry for the Underlying Symbol	
1374	MassActionScope	Used to limit the risk request to all orders for a specified underlying symbol.	O	Y	2 = All orders for Underlying Symbol	
	Standard Footer		O	Y		

10.10 Risk Mitigation Configure Request Acknowledgment

In addition to requirements for the standard FIX message header, the following fields will be specified on a Risk Mitigation Configure Request Ack.

Note on conditional tags – the FIX tags marked below as conditional (“Req’d” = “C”) will not be sent back on reject messages (Ack with RiskLimitRequestStatus (1762) = 1 – Error/Rejected).

Tag	Field	Description	Platform	Req'd	Values
	Standard Header		O	Y	MsgType = UCT PartyRiskLimitsDefinitionRequestAck
58	Text	Text may vary.	O	N	Text may vary
1666	RiskLimitRequestID	Unique identifier of the request message.	O	Y	Returned from request

1667		RiskLimitReportID	Unique identifier of the risk report.	O	Y	Populated with a string version of SendingTime/FIX-52 (resolution to milliseconds): "YYYYMMDDHHMMSSsss"
1677		NoPartyRiskLimits	Number in group.	O	C	1 = one PartyRiskLimit
→	1324	ListUpdateAction	Indicates a request to configure/update risk settings and enable order entry.	O	C	5 = Configure/Update Risk Mitigation Settings and Enable Order Entry
→	1763	RiskLimitStatus	Indicates whether the risk request message was accepted or rejected by the Exchange.	O	C	0 = Success/Accepted 2 = Error/Rejected
→	1671	NoPartyDetails	Number in group.	O	C	0 = zero PartyDetails
→	1669	NoRiskLimits	Number in group.	O	C	1 = one RiskLimit
→	1529	NoRiskLimitTypes	Number of risk limit types specified.	O	C	1 = one RiskLimitType
→	1530	RiskLimitType	Used to indicate the type of risk limit control specified for the underlying symbol(s).	O	C	14 = Volume based risk mitigation 15 = Percentage of orders risk mitigation 17 = Transaction based risk mitigation
→	1531	RiskLimitAmount	Specifies the risk limit amount for the indicated RiskLimitType.	O	C	0 to 999,999,999 (integer)
→	1534	NoRiskInstrumentScopes	Number in group.	O	C	For underlying symbol level risk request (for the firm's TPID) – 1 = one RiskInstrumentScope Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→	1535	InstrumentScopeOperator	Instruction to include the Instrument Scopes specified.	O	C	For underlying symbol level risk request (for the firm's TPID) – 1 = instrument included Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→	1536	InstrumentScopeSymbol	Used to indicate that the risk request should be applied to a specific underlying symbol.	O	C	For underlying symbol level risk request (for the firm's TPID) – populated with valid Underlying symbol for Options Firm Level request (ALL underlying symbols for the firm's TPID) – tag will not be sent
→	2355	PartyRiskLimitStatus	Indicates whether the underlying symbol is enabled for order entry, or disabled for order entry.	O	C	1 = Enabled
1762		RiskLimitRequestStatus	Indicates whether the risk request message was accepted or rejected by the Exchange.	O	Y	0 = Success/Accepted 1 = Error/Rejected
		Standard Footer		O	Y	

10.11 Risk Mitigation Mass Cancel Request Acknowledgment (for Underlying Symbol)

In addition to requirements for the standard FIX message header, the following fields will be specified on a Risk Mitigation Mass Cancel Request Ack.

Note on conditional tags – the FIX tags marked below as conditional (“Req’d” = “C”) will not be sent back on reject messages (Ack with MassActionResponse (1375) = 0 – Error/Rejected).

Tag	Field	Description	Platform	Req'd	Values
	<i>Standard Header</i>		<i>O</i>	<i>Y</i>	<i>MsgType = UBZ</i> OrderMassActionReport
11	ClOrdID	Unique identifier of the risk request message.	O	Y	Returned from request **Note that the length of this tag in MsgType UCA deviates from the standard allowable length in other message types elsewhere in this specification.
55	Symbol	Options Underlying Symbol.	O	Y	Request per underlying symbol (for the firm's TPID) – populate with valid Underlying symbol for Options.
58	Text	Text may vary.	O	N	Text may vary
453	NoPartyIDs	Number in group.	O	C	0 = zero PartyIDs
1369	MassActionReportID	Unique identifier of the risk report.	O	Y	PopulateD with a string version of SendingTime/FIX-52 (resolution to milliseconds): "YYYYMMDDHHMMSSsss"
1373	MassActionType	Specifies the type of action requested.	O	Y	3 = Request to Cancel All Open Orders and Disable Order Entry for the Underlying Symbol
1374	MassActionScope	Specifies scope of Order Mass Action Request.	O	Y	2 = All orders for Underlying Symbol
1375	MassActionResponse	Specifies the action taken by counterparty order handling system as a result of the action type indicated in MassActionType of the Order Mass Action Request.	O	Y	1 = Success/Accepted 0 = Error/Rejected
	<i>Standard Footer</i>		<i>O</i>	<i>Y</i>	

