FIX Specifications for Order Response Reporting to the Alternative Display Facility (ADF)

Version 1.6

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1 Overview

1.1 Introduction

The Alternative Display Facility (ADF) is a service of FINRA that supports on-line order response reporting of National Market System (NMS) equity securities. ADF participants are required to provide information on order responses for audit trail purposes. Participants (or their designated third parties) are provided with the capability of submitting this information through the use of the Financial Information eXchange Protocol (FIX) linkage.

This document describes the formats of the message text to be used to interface through the NASDAQ OMX network to the FINRA application. Updates to this document will be chronicled in the Revision History section of this document.

For questions concerning FIX connectivity, please contact NASDAQ Technical Support at (212) 231-5180 or via email to: tradingservices@nasdaqomx.com.

For questions concerning ADF order response reporting, please contact FINRA Product Management at (866) 899-2107 or via email to: FINRAProductManagement@finra.org.

2 FIX Protocol

The messaging described in this specification adheres to the standard FIX 4.4 protocol. Please refer to http://fixprotocol.org/specifications/FIX.4.4 for further details.

The interface follows the FIX specifications as far as possible. In the majority of cases the structure and semantics of the messages are identical to the standard. In some cases, the protocol has been extended to cover functions not considered by the standard. These extensions are clearly detailed in the document. In other cases, the standard is ambiguous or indicates that the details should be bilaterally agreed between the parties. In these cases this manual provides a detailed description to avoid any possible ambiguity.

2.1 Supported Messages

2.1.1 Administrative messages

Logon (in/out)
Logout (in/out)
Sequence Reset (in/out)
Resend Request (in/out)
Reject (out)
Heartbeat (in/out)
Test Request (in/out)

2.1.2 Application Messages

Execution Report (in)
Order Cancel Request (in)
Order Response Reject (out) {*a privately defined message type*}

3 The FIX Session

The session layer conforms to the standard FIX session. Please see the standard FIX specification for additional details.

3.1 CompIDs

The Sender- and TargetCompID uniquely define the FIX session. A session can only be active (established) between two hosts simultaneously. Any attempts to establish a second FIX session using the same CompIDs (for instance to a backup gateway) in parallel will be rejected.

- The TargetCompID (56) on all *inbound* transactions must be set to "FNRA".
- The SenderCompID (49) on all *outbound* transactions will always be set to "FNRA".

The Sender- and TargetCompID used by the client are defined in a separate agreement.

3.2 SubIDs

For *inbound* transactrions:

- The TargetSubID (57) must be set to "ADFO".
- The SenderSubID (50) must be set to the user ID defined in a separate agreement.

For *outbound* transactions:

- The TargetSubID (57) will be set to the user ID (same as inbound SenderSubID).
- The SenderSubID (50) will be set to "ADFO".

3.3 Logon and authentication

At Logon, clients are identified by:

- CompIDs (SenderCompID and TargetCompID)
- IP Address

When the client is authenticated, the system responds with a Logon message to the client.

3.4 Heartbeat intervals

Heartbeat intervals are negotiated at Logon using the HeartBtInt (108) field. The system accepts a heartbeat interval set to 30 s

3.5 Encryption

The system does not support encryption.

3.6 Datatypes and required fields

This specification does not change the data type on any fields defined in the standard FIX specification. There may be places where this specification restricts the value range of a field further than specified in standard FIX. This will be clearly marked in the spec.
All fields listed in this specification that are marked as required in the standard specification, are required also in this specification. This document specifies additional fields as required by FINRA. These fields are marked with an 'F' in the required column of the message listings.

3.7 Character encoding

Standard FIX 7-bit US-ASCII character encoding is used.

3.8 FIX Timestamps

In FIX all timestamps are expressed in GMT/UTC. Please refer to the standard FIX specification for additional details.

3.9 Session lifetime

The FIX session lifetime is restricted to one trading day. The session lifetime is not ended at connectivity loss or even Logouts. The sequence numbers are reset to one each morning.

3.10 Failover and message recovery

At reconnect and Logon standard FIX message recovery is performed. All FIX sessions have at least one primary and one secondary gateway to which the session states are fully replicated. This means that regardless to which gateway a client connects, full message recovery is provided.
A client cannot have the same FIX session active towards multiple gateway instances simultaneously.

