

Broker Algo Routing

FIX Specification

Copyright Notice

Copyright Information

Copyright © 2013 by NYSE Euronext (NYSE). *All Rights Reserved.*

Except as permitted under the United States Copyright Act of 1976, no part of this document may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of NYSE Euronext.

This document contains trade secrets of NYSE Euronext. It is provided to persons and organizations doing business with NYSE Euronext solely for their use in conducting that business. Disclosure of the contents of this document in whole or in part to any other parties without the prior written consent of the NYSE Euronext is expressly prohibited.

Brand names and /or Trademarks

Brand names or Products cited in this document may be trade names or trademarks. Where there may be proprietary claims to such trademarks or trade names, the name has been used with an initial capital. Regardless of the capitalization used, all such use has been in an editorial fashion without any intent to convey endorsement what so ever of the product or trademark claimant. NYSE expresses no judgment as to the validity or legal status of any such proprietary claims.

Engineering Services Disclaimer

Information contained in this document is believed to be accurate. However NYSE does not guarantee the completeness or accuracy of any of the published information. This work is published with the understanding that NYSE is supplying information, but not attempting to render engineering or other professional services. If such services are required the assistance of the appropriate professional should be sought.

NYSE DISCLAIMER

Your use of this document in any way is subject to your compliance with all conditions of such use, and your acceptance of all disclaimers and limitations as to such use, contained in this paragraph and elsewhere in this document. This document is intended only as a technical guide for use of the FIX Protocol with the NYSE.

The information contained in this document is subject to change without notice. To submit any comments or questions, or to receive the latest version of the document, please contact the NYSE.

NYSE reserves the right to require customers wishing to gain access to NYSE services through the Common Access Point to first manifest assent, either electronically or in writing (as NYSE may specify), to an agreement. Among other things, that agreement will extend to non-members gaining access to NYSE services and the Common Access Point the same disclaimers and limitations of liability that the NYSE Constitution currently affords to NYSE and its agents in respect of the claims of NYSE members.

NYSE PROVIDES THE COMMON ACCESS POINT SERVICE ON AN "AS IS" BASIS. NYSE AND NYSE'S OTHER AGENTS AND THEIR RESPECTIVE DIRECTORS, OFFICERS, PARTNERS AND EMPLOYEES DISCLAIM ALL WARRANTIES RELATING TO THE COMMON ACCESS POINT SERVICE, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTIES THAT MAY ARISE FROM TRADE USAGE, COURSE OF DEALING OR THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALTHOUGH INFORMATION CONTAINED IN THIS DOCUMENT IS BELIEVED TO BE ACCURATE, THOSE PARTIES DO NOT GUARANTEE THE COMPLETENESS OR ACCURACY OF ANY SUCH INFORMATION AND THEY WILL NOT ACCEPT LIABILITY FOR INDIRECT OR CONSEQUENTIAL DAMAGES OR FOR DAMAGES RESULTING FROM THEIR NEGLIGENCE.

NYSE, in its discretion, may diminish, enhance, change, eliminate, determine periods of availability and restrictions on use of, and determine the persons or entities authorized to have access to, the Common Access Point and any system or service available through the use of the Common Access Point.

Nothing in this document constitutes an attempt to render legal, engineering, or other professional services or advice. Any user of this document is advised to seek appropriate legal, engineering or other professional advice regarding the use, interpretation or effect of this document on any matters discussed in this document.

FIX Protocol Disclaimer

Material in this report has been derived in part from the descriptions of Financial Information Exchange Protocol documentation obtained from the web site www.fixprotocol.org. Those documents, which appear without copyright notice, contain the following disclaimer:

“THE INFORMATION CONTAINED HEREIN AND THE FINANCIAL INFORMATION EXCHANGE PROTOCOL (COLLECTIVELY, THE “FIX PROTOCOL”) ARE PROVIDED “AS IS” AND NO PERSON OR ENTITY ASSOCIATED WITH THE FIX PROTOCOL MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE FIX PROTOCOL (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF) OR ANY OTHER MATTER AND EACH SUCH PERSON AND ENTITY SPECIFICALLY DISCLAIMS ANY WARRANTY OF ORIGINALITY, ACCURACY, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SUCH PERSONS AND ENTITIES DO NOT WARRANT THAT THE FIX PROTOCOL WILL CONFORM TO ANY DESCRIPTION THEREOF OR BE FREE OF ERRORS. THE ENTIRE RISK OF ANY USE OF THE FIX PROTOCOL IS ASSUMED BY THE USER.