10.12 Risk Mitigation Alert

In addition to requirements for the standard FIX message header, the following fields will be specified on a Risk Mitigation Alert.

Tag	Field	Description	Platform	Req'd	Values
	Standard Header		O	Y	MsgType = UCM PartyRiskLimitsReport
58	Text	Text may vary.	O	N	Text may vary
325	UnsolicitedIndicator	Indicates whether the message is solicited or unsolicited.	O	Y	Y = message is being sent unsolicited
1667	RiskLimitReportID	Unique identifier of the risk report.	O	Y	Populated with a string version of SendingTime/FIX-52 (resolution to milliseconds): "YYYYMMDDHHMMSSsss"
1677	NoPartyRiskLimits	Number in group.	O	Y	1 = one PartyRiskLimit
→	1671	NoPartyDetails	O	Y	0 = zero PartyDetails
→	1669	NoRiskLimits	O	Y	1 = one RiskLimit
→	1529	NoRiskLimitTypes	O	Y	1 = one RiskLimitType
→	1530	RiskLimitType	O	Y	14 = Volume based risk mitigation 15 = Percentage of orders risk mitigation 17 = Transaction based risk mitigation
→	1531	RiskLimitAmount	O	Y	0 to 999,999,999
→	1534	NoRiskInstrumentScopes	O	Y	1 = one RiskInstrumentScope
→	1535	InstrumentScopeOperator	O	Y	1 = instrument included
→	1536	InstrumentScopeSymbol	O	Y	For underlying symbol level alert (for the firm's TPID) – populated with valid Underlying symbol for Options
→	1616	InstrumentScopeSecurityExchange	O	C* (For NYSE American)	XASE (*For message originating from NYSE American Options only. When message originates from NYSE Arca Options, 1616 = XASE is

						not included.)
→	2355	PartyRiskLimitStatus	Indicates whether the underlying symbol is enabled for order entry, or disabled for order entry.	O	Y	0 = Disabled Note: the "Disabled" status may be a result of order activity breaching the configured RiskLimitAmount, or as a result of user request via the Risk Mitigation Mass Cancel Request.
		<i>Standard Footer</i>		O	Y	

11 Appendix A: Liquidity Indicator Values and Definitions (NYSE Arca Options & NYSE American Options)

Description	LiquidityIndicator Field	LastMkt Field
Execution - Added Liquidity (Arca Options)	A	PO
Execution - Removed Liquidity (Arca Options)	R	PO
Execution - Opening Auction – Neutral (Arca Options)	O	PO
Execution - BOLD Added Liquidity (Arca Options)	P	PO
Execution - BOLD Removed Liquidity (Arca Options)	F	PO
Execution - Routed Away (Arca Options)	X	PO
Execution - Added Liquidity (NYSE American Options)	A	AO
Execution - Removed Liquidity (NYSE American Options)	R	AO
Execution - Opening Auction – Neutral (NYSE American Options)	O	AO
Execution - BOLD Added Liquidity (NYSE American Options)	P	AO
Execution - BOLD Removed Liquidity (NYSE American Options)	F	AO
Execution - Routed Away (NYSE American Options)	X	AO