3.11 FIX Session Level Test Cases

This implementation is fully compliant with the session-level test cases specified in the standard FIX 4.4 Specification, Volume 2, section "FIX Session-level Test Cases and Expected Behaviors". The only exception is the encryption test cases.

3.12 The Standard Header

All FIX messages contain a Standard Header. The header contains important information such as session identifiers (CompIDs), sequence numbers and message type and length etc.

3.12.1 Inbound Header

Tag	FIX Field name	Req'd	Comment
8	BeginString	Y	
9	BodyLength	Y	
35	MsgType	Y	
49	SenderCompID	Y	As specified in separate agreement
50	SenderSubID	F	Your User ID as defined in separate agreement.
56	TargetCompID	Y	Valid values: "FNRA"
57	TargetSubID	F	Valid values: "ADFO"
34	MsgSeqNum	Y	
43	PossDupFlag		Always required for retransmitted messages
97	PossResend		
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"))
122	OrigSendingTime		

3.12.2 Outbound Header

Tag	FIX Field name	Req'd	Comment
8	BeginString	Y	
9	BodyLength	Y	
35	MsgType	Y	
49	SenderCompID	Y	Set to "FNRA"
50	SenderSubID	F	Set to "ADFO"

56	TargetCompID	Y	As specified in separate agreement
57	TargetSubID	F	Your User ID as defined in separate agreement.
34	MsgSeqNum	Y	
43	PossDupFlag		Always required for retransmitted messages
97	PossResend		
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"))
122	OrigSendingTime		

3.13 The Standard Trailer

All FIX messages end with a Standard Trailer. The trailer only includes a simple checksum field. The details on how to calculate the checksum can be found in the standard FIX specification.

Tag	FIX Field name	Req'd	Comment
10	CheckSum	Y	

3.14 Message Details

3.14.1 How to interpret the Required (Req'd) column

A 'Y' marks the field as required in standard FIX (and of course also in this implementation). An 'F' means that the field is required in this implementation although it is not required in standard FIX. No entry at all means the field is optional.

3.14.2 Default values

Fields which has enumerated values, where one is marked as "default value" need not be included in the message at all if the default value is used.

3.14.3 Logon – inbound to FINRA

The response to a logon is either a Logon, which denotes a successful logon, or a Logout.
A client must be prepared to handle failure scenarios including (but not limited to):
A Logon attempt may fail or be rejected for several reasons. The FIX gateway will react differently depending on the kind of failure. The two different actions it may take are:

Silently ignore the Logon.

- If the wrong Sender or Target CompID is specified.
- For other reasons specified in the standard FIX specifications.

Respond with a Logout.

- If the FIX gateway has no connection with the back-end system.
- Logon failure for other reasons than authentication/security.

The Logout response to a Logon will always contain a note on why in the Text (58) field.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
108	HeartBtInt	Y	Heartbeat interval. Valid value: 30 s
	Standard Trailer	Y	

3.14.4 Logon – outbound from Marketplace

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
108	HeartBtInt	Y	Heartbeat interval. Valid value: 30 s
	Standard Trailer	Y	

3.14.5 Logout (in/out)

The Logout message is used to gracefully disconnect a FIX session. When receiving a Logout, the counterparty should respond with a Logout. A Logout can also be the response to an unsuccessful Logon attempt.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 5
58	Text		Free text
	Standard Trailer	Y	

3.14.6 Sequence Reset (in/out)

This message has two uses. The common usage is with GapFillFlag set to 'Y', which is used in a response to a Resend Request to indicate that a range of messages will not be resent. This is commonly used to avoid resending administrative messages like Heartbeats.
The other (very rare) usage is to reset the sequence numbers to a higher number to get out of a deadlock. This is only triggered by manual intervention.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 4
123	GapFillFlag		Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent.
36	NewSeqNo	Y	New sequence number. The next Sequence Number to be expected after this message.
	Standard Trailer	Y	

3.14.7 Resend Request (in/out)

Resend Request is used to recover messages when a sequence number gap has been detected.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 2
7	BeginSeqNo	Y	Message sequence number of first message in range to be resent
16	EndSeqNo	Y	Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo (7) = EndSeqNo. If request is for all messages subsequent to a particular message, EndSeqNo = "0" (representing infinity).
	Standard Trailer	Y	