“NO PERSON OR ENTITY ASSOCIATED WITH THE FIX PROTOCOL SHALL HAVE ANY LIABILITY FOR DAMAGES OF ANY KIND ARISING IN ANY MANNER OUT OF OR IN CONNECTION WITH ANY USER’S USE OF (OR ANY INABILITY TO USE) THE FIX PROTOCOL, WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, LOSS OF DATA, LOSS OF USE, CLAIMS OF THIRD PARTIES OR LOST PROFITS OR REVENUES OR OTHER ECONOMIC LOSS), WHETHER IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), CONTRACT OR OTHERWISE, WHETHER OR NOT ANY SUCH PERSON OR ENTITY HAS BEEN ADVISED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF, SUCH DAMAGES.

“No proprietary or ownership interest of any kind is granted with respect to the FIX Protocol (or any rights therein).”

A reasonable effort has been made by the authors to represent the FIX protocol accurately. In particular, the description of messages incorporates extensive segments of the material obtained from the web site. This document, however, in no way should be taken as a final, full, and accurate representation of the material in question, but reference should be made to the original FIX Committee documents.

About this Document

This document is based on the source material identified in the Reference Materials section and on the analysis of NYSE Business Planning, operations and corresponding algorithm vendor groups.

Document Audience

The audiences of this document include the NYSE Business Planning, Algorithm Vendors and associated development teams to enable the eBroker handhelds to execute orders through an external algorithm engine.

Contact Information

For additional information about the requirements defined in this document, contact:

Bob Hlad
212-656-5304

Reference Materials

- NYSE Common Customer Gateway (CCG) FIX Specification and API, Version 5.7
- Broker Algorithm eQuote FIX Specification, Version 1.15

Document History

Date	Version	Revised
March 19, 2008	1.0	Initial draft. Distributed for internal review and review with NYSE
April 3, 2008	1.2	Revised following review with Development and Vendors
April 12, 2008	1.3	Revised following review with Development and Vendors
April 29, 2008	1.4	Revised and Baselined following deskcheck
May 8, 2008	1.5	Pg.13: Cxl/Rpl Ack Message – Added LastPx, LastShares, LeavesQty
May 14, 2008	1.6	Pg.9: Tag 9451 – Modified description
January 20, 2009	1.7	Pg.16: Tag 438 – Modified format, pg. 10, 11,14, 15 & 17: Tag 17 – additional information in description
January 23, 2009	1.8	Pg.16: Tag 438 – Revised format, pg. 10, 11,14, 15 & 17: Tag 17 – Revised description
April 22, 2009	1.9	Updated to reflect changes to execution message to support routing directly to away markets Pgs.14 – 16
May 5, 2009	1.10	Pgs.14 – 16 - Clarified tag descriptions for Execution Reports
October 10, 2010	1.11	Page 8 - 9 – Added Sell Short Exempt as a valid value for Side - Tag 54 Page 14 – 16 – Additional Execution Report clarification
October 4, 2013	2.00	Updated Execution Report Message reflect new tag 9426 [BillingRate].

Contents

I. Introduction	5
II. Session Messages	5
III. Standard Header/Trailer	8
IV. Messages	9
1. New Order – Single – Outbound	9
2. Order Acknowledgement – Inbound	10
3. Order Cancel Request – Outbound	11
4. Order Cancel Request Acknowledgement – Inbound	11
5. Order Cancel Request Reject and Order Cancel/Replace Request Reject – Inbound	12
6. Cancel/Replace Request – Outbound	13
7. Cancel/Replace Request Acknowledgement – Inbound	14
8. Execution Report – Inbound	15
9. Don't Know Trade – Outbound	18
10. Business Message Reject - Outbound	18

I. Introduction

This FIX specification defines the fields and associated tags that will allow NYSE Floor Brokers to route orders to external Algorithm Vendors from the Trading Floor. The messages specified in this document support the FIX format 4.2, and are consistent with the NYSE FIX Service Interface Specification and User Guide, and the NYSE eQuote Proprietary and Vendor Systems Interface Specifications.

II. Session Messages

Heartbeat

The heartbeat monitors the status of the communication link.