NYSE Arca Options & NYSE American Options - Routed Away Market Definitions

Description	LiquidityIndicator Field	ExecBroker Field	Away Market
Execution - Routed Away (Arca Options)	X	BOX	Boston OE
Execution - Routed Away (Arca Options)	X	CBO	CBOE
Execution - Routed Away (Arca Options)	X	ISX	NASDAQ ISE
Execution - Routed Away (Arca Options)	X	NDQ	NASDAQ
Execution - Routed Away (Arca Options)	X	PHO	NASDAQ PHLX
Execution - Routed Away (Arca Options)	X	ASE	NYSE American Options
Execution - Routed Away (Arca Options)	X	BATS	CBOE BZX Options
Execution - Routed Away (Arca Options)	X	CB2	CBOE (C2)
Execution - Routed Away (Arca Options)	X	NASD	NASDAQ BX
Execution - Routed Away (Arca Options)	X	MIAX	MIAX Options
Execution - Routed Away (Arca Options)	X	ISE2	NASDAQ GMX (Gemini)
Execution - Routed Away (Arca Options)	X	EDGO	CBOE EDGX Options
Execution - Routed Away (Arca Options)	X	MRCY	NASDAQ MRX (Mercury)
Execution - Routed Away (Arca Options)	X	MPRL	MIAX Pearl
Execution - Routed Away (Arca Options)	X	EMLD	MIAX Emerald

Description	LiquidityIndicator Field	ExecBroker Field	Away Market
Execution - Routed Away (NYSE American Options)	X	BOX	Boston OE
Execution - Routed Away (NYSE American Options)	X	CBO	CBOE
Execution - Routed Away (NYSE American Options)	X	ISX	NASDAQ ISE

Options)			
Execution - Routed Away (NYSE American Options)	X	NDQ	NASDAQ
Execution - Routed Away (NYSE American Options)	X	PHO	NASDAQ PHLX
Execution - Routed Away (NYSE American Options)	X	NYO	NYSE Arca
Execution - Routed Away (NYSE American Options)	X	BATS	CBOE BZX Options
Execution - Routed Away (NYSE American Options)	X	CB2	CBOE (C2)
Execution - Routed Away (NYSE American Options)	X	NASD	NASDAQ BX
Execution - Routed Away (NYSE American Options)	X	MIAX	MIAX Options
Execution - Routed Away (NYSE American Options)	X	ISE2	NASDAQ GEMX (Gemini)
Execution - Routed Away (NYSE American Options)	X	EDGO	CBOE EDGX Options
Execution - Routed Away (NYSE American Options)	X	MRCY	NASDAQ MRX (Mercury)
Execution - Routed Away (NYSE American Options)	X	MPRL	MIAX Pearl
Execution - Routed Away (NYSE American Options)	X	EMLD	MIAX Emerald

Document Control

<i>Date</i>	<i>Revision</i>	<i>Updates</i>
May 16, 2003	1.0	Update to document
June 24, 2003	1.1	Added Bulletin Board Exchange Specifications
July 1, 2003	1.2	Added copyright info
July 17, 2003	1.3	Added Pegged order info
July 23, 2003	1.4	Updated Decimalization section
August 13, 2003	1.5	Added "POO" order Fix requirements. Modified Trading Session ID section
August 20, 2003	1.6	Added OrderID clarification for cancels and changes
September 2, 2003	1.7	Added Listed Pegs
September 16, 2003	1.8	Added OTC Cross orders, Bust and Correct requirements
September 25, 2003	1.9	Adjusted Listed NOW order section
October 22, 2003	2.0	Pegged Order clarification
December 18, 2003	2.1	Added Auction order info
January 2, 2004	2.2	Updated for new Listed Exchange Platform behavior
February 5, 2004	2.3	Added News Messages section
March 9, 2004	2.4	Modified auction info
March 15, 2004	2.5	Added Q order info
March 24, 2004	2.6	Added auto-refresh Q order info
March 26, 2004	2.7	Add Capacity Flag information
March 30, 2004	2.8	Modified Listed auction info
April 16, 2004	2.9	Removed BB Pegged order Info and modified Q order requirements
May 25, 2004	3.0	Removed "not yet available" from auto refresh "Q" order. Added PNP + order info. Corrected NOW orders session information for OTC.
June 28, 2004	3.1	Modified 85rdered and excid lengths and also oversize cancel/replace scenarios in section 5.6. Added Inside Limitto Listed order type section. Modified PNP+ order to ordtype=7.
July 1, 2004	3.2	Added late auctions to Listed Order Types
November 12, 2004	3.3	Modified Cross order section and Listed ordertype section.
March 7, 2005	3.4	Modified Proactive if Locked section.
March 28, 2005	3.5	-Re-formatted order type section -added OTC POO order type -added draft of new directed order process. -added passive liquidity order type.
April 27, 2005	3.6	Changed the session times to reflect new early open
June 10, 2005	3.7	Modified Direct Order section
June 16, 2005	3.8	Modified auto-q section, corrected LOC definition in table, added random reserve to order table
July 25, 2005	3.9	Modified Cross Order section and order type section to reflect cross order changes
August 11, 2005	4.0	Added specifications for Options trading. Added Fix 4.2 specifications.
August 16, 2005	4.1	Added WITHSTK complex order specifications. Removed Text special booth requirements section.
September 21, 2005	4.2	Changed tag 167 requirements for Straddle complex orders from STDL to STRD
October 26, 2005	4.3	Added PCS order
November 15, 2005	4.4	Added Corporate Bonds info. Added short sale checking to G-order Modified Options system hours of operation. Removed BB from directed order options
November 28, 2005	4.5	Added backup session reconnection clarification.