3.14.8 Reject (out)

The Reject, or session-level reject, message is sent whenever the FIX gateway is able to at least partially parse the message, but the message does not adhere to the specification and cannot be delivered to the back-end system.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 3
45	RefSeqNum	Y	MsgSeqNum of rejected message
371	RefTagID		The tag number of the FIX field being referenced.
372	RefMsgType		The MsgType of the FIX message being referenced.
373	SessionRejectReason	F	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 9 = CompID Problem 10 = Sending Time Accuracy Problem 11 = Invalid Msg Type 99 = Other
58	Text		Where possible, message to explain reason for rejection
	Standard Trailer	Y	

3.14.9 Heartbeat (in/out)

A heartbeat message is sent at the interval set at Logon. It is also the response to a Test Request message.

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

3.14.10 Test Request (in/out)

Test Request is used to "ping" the counterparty whenever a heartbeat has not arrived at the negotiated heartbeat interval.

Tag	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 1
112	TestReqID	Y	Identifier included in Test Request message to be returned in resulting Heartbeat
	Standard Trailer	Y	

4 General Order Response Reporting in FIX

4.1 Introduction

FINRA Market Regulation requires ADF participants who receive and take actions on equity orders to report those order responses to ADF on that trading day. ADF accepts Order Response Entries for reporting the status of all new orders and subsequent actions against those orders (executions – fills and partial fills, order rejects, order cancels, order corrects, etc.).

4.2 Order Response Processing

All Order Response Entries are reported real-time via the FIX interface (note that a web-based interface will also support entry and viewing of all order responses). ADF supports the deletion of any erroneous Order Response Entry, only on the day of submission. Correction of an erroneous Order Response Entry is not supported. All accepted Order Response Entries and Order Response Deletes will not result in a positive confirmation (ACK) from ADF. ADF will return a reject confirmation in the event an Order Response Entry or Order Response Delete does not pass certain validations.

4.3 Identifiers

4.3.1 Order Response Reference Number

OrderResponseRefNum is a FINRA privately defined field (Tag 22300) that allows the ADF participant to assign their own reference number to each inbound Order Response Entry message. All Order Response Reference Numbers must be unique throughout the day for each ADF participant on Order Response Entries (MsgType = 8). For Order Response Deletes (MsgType = F), the Order Response Reference Number is used to reference the Order Response Entry that is being deleted. A new Order Response Reference Number is not assigned to an Order Response Delete. ADF allows up to 20 alphanumeric characters for the Order Response Reference Number. A duplicate Order Response Reference Number detected during the day on Order Response Entries will result in a reject.

4.3.2 Order ID

OrderID (Tag 37) is the order identifier used by the ADF participant in linking orders with their clients. Order IDs may be duplicated depending on the order status (e.g., executions, partial fills, cancels, etc). ADF will not validate the use of this field. ADF allows up to 40 alphanumeric characters for the Order ID.

4.3.3 Client Order ID

ADF will not validate for uniqueness of ClOrdIDs (Tag 11). An ADF participant will be responsible for maintaining linkage of Client Order ID to Order ID. ADF allows up to 40 alphanumeric characters for the Client Order ID.

4.3.4 Execution ID

ExecID (Tag 17) is a required unique identifier assigned by the ADF participant for each execution message. Up to ~~12~~ 40 alphanumeric characters allowed. Must be unique throughout the day. Must be set to "0" when ExecType (Tag 150) = "I" (Order Status).

4.3.5 Execution Reference ID

ExecRefID (Tag 19) is a reference identifier used with Trade Cancel and Trade Correct execution types (as identified in Tag 150 as "H" and "G" respectively). Up to ~~12~~ 40 alphanumeric characters allowed.

4.3.6 Party Identifiers

Order Response reporting to ADF supports the submission of one party. The party will always reflect the Order Entry firm (aka Order Origination Firm) in this solution.