If the Heartbeat message is in response to a Test Request message, the field TestReqID[112] must be included in order for the recipient to be aware the message is in response to a Test Request and not a timeout. A TestReq is sent if the session heartbeat interval expires.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 0
112	TestReqID	N	Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Y	

Test Request

The Test Request message checks sequence numbers or verifies the communication line status (i.e. up/down). The opposite application responds to the Test Request message with a Heartbeat message containing the TestReqID[112].

Use of the field TestReqID[112] verifies that the opposite application is generating the heartbeat as the result of the Test Request message and not a timeout.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 1
112	TestReqID	Y	Identifier included in Test Request message when the receiving application has not generated a heartbeat in 'n' seconds.
	Standard Trailer	Y	

Resend Request

A Resend Request message is generated by the receiving application, when a sequence number gap is detected. This message can be used to request the resending of a single message, a range of messages or all messages after a specified message.

If the sender chooses to not resend a specific message (i.e. an order because of movement or changes in the market), the sender can use a Sequence Reset Gapfill message. This message allows the sender to skip messages that the sender does not wish to resend.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 2
7	BeginSeqNo	Y	The message sequence number of the first message in the range of messages to be re-sent.
16	EndSeqNo	Y	The message sequence number of the last message in the range of messages to be re-sent. If the request is for a single message then BeginSeqNo[7] = EndSeqNo[16]. If the request is for all the messages subsequent to a particular message, EndSeqNo[16] = "0" (representing infinity).
	Standard Trailer	Y	

Reject

The Reject message is generated upon receipt of an invalid message.

The reject reason is displayed in the Text[58] field. The reject message should be issued when a message is received but cannot be properly processed due to a session-level rule violation.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 3
45	RefSeqNum	Y	The reference sequence number of the rejected message.
58	Text	N	Reject text, which identifies the reason for the rejected message. Text is limited to 25 characters.
371	RefTagID	N	The tag number of the FIX field being referenced.
372	RefMsgType	N	The MsgType of the FIX message being referenced.
373	SessionRejectReason	N	A code, which identifies the reason for the session level reject. Valid values: 0 = Invalid tag number 1 = Required tag missing 2 = Tag not defined for this message type 3 = Undefined Tag 4 = Tag specified without a value 5 = Value is incorrect (out of range) for this tag 6 = Incorrect data format for value 7 = Decryption problem 8 = Signature problem 9 = CompID problem 10 = SendingTime accuracy problem 11 = Invalid MsgType
	Standard Trailer	Y	

Sequence Reset (Gap Fill)

The Sequence Reset (Gap Fill) message is used to reset the next expected incoming sequence number. The Sequence Reset message can be used in the following situations:

- During normal resend processing – the firm may choose not to send a message (e.g. an aged order).
- During normal resend processing - the firm does not resend a number of administrative messages the Sequence Reset message is used to fill the sequence gap created.
- In the event of an application failure, it may be necessary to force the synchronization of sequence numbers on both sides.
- When a gap is detected in the inbound stream, a ResendReq message is sent requesting gapfill to infinity. Other than SeqReset- Reset, out of sequence messages are discarded. ResendReq should not be repeated on each incoming out of sequence message.
- The Sequence Reset message always signifies that the application should be reset to the new sequence number to be transmitted.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 4
36	NewSeqNo	Y	The new valid sequence number
123	GapFillFlag	N	Indicates that the Sequence Reset message is replacing administrative or application messages, which are not present.

			Valid Values: Y = Gap Fill message, MsgSeqNum field valid. N = Sequence Reset, ignore MsgSeqNum.
	Standard Trailer	Y	

Logon

Establishing a FIX connection to an application through NYSE involves three distinct operations: creation of a telecommunications level link, authentication/acceptance of the initiator by the acceptor and message sequence synchronization. The sequence of operations is as follows:

- The session initiator establishes a telecommunication link with the session acceptor using the NYSE mechanism for identifying the application. The session level message protocol is FIX and the transmission protocol is TCP/IP.
- The initiator sends a *Logon* message. NYSE authenticates the FIX session by intercepting the FIX Logon message and checking the SenderCompID. If the ID matches the ID derived from the source IP address, NYSE transmits the message to its host systems. If the initiator is authenticated, the acceptor responds with a *Logon* message. The NYSE host system then sends a test request after a logon is accepted. If authentication fails, the session accepts or shuts down the connection and logs the attempt.
- After authentication, the initiator and acceptor synchronize their messages through interrogation of the *MsgSeqNum* field before sending any queued or new messages. Message sequences are maintained for each FIX session, identified by the SenderCompID [49]. A comparison of the *MsgSeqNum* in the *Logon* message to the internally monitored next expected sequence number would indicate any message gaps. Likewise, the initiator can detect gaps by comparing the acknowledgment *Logon* message *MsgSeqNum* to the next expected value.
- Algo vendor will be expected to initiate the logon to the FIX session