December 2, 2005	4.6	Changed PL order requirements to OrdType(40)=7
January 9, 2006	4.7	Changed Options requirements to reflect OX system
February 14, 2006	4.8	Corrected pegged eligibility. Changed LastMkt(30) for Bondsto N from PB.
March 3, 2006	4.9	Added Tracking order. Modified available auctions. Added news message to msgtypes in section 5. Added Execlnst=G to section 6.1. Added 59=1 to section 6.4.
March 6, 2006	5.0	Removed late auctions for OTC.
April 12, 2006	5.1	Modified Portfolio Crossing System (PCS) to include portfolio types.
May 10, 2006	5.2	Added GTC section for OTCs. Section 3.10 Added bond fields to execution report message Added failover section
Aug 23, 2006	5.3	Added Options orders that are entered in a market maker (204=3) capacity to New Order-Single table
Oct 03, 2006	5.4	Added PL description and order types
Oct 13, 2006	5.5	ADDED ISO orders
Dec 8, 2006	5.6	Removed Tag 439
January 3, 2007	5.7	Modified CMTA to 4 characters
January 17, 2007	5.8	Added PCS Rule
January 24, 2007	5.9	Added OX to Reserve and Now orders
May 9, 2007	6.0	Added existing Tags to Execution section.
May 18, 2007	6.1	Added Auction, MPL and PNP Blind order
June 13, 2007	6.2	Added 9730 value 'N'
July 20, 2007	6.3	Updated Auction and PNP orders
July 30, 2007	6.4	Added NYSE Arca Primary Sweep order
Sept 18, 2007	6.5	Added fast cancel/replace messaging
October 5, 2007	6.6	Updated FIX Application Protocol Section – Removed Sides Short Sell Exempt & Cross Short Exempt
October 23, 2007	6.7	Updated “Auction Only” order types and Bond Security Identifiers in FIX Application Protocol Section.
November 9, 2007	6.8	Added additional information for Fast Cancel/Replace.
December 12, 2007	6.9	Added additional information for PNP Blind Order.
January 8, 2008	7.0	Updated Proactive If Locked (Tag 9733)
January 22, 2008	7.1	Updated Midpoint Passive Liquidity Order type – Minimum Shares lowered from 1000 to 100
February 26, 2008	7.2	Added PO+ Order Type
March 31, 2008	7.3	Added 9416=2 IOI Dark Pool Opt Out Indicator
May 12, 2008	7.4	Added 9730=B Blind Indicator Added information for NOW Order
May 30, 2008	7.5	Format Change of FIX Specification due to new products accepted by the NYSE Arca FIX Gateway. <ul style="list-style-type: none"> • Options and Bond Specific Sections Added • MatchPoint Section Added • Complex Orders Section Added (Not available yet)
July 16, 2008	7.6	General updates to Equities Section Updated Tag 9730 Values
July 21, 2008	7.7	Update to TradingSessionID requirements in Section 3.3.
August 12, 2008	7.8	Added Tag 526 – “Optional Data” Field for Option Orders
August 12, 2008	7.9	Added new chapter: Liffe Order Routing Section (Not available yet.) Added NYSE Arca Equities Supported Symbology Table
August 15, 2008	8.0	Updated NYSE MatchPoint Trading sessions. Intraday matches added.
September 9, 2008	8.1	NYSE AMEX Options Chapter Added (Est. 1 st Qtr 2009)