Tag	FIX Field name	Comment
453	NoPartyIDs	Number of parties included in the message. For order responses, the value must always be set to "1".
448	PartyID	The actual identifier of the party. The 4 character MPID of the FINRA member entering the order. In the event the order is from a non-FINRA member, the identifier "C" shall be used in this tag to denote the order entry firm is a Customer (non-FINRA member).
447	PartyIDSource	Defines the type of the identifier used as PartyID. In this solution always C = Generally accepted market participant identifier (e.g. FINRA mnemonic)
452	PartyRole	Defines the role of the party. For order responses, the only applicable value is "13" (Order Origination Firm).

In this solution, the use of the Party Sub Identifier group is not supported.

4.4 Timestamps and dates

Timestamps and dates can be represented in several ways in FIX. The data types used in this solution are:

Data Type	Format	Comment
UTCTimestamp	YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss	The most common data type in FIX. Used in standard FIX tags such as SendingTime (52). **NOTE 1:** times are given in **UTC** (GMT). **NOTE 2:** FIX allows milliseconds as well. If milliseconds are not provided, ADF will default the value to "000".
LocalMktDate	YYYYMMDD	Standard date. Notice that it is **NOT** in UTC.
UTCTimeOnly	HH:MM:SS.sss or HH:MM:SS	Basically the time part of a UTCTimestamp. **NOTE 1:** times are given in **UTC** (GMT). **NOTE 2:** FIX allows milliseconds as well. If milliseconds are not provided, ADF will default the value to "000".

4.4.1 SendingTime

SendingTime (52) is contained in the header of every FIX message and must contain the time of message transmission.
Format: UTCTimestamp

4.4.2 ExpireTime

ExpireTime (126) is a standard FIX tag that is set to the date/time of the order expiration. Required when TimeInForce (59) = 6 (Good Till Date).
Format: UTCTimestamp

4.4.3 TrdRegTimestamp

TrdRegTimestamp (769) is a standard FIX tag used for regulatory purposes. Required in order to identify

the date/time the order and subsequent order events (e.g., fills, cancels, rejects, etc.) were received by the ADF participant.
Format: UTCTimestamp

4.4.4 TransactTime

TransactTime (60) is a standard FIX tag used for regulatory purposes. Required on Order Response Entry messages in order to identify the date/time the order/order events were acted upon by the ADF participant. Required on Order Response Delete messages in order to identify the date/time the ADF participant determined the previously submitted Order Response Entry should have been deleted.
Format: UTCTimestamp

4.4.5 ExpireDate

ExpireDate (432) is a standard FIX tag representing the date of the order expiration. Required when TimeInForce (59) = 6 (Good Till Date) and ExpireTime is not specified,
Format: LocalMktDate

5 Order Response Message Formats

5.1 Inbound Messages

5.1.1 Order Response Entry – Submitting an order response (in)

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = 8
22300	OrderResponseRefNum	Y	Order Response Reference Number is a unique identifier assigned by the submitter for each order response entry, not to exceed 20 characters. Used for subsequently deleting a previously submitted order response (within the same day). Must be unique throughout the day.
37	OrderID	Y	Order identifier as assigned by the ADF participant, not to exceed 40 characters.
11	ClOrdID	F	Client order identifier assigned by the order entry firm (order originator). Not to exceed 40 characters.
17	ExecID	Y	Unique identifier assigned by the submitter for each execution message, not to exceed ~~12~~ 40 characters. Must be unique throughout the day. Must be set to "0" for any of the following events: • when ExecType (tag 150) = "I" (Order Status). • when ExecType (tag 150) = "4" (Canceled). • when ExecType (tag 150) = "5" (Replaced). • when ExecType (tag 150) = "8" (Rejected).
19	ExecRefID		Identifier required for Trade Cancel (H) and Trade Correct (G) ExecType (tag 150) messages. Not to exceed ~~12~~ 40 characters.
39	OrdStatus	Y	Order Status. Identifies current status of the order. Valid values: 0 = New 1 = Partially Filled 2 = Filled 3 = Done for Day 4 = Canceled 6 = Pending Cancel (e.g., result of Order Cancel request) 7 = Stopped 8 = Rejected 9 = Suspended A = Pending New C = Expired E = Pending Replace (e.g., result of Order Cancel / Replace request)
40	OrdType	F	Order Type. Valid values: 1 = Market 2 = Limit 3 = Stop / Stop Loss 4 = Stop Limit 5 = Market on Close 6 = With or Without