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Always unencrypted
108	HearBtInt	Y	The heartbeat interval in seconds
	Standard Trailer	Y	

Logout

Normal termination of the message exchange session is completed via the exchange of *Logout* messages. Before sending the Logout message, a TestRequest message should be issued to force a Heartbeat from the other side. The Logout initiator waits for the opposite side to respond with a confirming Logout message. The FIX session is terminated upon receipt of the Logout response.

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 5
58	Text	N	Text is limited to 25 characters
	Standard Trailer	Y	

III. Standard Header/Trailer

Message Header

Tag	Field Name	Req'd	Comments
8	BeginString	Y	FIX Protocol 4.2
9	BodyLength	Y	
34	MsgSeqNum	Y	Part of the FIX Session Protocol
35	MsgType	Y	
43	PossDupFlag	N	Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request. Handled locally by the FIX Engine.
49	SenderCompID	Y	SenderCompID is defined as an alphanumeric on input. Assigned by the NYSE Firm Testing and Connectivity Groups (e.g. ABC_DEFG01). On outbound messages defined as either "CCG" or "BAG"
52	SendingTime	Y	YYYYMMDD-HH:MM:SS (Always in GMT time)
56	TargetCompID	Y	Identifies the target application. On inbound messages it is defined as "CBS".
97	PossResend	N	Required when message may be a duplicate of another message sent under a different sequence number.
115	OnBehalfOfCompID	Y	Trading partner company ID used when sending messages via a third party. It is required to hold the Shared Interface Identifier.

Message Trailer

Tag	Field Name	Req'd	Comments
10	Checksum	Y	Last field in the message. 3 characters

IV. Messages

This section describes the following application level messages are supported by this interface between the Algo Vendor system and the Broker Handheld System:

Outbound Messages (from Broker HHD)

- New Order – Single (MsgType D)
- Order Cancel Request (MsgType F)
- Order Cancel/Replace (MsgType G)
- Don't Know Trade (MsgType Q)
- Business Message Reject (MsgType j)

Inbound Messages (to Broker HHD)

- Order Acknowledgement (MsgType 8)
- Order Cancel Acknowledgement (MsgType 8)
- Order Cancel Reject (MsgType 9)
- Order Cancel/Replace Acknowledgement (MsgType 8)
- Execution Report (MsgType 8)

Note: All Order, Order Cancel, and Order Cancel/Replace messages must be explicitly acknowledged (accept or reject) by the vendor algo system.

New Order – Single – Outbound

Tag	Field Name	Req'd	Comments
	Standard Header		MsgType = D
1	Account	N	40-character maximum account information field
11	ClOrdID	Y	Unique identifier of the order as assigned by order originator. This field will be alpha-numeric, and will have a max of 20 characters.
21	HandInst	Y	Will always be 1 , indicating automatic operation.
38	OrderQty	Y	Number of shares in an equity order. OrderQty is required for all NYSE orders.
40	OrdType	Y	OrdType provides basic information about the equity order. Order type can be combined with price information. Valid Values: 1 = Market 2 = Limit
44	Price	N	Price per share. This field contains the expected price, subject to the conditions laid down in OrdType[40].
47	Rule 80A	Y	Represents the Account Type, which reflects the type of trade as well as the relationship between the beneficial owner of the account and the member organization clearing the trade.
54	Side	Y	Side of order. Valid Values: 1 = BUY 2 = Sell 5 = Sell Short 6 = Sell Short Exempt
55	Symbol	Y	Ticker Symbol