September 23, 2008	8.2	Corrected ExecID description on pages 51 & 68. Corrected POO Order Type for Equities Adjusted ExecID and OrderID fields for NYSE AMEX Options from 9 to 20 characters
October 31, 2008	8.3	Added Treasuries to Bonds section Added New York Block Exchange (NYBX) Chapter Added Bulk Cancel by ETPID (Not Available Yet)
December 8, 2008	8.4	Added additional information to NYSE AMEX Chapter Added Add Liquidity Only (ALO) Order Type to NYSE Arca Equities section
January 7, 2009	8.5	Added additional information and ISO Order Types to Options (ISO coming soon, ETA February 2009) Adjusted ExecID and OrderID fields for NYSE Arca Options from 9 to 20 characters (Change happening 1/26/2009) Added new FIX Drop Copy Appendix for Equities, Options, and Bonds/Treasuries Products
February 10, 2009	8.6	Added TNT Spec information to NYSE Amex Options Added additional information to New Order Single for NYSE Amex Options
March 26, 2009	8.7	Added additional information into Complex Order Cancel Message
May 5, 2009	8.8	Removed Appendix for Drop Copies. This will be placed in a separate document.
May 10, 2009	8.9	Added PO+S Order Type (Additional function to PO+ Order) – (Not available yet) Updated PSO Order Type Added Wait Order for NYSE Arca Options (Not available yet) Added FOK Order Type for Equities
May 11, 2009	9.0	General updates to all Specification FIX Message Tables. Added OSI Initiative Information to Options and Complex sections.
June 2, 2009	9.1	Added Tag 7928 (NoSelfTrade) to NYSE Arca New Order (Equities Only)
June 12, 2009	9.2	Added OSI Symbology Information to Options Sections, plus all necessary FIX Tag information within the message tables.
July 23, 2009	9.3	Added PO+ MOC/LOC FIX Tag information under the New Order Single, Cancel, and Cancel Replace tables. Also updated PO+ in Order Types Table.
August 7, 2009	9.4	Added notes to ExecID, OrderID, ExecRefID, and ArcaExID (9731) fields for NYSE Arca Equities for increase from 9 to 20 characters when UTP goes live. Added PNP Blind, PNP Light and ALO Order Types for NYSE Arca Options. Added PNP Light to NYSE Arca Complex Orders. Added Note to PNPb Order Type: Fast Cancel/Replace is not available on Options PNP Blind Orders until further notice.
August 27, 2009	9.5	Added ISO Order Type for NYSE Arca and NYSE Amex Options.
September 8, 2009	9.6	Added Complex PNP Plus and PNP Blind for NYSE Amex Options. Added Complex Options for NYSE Amex Options. Added Complex PNP Plus for NYSE Amex Options. Removed PNP Light to NYSE Arca Complex Orders.
September 30, 2009	9.7	Removed NYSE MatchPoint Messaging. MatchPoint Messaging has moved to a new specification on nyse.com.
October 26, 2009	9.8	Modified "Values" text for ClOrdID of FIX Complex Cancel Request.
October 26, 2009	9.8	Removed outdated item from complex order "General Information" (pg61).
November 10, 2009	9.9	Modified "MaturityDate" to read "MaturityDay" (pg25/72).