				7 = Limit or Better 8 = Limit With or Without P = Pegged
453	Parties/NoPartyIDs		F	Number of parties. Always set to “1”.
→	448	PartyID	F	Market Participant Identifier (MPID) of the order entry firm. Non-FINRA members must be identified with the mnemonic “C” (for customer).
→	447	PartyIDSource	F	Generally accepted market participant identifier (e.g. FINRA mnemonic). Always set to “C”.
→	452	PartyRole	F	Valid value: 13 = Order Origination Firm
768	NoTrdRegTimestamps		F	Number of TrdRegTimestamps. Always set to “1”.
→	769	TrdRegTimestamp	F	Regulatory timestamp used to identify the timeframe when an order is received by the ADF participant. Format: YYYYMMDD-HH:MM:SS.sss *or* YYYYMMDD-HH:MM:SS
→	770	TrdRegTimestampType	F	Regulatory timestamp type. Always set to “4” (Broker Receipt).
55	Symbol		F	Ticker symbol. Max size: 14 characters.
65	SymbolSfx			Symbol suffix. Additional information about the security (e.g., preferred, warrants, etc.)
54	Side		Y	Side of Order. Valid values: Valid values: 1 = Buy 2 = Sell 3 = Buy Minus 4 = Sell Plus 5 = Sell Short 6 = Sell Short Exempt 8 = Cross (where counterparty is an exchange, valid for all messages except IOIs) 9 = Cross Short A = Cross Short Exempt
38	OrderQty		F	Quantity ordered. Represents number of shares.
44	Price		F	Price per share. Limit price or Market (0 = Market order).
59	TimeInForce			Specifies how long the order remains in effect. Absence of this field is interpreted as DAY. NOTE not applicable to CIV Orders. Valid values: 0 = Day (or Session) 1 = Good Till Cancel (GTC) 2 = At the Opening (OPG) 3 = Immediate or Cancel (IOC) 4 = Fill or Kill (FOK) 5 = Good Till Crossing (GTX) 6 = Good Till Date (GTD) 7 = At the Close 8 = Good Through Crossing 9 = At Crossing

1031	CustOrderHandlingInst		Codes that apply special information that the broker/dealer needs to report, as specified by the customer. If more than one instruction is applicable to an order, this field can contain multiple instructions separated by a space. Maximum field length = 20 characters. Valid values: ADD = Add On Order AON = All Or None CNH = Cash Not Held DIR = Directed Order FOK = Fill Or Kill IO = Imbalance Only IOC = Immediate Or Cancel LOO = Limit On Open LOC = Limit On Close MAO = Market At Open MAC = Market At Close MOO = Market On Open MOC = Market On Close MQT = Minimum Quantity NH = Not Held OVD = Over The Day PEG = Pegged RSV = Reserve Size Order S.W = Stop Stock Transaction SCL = Scale TMO = Time Order
18	ExecInst		Instructions for order handling on exchange trading floor. If more than one instruction is applicable to an order, this field can contain multiple instructions separated by a space. Maximum field length = 10 characters. Valid values: 0 = Stay on offer side 1 = Not held 2 = Work 3 = Go along 4 = Over the day 5 = Held 6 = Participate do not initiate 7 = Strict scale 8 = Try to scale 9 = Stay on bid side A = No cross B = OK to cross D = Percent of volume E = Do not increase F = Do not reduce G = All or none H = Reinstate on system failure I = Institutions only J = Reinstate on trading halt K = Cancel on trading halt L = Last peg M = Mid price peg