59	TimeInForce	Y	Valid Values: 0 = DAY
60	TransactTime	Y	Time of order creation. GMT
65	SymbolSfx	N	Additional information about the security (e.g. preferred, warrants, etc.).
439	Clearing Firm	Y	Names the clearing member for the Brokers order.
847	TargetStrategy	Y	Target strategy of the order. Identifies the specific algorithm strategy to be used. Valid values to be provided by algorithm vendors, e.g., POV15, VWAP.
9448	IntroducingBadgeID	Y	Initiating Broker Badge ID (1 – 4 numeric characters).
9451	ParentFirmOrdID	Y	Unique identifier of the Broker's customer order as assigned by order originator. It has the format BBB^NNNN/MMDDYYYY. Branch code is 2 to 3 alphas, 1 space delimiter; sequence number is up to 4 numerics, cannot be all zeros and can be a single character.
9452	NYSETANum	Y	The TA number of the Broker's customer order. It has a format of 2 alpha characters followed by 4 numeric characters OR 3 alpha characters followed by 3 numeric characters.
9453	ParentFirm	Y	The Member Firm Mnemonic of Broker's customer order. 1 to 4 alpha characters.
9487	RoutingInstruction	N	Routing instruction specified by the Broker. Valid Values: DNS = Do Not Ship – A DNS order is a limit order to buy or sell that is to be quoted and/or executed in the whole or in part only by the NYSE. All e-Quote created for DNS orders should also be also marked "DNS".
9529	BrokerFirmID	Y	Identifies the firm associated with the IntroducingBadgeID[9448]
9593	StartTime	Y	The specified start time of the algo order. UTC timestamp. YYYYMMDD-HH:MM:SS Colons, dash, and period required.
9594	EndTime	Y	The specified end time of the algo order. All unexecuted shares should be Canceled back to the Broker at the end time. UTC timestamp. YYYYMMDD-HH:MM:SS Colons, dash, and period required.
	Standard trailer	Y	

Order Acknowledgement - Inbound

	Standard Header	Y	MsgType = 8
6	AvgPx	Y	The average price is computed from data in the FIX order file for the current order chain
11	ClOrdID	Y	Identifier for the order as assigned by the order originator.
14	CumQty	Y	Cumulative number of executed shares for the current order chain based on the current Execution report and information retrieved from the FIX order file.
17	ExecID	Y	Unique identifier of this message. The vendor may specify their own ExecID. This field is alpha-numeric and can contain spaces and forward slashes "/". The limitation for this field is 30 characters.
20	ExecTransType	Y	Is set to 0 for New

31	LastPx	Y	Represents the price at execution. Note: All fields without values are made a plug of 0
32	LastShares	Y	Quantity of shares bought/sold. Note: All fields without values are made a plug of 0
37	OrderID	Y	Use the ClOrdID[11] of the original order from CCG Execution Report
38	OrderQty	Y	This field contains the Original Order Quantity.
39	OrdStatus	Y	Valid Values: 0 = New (Accept) 8 = Rejected
54	Side	Y	Order instruction
55	Symbol	Y	Ticker symbol
58	Text	N	Free form text.
60	TransactTime	N	Time of Execution/Order creation. GMT
65	Suffix	N	Additional information about the security, e.g., preferred, warrants, etc.
150	ExecType	Y	Valid Values: 0 = New (Accept) 8 = Rejected
151	LeavesQty	Y	Amount of shares open for further execution. If the OrdStatus is Canceled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty [38]- CumQty[32].
	Standard Trailer	Y	

Order Cancel Request - Outbound

	Standard Header	Y	MsgType = F
11	ClOrdID	Y	Unique ID of cancel request
37	OrderID	N	Populate with original/initial order information (start of the order chain). The format is TBD. On multiple Cancel to Reduce (Leaves) messages referencing a single Order, OrderID must refer to the original/initial Order in the chain.
38	OrderQty	Y	Original/Initial Order quantity
41	OrigClOrdID	Y	ClOrdID of the previous order in the chain to be cancelled
54	Side	Y	Must match original order
55	Symbol	Y	Must match original order
58	Text	N	25 character field
65	SymbolSfx	N	Must match original order
	Standard Trailer	Y	

Order Cancel Request Acknowledgment - Inbound

	Standard Header	Y	MsgType = 8
6	AvgPx	Y	The average price is computed from data in the FIX order file for the current order chain
11	ClOrdID	Y	Identifier for the order as assigned by the order originator.
14	CumQty	Y	Cumulative number of executed shares for the current order