November 10, 2009	9.9	Cleaned up wording for description of Midpoint Passive Liquidity (MPL) Order.
November 10, 2009	9.9	Cleaned up wording for Description and Value text regarding tag 58 on page 45.
December 4, 2009	10	Added session indicator vs. expire time info (pg 13). And updated TradingSessionID info (pg 12).
December 4, 2009	10	Updated certification info (pg 9).
February 3, 2010	10.1	Updated login sequence reset Details. (pg 31)
February 18, 2010	10.2	Bulk cancel correction. (pg 48)
March 9, 2010	10.3	Removed GTC support for complex options info (pg 65).
March 9, 2010	10.3	Removed release date on STP (pg 21).
March 15, 2010	10.4	Added routing destination values for AMEX and ARCA options.
March 19, 2010	10.5	Added ISO on ALO info (pg 56).
March 30, 2010	10.6	Added liquidity indicator 'W'.
March 30, 2010	10.6	Updated f AMEX Tag 204 for pro customer.
May 1, 2010	10.7	Corrected Matchpoint link (pg 104).
May 21, 2010	10.8	Added NYSE ARCA Equities to Fast Cancel Replace Message.
August 30, 2010	10.9	Added options crossing/auction functionality. Removed Liffe routing info.
September 24, 2010	11	Restructured Complex order section. Added details on support for SEC Rule 201.
November 18, 2010	11.1	Updated tag 9731 information pertaining to ArcaEdge on page 15.
December 7, 2010	11.2	Updated time-in-force values for cross orders. Cleaned up release date information.
January 3, 2011	11.3	Field correction on page 90. Removed certain option symbology details (pg 26).
January 25, 2011	11.4	Modified CrossID description (tag 548). Removed Rights symbology. Updated liquidity indicator description.
February 10, 2011	11.5	Updated TimeInForce field (pg 33). Updated cross order tags.
March 2, 2011	11.6	Removed Matchpoint. Updated Short Sell Rule 201 description. Added QCC flag on cross orders.
April 4, 2011	11.7	Updated tag 111 for ArcaEdge orders.
May 2, 2011	11.7.1	Notice added regarding Arca Options ALO orders (pg 54).
May 10, 2011	11.8	Updated liquidity indicator information. Updated lastmkt values.
June 18, 2011	11.8.1	Updated tracking order description (pg 20).
August 19, 2011	11.8.2	Removed inaccurate portion of page 19.
September 22, 2011	11.8.3	Discrepancy fix in section 8.8.
October 3, 2011	11.8.4	Updated order type list.
October 25, 2011	11.8.5	Updated auction-only order types (pg. 53)
November 9, 2011	11.8.6	Updated GTD description (pg. 13). Updated tracking order description (pg. 19). Updated tag 231 description.
December 28, 2011	11.8.7	Updated spec link (pg. 25). Removed tag 76 from post-trade allocation (pg. 90).
February 16, 2012	11.8.8	Updated liquidity indicators. Added need-to-know on complex cross orders (pg 90). Updated MPL description (4.10 and 8.9).
February 29, 2012	11.8.9	Updated tag 9733 description on page 15.
April 11, 2012	11.9	Updated ClOrdID for ArcaEdge orders.
April 23, 2012	11.9.1	Added MOO/LOO May 28 th changes. (pg. 53)
May 9, 2012	11.9.2	- Added Liquidity Indicator "S" and conditional liquidity indicator of 1. (effective 5/28/2012) - Updated PNP+ Complex with market order type. - IOC allowed on MPL. (pg. 49) (effective 5/28/2012) - Added microsecond timestamp option. (effective 5/28/2012) - Modified "Primary-After-3:45" order type to 3:55.
June 28, 2012	11.9.3	- Corrected ArcaEdge hours (pg. 11). - Added BX Options ID to execution report tag 76 (pg. 46, 65).

August 29, 2012	11.9.4	-General formatting changes, Options post trade allocation status, and auction orders.
September 25, 2012	11.9.5	-Added PL Select order type for equities (pg. 35,49). -Updated PL order type definition (pg. 48).
January 4, 2013	11.9.6	-Updated liquidity indicator info (pg. 15). -Updated tag 40 descriptions (section 8). -Added Market To Limit order type (pg. 47). -Updated AMEX order types (pg. 74). -Updated tag 204 of complex orders (pg. 82). -Modified description of Reserve, ISO, PNP, PNP B, MOO, LOO, and NOW order types. -Added Limit Up/Limit Down (LULD) functionality details (currently unavailable).
January 10, 2013	11.9.7	-Updated ISO and Cross order type descriptions (pg. 50, 51).
February 1, 2013	11.9.8	Removed PNP+ Market Order for complex options.
February 26, 2013	11.9.9	-Removed NYBX section. -Corrected liquidity indicator table (pg. 14) -Added DNI and DNR values to tag 18.
May 6, 2013	12	-Consolidated options information, removed redundancies and streamlined the overall document. -Updated STP general notes. -Added liquidity indicator J.
June 12, 2013	12.1	Updated PNP B description.
July 2, 2013	12.1.1	-Added MIAX and ISE2 ExecBroker IDs (page 49). -Updated auto-cancel-on-disconnect description. -Updated notes on page 65.
July 22, 2013	12.1.2	-Added Retail Liquidity Program details on page 23. -Updated Complex Order Auction Information on page 80.
September 10, 2013	12.1.3	-Updated Global OTC GTD availability (pg. 13) -Updated tag 39 value in execution report (pg. 48).
October 8, 2013	12.1.4	-Updated complex orders. -Updated MPL info (pg. 22). -Updated tracking order info.
October 22, 2013	12.1.5	Updated equities market maker info.
November 6, 2013	12.1.6	-Updated PNP B description (pg. 20, 61). -Added options complex Cancel/Replace message outline (pg. 68, 70, 73).
February 7, 2014	12.1.7	-Deleted unused tag from "New Order" message. (pg 38) -Added tag 57 to Complex messages. (pg. 72 and 74) -Updated retail order information. (pg. 24 and 64)
March 3, 2014	12.1.8	-Updated tag 9202 as 'required' (section 10.1). -Updated two lines in 10.2.
April 1, 2014	12.1.9	-Modified MPL IOC description. (pg. 56) -Updated tag 18 description. (section 8.1, 8.2, 8.3)
April 15, 2014	12.1.9a	Updated leg reference ID description (section 9.8)
May 15, 2014	12.2	-Clarified cancel/replace behavior. (pg.47) -Updated tag 9202 detail. (pg.82&83)
June 12, 2014	12.2.1	-Modified tag 440 details. -Modified tag 40 values on page 83 & 84.
September 9, 2014	12.2.2	-Updated execution report information. -Updated Complex Order Auction (COA) description. (pg.86)
October 7, 2014	12.2.3	Changed tag 111 description for cancel/replace message (pg. 47).