			N = Non negotiable O = Opening peg P = Market peg Q = Cancel on system failure R = Primary peg (primary market - buy at bid/ sell at offer) S = Suspend T = Fixed peg to local best bid or offer at time of order U = Customer display instruction (Rule 11Ac1-1/4) W = Peg to VWAP X = Trade along Y = Try to stop Z = Cancel if not best a = Trailing stop peg b = Strict limit (no price improvement) c = Ignore price validity checks d = Peg to limit price e = Work to target strategy f = Intermarket sweep g = External routing allowed i = Imbalance only j = Single execution requested for block k = Best execution l = Suspend on system failure m = Suspend on trading halt n = Reinstate on connection loss p = Suspend on connection loss
528	OrderCapacity	F	Designates the capacity of the firm placing the order. Valid values: A = Agency P = Principal (includes Proprietary) R = Riskless Principal
110	MinQty		Minimum quantity of an order to be executed. Required if CustOrderHandlingInst (1031) = MQT.
150	ExecType	Y	Describes the specific Execution Report. Valid values: 0 = New 3 = Done for day 4 = Canceled 5 = Replaced 6 = Pending cancel (e.g., result of Order Cancel Request) 7 = Stopped 8 = Rejected 9 = Suspended A = Pending new C = Expired D = Restated (Execution report sent unsolicited by buy or sell side with ExecRestatementReason (378) set) E = Pending replace (e.g., result of Order Cancel /Replace Request) F = Trade (partial fill or fill) G = Trade Correct H = Trade Cancel I = Order Status

			Note: For anti-internalization orders, ExecType must use value “D” and ExecRestatementReason (tag 378) must use value “5”. Refer to LastQty (Tag 32) for value required in that field.
378	ExecRestatementReason		Required when ExecType (150) = D. Valid values: 0 = GT corporate action 1 = GT renewal /restatement (no corporate action) 2 = Verbal change 3 = Repricing of order 4 = Broker option 5 = Partial decline of OrderQty (e.g., exchange initiated partial cancel) 6 = Cancel on trading halt 7 = Cancel on system failure 8 = Market (Exchange) option 9 = Canceled, not best 11 = Peg refresh 99 = Other
103	OrdRejReason		For optional use when ExecType (150) = 8 (Rejected). Valid values: 0 = Broker/exchange option 1 = Unknown symbol 3 = Order exceeds limit 4 = Too late to enter 5 = Unknown order 6 = Duplicate order (e.g., dupe ClOrdID) 8 = Stale order 10 = Invalid Investor ID 11 = Unsupported order characteristic 13 = Incorrect quantity 15 = Unknown account(s) 16 = Price exceeds current price band 18 = Invalid price increment 99 = Other
14	CumQty	Y	Number of shares filled.
151	LeavesQty	Y	Quantity open for further execution. If the OrdStatus (39) = 4 (Canceled), 3 (Done For Day), C (Expired), or 8 (Rejected), (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty – CumQty.
84	CxlQty		Total quantity canceled for this order.
6	AvgPx		Calculated average price of all fills on this order.
32	LastQty		Quantity (e.g. shares) bought/sold on this (last) fill. Required if ExecType (150) = F (Trade) or G (Trade Correct). If ExecType = 7 (Stopped), represents the quantity stopped/guaranteed/protected for. Required when used for anti-internalization orders, when ExecType = D (Restated) and ExecRestatementReason = 5 (Partial decline of Order Quantity). In such situations,

			LastQty should represent the quantity being cancelled for this transaction.
31	LastPx		Price of this (last) fill. Required if ExecType (150) = F (Trade) or G (Trade Correct). If ExecType = 7 (Stopped), represents the price stopped/guaranteed/protected at.
58	Text		Reject Reason. Free format text string. If OrdRejReason (103) = 99 (Other), use to define reason for reject. Maximum field length = 20 characters.
432	ExpireDate		Date of order expiration (last day the order can trade), always expressed in terms of the local market date. The time at which the order expires is determined by the local market's business practices. Conditionally required if TimeInForce (59) = 6 (GTD) and ExpireTime (126) is not specified. Format: YYYYMMDD
126	ExpireTime		Time/Date of order expiration (always expressed in UTC (Universal Time Coordinated, also known as "GMT") The meaning of expiration is specific to the context where the field is used. For orders, this is the expiration time of a Good Till Date TimeInForce. Conditionally required if TimeInForce (59) = 6 (GTD) and ExpireDate is not specified. Format: YYYYMMDD-HH:MM:SS.sss *or* YYYYMMDD-HH:MM:SS
60	TransactTime	Y	Regulatory timestamp used to identify the date/time when an order is acted upon by the ADF participant. Format: YYYYMMDD-HH:MM:SS.sss *or* YYYYMMDD-HH:MM:SS
	Standard Trailer	Y	