			chain based on the current Execution report and information retrieved from the FIX order file.
17	ExecID	Y	Unique identifier of this report. The vendor may specify their own ExecID. This field is alpha-numeric and can contain spaces and forward slashes “/”. The limitation for this field is 30 characters.
20	ExecTransType	Y	Is set to 0 for New
31	LastPx	Y	Represents the price at execution. Note: All fields without values are made a plug of 0
32	LastShares	Y	Quantity of shares bought/sold Note: All fields without values are made a plug of 0
37	OrderID	N	Use the ClOrdID[11] of the original order from the Execution Report
38	OrderQty	Y	This field contains the Original Order Quantity.
39	OrdStatus	Y	Valid Values: 4 = Canceled
41	OrigClOrdID	Y	ClOrdID of the previous order in the chain to be cancelled.
54	Side	Y	Order instruction
55	Symbol	Y	Ticker symbol
58	Text	N	Free form text.
60	TransactTime	N	Time of Execution/Order creation. GMT
65	Suffix	N	Additional information about the security, e.g., preferred, warrants, etc.
150	ExecType	Y	Valid Values: 4 = Canceled
151	LeavesQty	Y	Amount of shares open for further execution. If the OrdStatus is Canceled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty [38]- CumQty[32].
	Standard Trailer	Y	

Order Cancel Reject and Order Cancel/Replace Reject - Inbound

	Standard Header	Y	MsgType = 9
1	Account	N	40-character maximum account information field
11	ClOrdID	Y	Unique ID of cancel request
37	OrderID	N	If CxlRejReason = “Unknown Order”, specify ‘NONE’ otherwise retrieve from Order File
39	OrdStatus	Y	OrdStatus value after this cancel reject is applied
41	OrigClOrdID	Y	ClOrdID which could not be cancelled/replaced. ClOrdID of the previous order (not the initial order of the day) when canceling or replacing an order.
58	Text	N	Reject text. 25-character field
60	TransactTime	N	Time of Execution/Order creation. GMT
102	CxlRejReason	N	Code to identify reason for cancel rejection. Valid values: 0 = To late to cancel 1 = Unknown order 2 = Broker Option

			3 = Order already in Pending Cancel or Pending Replace status
434	CxlRejResponseTo	Y	Identifies the type of request that a Cancel Reject is in response to. Valid values: 1 = Order Cancel Request 2 = Order Cancel/Replace Request
	Standard Trailer	Y	

Cancel/Replace - Outbound

	Standard Header	Y	MsgType = G
11	ClOrdID	Y	Unique ID of cancel request
21	HandInst	Y	Set to 1 for automatic execution.
37	OrderID	N	Populate with original/initial order information (start of the order chain). The format is TBD. On multiple Cancel to Reduce (Leaves) messages referencing a single Order, OrderID must refer to the original/initial Order in the chain.
38	OrderQty	Y	Desired quantity. Field may be modified.
40	OrdType	Y	The order type of the replacement order. Field may be modified.
41	OrigClOrdID	Y	ClOrdID of the previous order in the chain to be cancelled
44	Price	N	Price per share. This field contains the expected price, subject to the conditions laid down in OrdType[40]. Field may be modified.
54	Side	Y	Must match original side.
55	Symbol	Y	Must match original order
60	TransactTime	N	Time of Execution/Order creation. GMT
65	SymbolSfx	N	Must match original order.
439	Clearing Firm	Y	Names the clearing member designated by another clearing or non-clearing member for settlement of its Exchange transactions. ClearingFirm [439] corresponds to GiveUpID[9431] in FIX 4.1.
847	TargetStrategy	Y	Target strategy of the order. Identifies the specific algorithm strategy to be used. Valid values to be provided by algorithm vendors, e.g., POV15, VWAP. Must match original order.
9448	IntroducingBadgeID	Y	Initiating Broker Badge ID (1-4 numeric characters)
9451	ParentFirmOrdID	Y	Branch/Sequence, date and firm 1 to 4 alpha characters Branch Code, followed by a space followed by 1 to 5 characters numeric Branch Sequence followed by a slash character ("/") followed by the Session date. Format = string
9452	NYSETANum	Y	The turn around number of the Parent Order 6 characters - 2 alpha characters followed by 4 numeric characters OR 3 alpha characters followed by 3 numeric characters. Format = string
9453	ParentFirm	Y	Valid NYSE Member Firm Mnemonic. 1 to 4 alpha characters. Format = string.