November 19, 2014	12.2.4	<ul style="list-style-type: none"> -Updated tag 610 and 611 details for Options complex orders. - Added AON and MinQty support for Bonds - Increased Maximum Order Size to 5 million for Equities. - Removed Options "Wait" Order for Options. - Removed Options "Tracking" Order for Options. - Removed Tag 18 <ExecInst> from Options Cross Order Type. - Updated FOK and Now Orders to be Limit Orders Only.
December 10, 2014	12.3	<p>Removed details for the following order types:</p> <ul style="list-style-type: none"> - Auction Only Order - Market to Limit Order/Market IOC/Market NOW - Midpoint Cross - ISO PNP Cross/ISO PNP IOC Cross - Cross and Post - Portfolio Crossing Session (PCS) - Discretionary Limit Orders - Passive Discretionary with Reserve - Sweep Reserve/Sweep Reserve with Discretion - Inside Limit Sweep Reserve - Random Reserve - Reserve NOW - PL Select - MPL FOK <p>Added Appendix A and B.</p>
March 9, 2015	12.4	<ul style="list-style-type: none"> -Added FOK support for Bonds. -Updated tag 552 detail (pg. 83). -Updated tag 9733 detail (pg. 42). -Updated detail on Minimum Order Size and Exposure Time for CUBE orders (page 85). -Removed Passive Discretion order details and FIX tag 8021 (Passive Discretion).
June 8, 2015	12.5	<ul style="list-style-type: none"> -Added Section 4.13, "Pillar Trading Platform for NYSE Arca Equities" -Added notes on FIX tag and value changes to be expected for symbols migrated to Pillar throughout the equities sections of the spec -Added Appendix C, "Pillar Reason Codes" -Removed details for the following equities order types: <ul style="list-style-type: none"> - Primary Sweep (PSO) - Primary Sweep+ Ship (PSOS) - Reserve Orders with IOC Modifiers <ul style="list-style-type: none"> o Limit Reserve IOC o ISO PNP Reserve IOC o PNP Reserve IOC - Inside Limit IOC - ALO PNPB Reserve