9487	RoutingInstruction	N	Valid Values: DNS = Do Not Ship – A DNS order is a limit order to buy or sell that is to be quoted and/or executed in the whole or in part only by the NYSE. Field may be modified.
9529	BrokerFirmID	Y	Identifies the firm associated with the IntroducingBadgeID[9448]
9593	StartTime	Y	UTC timestamp. YYYYMMDD-HH:MM:SS Colons, dash, and period required. Field may be modified.
9594	EndTime	Y	UTC timestamp. YYYYMMDD-HH:MM:SS Colons, dash, and period required. Field may be modified.
	Standard Trailer	Y	

Cancel/Replace Acknowledgement – Inbound

	Standard Header	Y	MsgType = 8
6	AvgPx	Y	The average price is computed from data in the FIX order file for the current order chain
11	ClOrdID	Y	Unique ID of cancel request
14	CumQty	Y	Cumulative number of executed shares for the current order chain based on the current Execution report and information retrieved from the FIX order file.
17	ExecID	Y	Unique identifier of this report. The vendor may specify their own ExecID. This field is alpha-numeric and can contain spaces and forward slashes “/”. The limitation for this field is 30 characters.
20	ExecTransType	Y	Values: 0 = New
31	LastPx	Y	Represents the price at execution. Note: All fields without values are made a plug of 0
32	LastShares	Y	Quantity of shares bought/sold Note: All fields without values are made a plug of 0
37	OrderID	N	Populate with original/initial order information (start of the order chain). The format is TBD. On multiple Cancel to Reduce (Leaves) messages referencing a single Order, OrderID must refer to the original/initial Order in the chain.
38	OrderQty	Y	The new order quantity
39	OrdStatus	Y	Valid Values: 1 = Partially filled 5 = Replace
41	OrigClOrdID	Y	ClOrdID of the previous order in the chain to be cancelled
54	Side	Y	Must match original side.
55	Symbol	Y	Must match original order
60	TransactTime	N	Time of Execution/Order creation. GMT
65	SymbolSfx	N	Must match original order
150	ExecType	Y	Valid Values: 5 = Replaced
151	LeavesQty	Y	Amount of shares open for further execution. If the OrdStatus is

			Canceled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty [38]- CumQty[32].
	Standard Trailer	Y	

Execution Report - Inbound

	Standard Header	Y	MsgType = 8
1	Account	N	40-character maximum account information field
6	AvgPx	Y	Average price computed from data in the FIX order file for the current order chain
11	ClOrdID	Y	Identifier for Order as assigned by the order originator
14	CumQty	Y	Cumulative number of executed shares for the current order chain based on the current Execution report and information retrieved from the FIX order file.
17	ExecID	Y	Unique identifier of this report. The vendor may specify their own ExecID. This field is alpha-numeric and can contain spaces and forward slashes "/". The limitation for this field is 30 characters.
19	ExecRefID	N	Reference identifier used with Cancel and Correct transaction types.
20	ExecTransType	Y	Values: 0 = New 1 = Cancel 2 = Correct
31	LastPx	Y	Price of the execution. Maximum of 4 decimal places.
32	LastShares	Y	Quantity of shares bought/sold.
37	OrderID	Y	Unique identifier for the order. Populate with original/initial order information (start of the order chain).
38	OrderQty	Y	This field contains the original quantity of the order.
39	OrdStatus	Y	Valid values: 1 = Partially filled 2 = Filled If LeavesQty[151] is 0, set to 2 , otherwise set to 1 .
54	Side	Y	Must match original order
55	Symbol	Y	Must match original order
58	Text	N	25 character field
60	TransactTime	Y	Time of execution in UTC
65	SymbolSfx	N	Must match original order
150	ExecType	Y	If LastShares is zero, set to 0 ; if LastShares equals OrderQty, set to 2 ; otherwise set to 1 . Valid values: 0 = New 1 = Partially filled 2 = Filled
151	LeavesQty	Y	Amount of shares open for further execution. If the OrdStatus is Canceled, DoneForTheDay, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty [38]- CumQty[32].
9448	IntroducingBrokerID	Y	Initiating Broker Badge ID (1-4 numeric characters)

Tag Values for NYSE e-Quote Executions:

All of the following tags are provided on the e-Quote execution received from BAG/CCG and can be passed through “as is” on the execution report returned to the Broker.

382	NoContraBrokers		Y	Number of Contra Brokers repeating group instances. Set to “1”.
	375	ContraBroker	Y	Identifies the Contra side of the trade.
	337	ContraTrader	Y	Identifies the trader (e.g. “badge number”) of the Contra Broker.
	437	ContraTradeQty	Y	Quantity traded with the Contra Broker. Should be same as LastShares [32].
	438	ContraTradeTime	N	Identifies the time of the trade with the ContraBroker. Format HHMMSS in Eastern Time.
9426	BillingRate		Y	Consolidated billing information. This tag will contain either a Liquidity Indicator followed by a Displayed Liquidity Indicator or a Market Center ID followed by an optional MMID. Valid values: NYSE Executions 1 = Taker 2 = Provider 3 = Blended 5 = Opening 6 = Closing/Provider 7 = Closing/Blended 9 = Retail Order Taker 10 = Retail Order Taker MPL 11 = MPL Taker 12 = MPL Provider Away Executions B = NASDAQ OMX BX C = National Stock Exchange D=FINRA ADF I=International Securities Exchange J = Direct Edge A K = Direct Edge X M = Chicago Stock Exchange P = NYSE Arca T = NASDAQ OMX W = CBOE X = NASDAQ OMX PHLX Y = BATS Y Z = BATS Exchange
9478	eQuote Type		N	Type of e-Quote order originated. Valid values: EQAA = Simple eQuote EQBB = Reserve eQuote EQGA = Simple gQuote EQDA = eQuote with discretion and/or pegging EQDB = Reserve eQuote with either discretion and/or pegging
9483	DBKLinkID		Y	Associates all buy and sell execution reports and tape

			prints for NYSE trades. Format is 6 numeric characters.
9560	EQuoteExecType	N	Type of e-Quote execution. Valid values: 1 = executed with discretion 2 = executed with pegging 3 = executed with discretion and pegging Field is required when eQuote Type[9478] is EQDA or EQDB.
9570	ExecAwayMktID	N	Contains the Market Center ID and, optionally, the Market Maker ID separated by a slash, e.g., D/EDGA. Valid Values are: B = NASDAQ OMX BX C = National Stock Exchange D=FINRA ADF I=International Securities Exchange J = Direct Edge A K = Direct Edge X M = Chicago Stock Exchange P = NYSE Arca T = NASDAQ OMX W = CBOE X = NASDAQ OMX PHLX Y = BATS Y Z = BATS Exchange Note: If the 3 rd Party Algo Vendor is a member firm who is paying the transaction fees for the eQuote executions, then set to 'F'.
9578	Billing Indicator	N	Execution Report Billing Indicator. 1 = Taker 2 = Provider 3 = Blended 5 = Opening 6 = Closing/Provider 7 = Closing/Blended 9 = Retail Order Taker Required if Tag 9570 is not present.

Tag values for non-NYSE e-Quote executions:

382	NoContraBrokers		Y	Number of Contra Brokers repeating group instances. Set to "1".
	375	ContraBroker	Y	Identifies the Contra side of the trade. Should be set to the Algo vendor's valid NYSE clearing firm mnemonic.
	337	ContraTrader	Y	Set to NYSE IntroducingBadgeID. (Should be same value as Tag 9448 from Broker's order.)
	437	ContraTradeQty	Y	Quantity traded with the Contra Broker. Should be same as LastShares [32].
	438	ContraTradeTime	Y	Identifies the time of the trade with the ContraBroker. Format HHMMSS in Eastern Time.
9483	DBKLinkID		Y	Not used for away trades. Set to "000000".
9570	ExecAwayMktID		Y	Identifies execution as a non-NYSE e-Quote execution.

			Set to "G".
--	--	--	-------------

Don't Know Trade - Outbound

	Standard Header	Y	MsgType = Q
17	ExecID	Y	Unique identifier of this report. The vendor may specify their own ExecID. This field is alpha-numeric and can contain spaces and forward slashes "/". The limitation for this field is 30 characters.
37	OrderID	Y	Broker Order ID as identified on problem execution
31	LastPx	N	Required if specified on the Execution Report
32	LastShares	N	Required if specified on the Execution Report
38	OrderQty	N	
54	Side	Y	
55	Symbol	Y	Ticker symbol
58	Text	N	
65	SymbolSfx	N	
127	DKReason	Y	Rason for execution rejection. Valid values: A = Unknown symbol B = Wrong side C = Quantity exceeds order D = No matching order E = Price exceeds limit Z = Other
	Standard Trailer	Y	

Business Message Reject - Outbound

	Standard Header	Y	MsgType = j (lowercase)
45	RefSeqNum	N	MsgSeqNum of rejected message
58	Text	N	Message to explain reason for rejection
372	RefMsgType	Y	The MsgType of the FIX message should be referenced
380	BusinessRejectReason	Y	Code to identify reason for a Business Message Reject message. Valid values: 0 = Other 1= Unknown ID 2 = Unknown Security 3 = Unsupported Message Type 4 = Application not available 5 = Conditionally Required Field Missing
	Standard Trailer	Y	