September 16, 2015	12.6	<p>-Removed all equities functionality in support of NYSE Arca Equities customer migrations away from this gateway and onto the NYSE Arca UGW FIX Gateway. Note that going forward, this specification will only serve customers of NYSE Arca & Amex Options, and NYSE Bonds.</p> <p>-Updated contact information for NYSE Market Support.</p> <p>-Added clarification that ExecID (FIX tag 17) is unique per session, per day.</p> <p>-Added Section 3.6, "Timed Orders (NYSE Bonds only)."</p> <p>-Added support (reserved for future use) for All-or-None (AON), Fill or Kill (FOK) and Minimum Quantity order types for NYSE Bonds.</p>
May 5, 2016	12.7	<p>Added support for Options Bulk Cancel by TPID (Section 7.8).</p> <p>Added support for upcoming Risk Mitigation functionality for NYSE Amex and NYSE Arca Options (Section 10 – Risk Mitigation – Options).</p> <p>Added detail on Minimum Order Size and Exposure Time for CUBE orders.</p> <p>Added values to ExecBroker (tag 76) for EDGX Options and ISE Mercury.</p>
December 22, 2016	12.8	<p>Added value to ExecBroker (tag 76) for MIAX Pearl.</p> <p>Added details to OrdType (tag 40) for initiating and contra side interest on New Cross Order and New Cross Order – Multi-Leg message types. Added detail for Qualified Contingent Cross to table "Minimum Order Size and Exposure Time Parameters by Crossing Order Type" (Section 9 – NYSE Arca/Amex Options Cross Orders).</p> <p>Added detail regarding cancel pending acknowledgments for Bulk Cancel by TPID Requests (Section 7.8 – Bulk Cancel by TPID (Options)).</p> <p>Updated expected behavior details in Section 8.3 – Complex Order Instruments, sub-section "Reporting Messaging for Complex Orders via FIX."</p> <p>Miscellaneous clarifications regarding Options Risk Mitigation.</p>
January 31, 2017	12.9	<p>Added value PCPL to ExecBroker (tag 76) for CUBE order principal executions.</p>
February 23, 2017	13.0	<p>Added support for NYSE Amex and NYSE Arca Options Broadcast Order Liquidity Delivery ("BOLD") Mechanism; new values in ExtendedExecInst (9416) and LiquidityIndicator (9730).</p>
April 11, 2017	13.1	<p>Rebranding for Broadcast Order Liquidity Delivery ("BOLD") Mechanism.</p>
August 16, 2017	13.2	<p>For Options, added support for tag ArcaExID (9731) on Execution Reports, as an execution identifier that is unique per Exchange, per day.</p> <p>Updated description of tag ExecID (17) on Allocation message (J), to indicate that this tag now must be populated with the ArcaExID (tag 9731) value from the original transaction (NOT the ExecID/tag 17 value from the original transaction).</p> <p>Rebranding for NYSE American Options (formerly NYSE Amex Options).</p>

October 9, 2017	13.3	<p>Added sub-section "Self Trade Prevention" under "NYSE Arca and NYSE American Options Information."</p> <p>Added support for Options Market Maker self-trade prevention types Cancel New, Old, and Both (New Order Single message, tag NoSelfTrade/7928).</p>
January 30, 2018	13.4	<p>Options enhancements:</p> <p>Added support for Complex CUBE in New Cross Order Multi-Leg message.</p> <p>Added sub-section "Defaulting BOLD" under "NYSE Arca and NYSE American Options Information."</p> <p>Added new ExtendedExecInst = D (Do not Bold) to override BOLD defaulting.</p>
May 2, 2018	13.5	Updated order acceptance time for NYSE Arca Options and NYSE American Options in section "Hours of Operation."
October 1, 2018	14.0	<p>Added support for Re-Pricing PNP & Re-Pricing ALO Orders:</p> <ul style="list-style-type: none"> - New ExtendedPNP values on New Order Single - New sub-section "Display Price Update Acknowledgement (Optional) - for Re-Pricing PNP & Re-Pricing ALO Orders"; new ExecType for "unsolicited" on Execution Report - New entries for "Re-pricing Add Liquidity Only (ALO)" & "Re-pricing Post No Preference (PNP)" in sub-section "NYSE Arca & NYSE American Options Order Types"
May 13, 2019	14.1	<p>Added sub-section for 'FIX Give-up Functionality' under NYSE Arca & NYSE American Options Information</p> <p>Updated description for Tag 440 to indicate that this tag may be used for give-up subaccount on sessions configured for give-up functionality.</p> <p>Added ClearingNumber (Tag 439) to New Order Single and New Order Multi-Leg and updated description for Tag 439 to indicate that this tag may be used for CMTA on sessions configured for give-up functionality.</p> <p>Streamlined 'OCC Optional Data' sub-section by removing obsolete context and breaking out 'Local and Away Market Maker Orders' information into its own sub-section.</p> <p>Added Account (Tag 1) to Cancel Request to reflect existing functionality. Tag 1 on Cancel Request identifies the TPID/OTPID on Bulk Cancel Requests.</p>
December 9, 2019	14.2	<p>Updated order type descriptions for stop and stop limit orders to reflect functionality added in 5.3.x release.</p> <p>Updated details of post trade allocation (PTA) message (msg type = J) and processing to more clearly reflect current behavior.</p>
February 27, 2020	14.3	Clarification of ASCII character support for free form text fields.
September 8, 2020	14.4	Addition of the AON CUBE Solicitation.