5.1.2 Order Response Delete – Deleting a previously submitted order response entry (in)

An ADF participant may delete a previously submitted order response if the order response was submitted with erroneous information or erroneously submitted altogether. This solution uses the FIX Order Cancel Request to allow deletion of an Order Response entry.
Please note Order Responses may only be deleted during the current day.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = F
22300	OrderResponseRefNum	Y	Identifies the Order Response Entry being deleted.
41	OrigClOrdID	Y	The client order identifier submitted in Tag 11 of the order response entry being deleted.
37	OrderID	F	The order identifier submitted in Tag 37 of the order response entry being deleted.
11	ClOrdID	Y	Must be the same value entered in OrigClOrdID (41).
453	Parties/NoPartyIDs	F	Number of parties. Always set to "1".
→ 448	PartyID	F	Market Participant Identifier (MPID) of the order entry firm submitted in Tag 448 of the order response entry being deleted.
→ 447	PartyIDSource	F	Generally accepted market participant identifier (e.g. FINRA mnemonic). Always set to "C".
→ 452	PartyRole	F	Valid value: 13 = Order Origination Firm
55	Symbol	F	Ticker symbol submitted in Tag 55 of the order response entry being deleted.
65	SymbolSfx		Symbol suffix submitted in Tag 65 of the order response entry being deleted.
54	Side	Y	Side of Order submitted in Tag 54 of the order response entry being deleted.
38	OrderQty	F	Order Quantity submitted in Tag 38 of the order response entry being deleted.
60	TransactTime	Y	Time the transaction represented by this order response delete occurred. Format: YYYYMMDD-HH:MM:SS.sss *or* YYYYMMDD-HH:MM:SS
	Standard Trailer	Y	

5.2 Outbound Acknowledgements

An accepted inbound Order Response Entry (MsgType = 8) or Order Response Delete (MsgType = F) will not result in an outbound confirmation. ADF will return a reject acknowledgement if for some reason either inbound entry does not pass certain validations (e.g., unknown OrderID, invalid symbol, invalid value, etc.). The Order Response Reject message is a privately defined message format that will echo back certain fields from the inbound entry in order to reference that entry, and will contain a reason for the reject.

5.2.1 Order Response Reject – Acknowledgement (out)

Unless otherwise specified, some of the fields returned on the Reject will echo back the values submitted on the Order Response Entry or Order Response Delete message.

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = U1
22300	OrderResponseRefNum	Y	OrderResponseRefNum (Tag 22300) submitted on the Order Response Entry / Order Response Delete.
37	OrderID	F	OrderID (Tag 37) submitted on the Order Response Entry / Order Response Delete.
11	ClOrdID	F	ClOrdID (Tag 11) submitted on the Order Response Entry / Order Response Delete.
453	Parties/NoPartyIDs	F	Always set to "1".
→	448 PartyID	F	PartyID (Tag 448) submitted on the Order Response Entry / Order Response Delete.
→	447 PartyIDSource	F	Always set to "C".
→	452 PartyRole	F	PartyRole (Tag 452) submitted on the Order Response Entry / Order Response Delete.
55	Symbol	F	Symbol (Tag 55) submitted on the Order Response Entry / Order Response Delete.
65	SymbolSfx		SymbolSfx (Tag 65) submitted on the Order Response Entry / Order Response Delete.
54	Side	F	Side (Tag 54) submitted on the Order Response Entry / Order Response Delete.
22301	OrderResponseRejType	F	Type of inbound entry being rejected. Valid values: 8 = Reject of an Order Response Entry F = Reject of an Order Response Delete
22302	OrderResponseRejCode	F	Reject code. **See section 6.3 for the complete list of applicable reject codes (and related reasons)**.
	Standard Trailer	Y	

6 Custom values and user defined fields

This chapter details how this solution deviates from standard FIX 4.4. While great care has been taken to conform to the standard, a number of deviations are unavoidable to support all mechanisms provided by the host. Wherever later versions of FIX (up to version 5.0 SP2) provide the missing functionality, we have chosen to use that.
The deviations come in two forms, added fields and added values to existing fields.

6.1 Fields added

A number of fields had to be added to standard FIX 4.4 to cover all the requirements in this solution. Wherever possible, fields from later versions of FIX (5.0 SP2) has been used. Custom fields have been added in the 223XX range.

The following fields have been added to FIX 4.4:

Tag	FIX tag name	FIX 5.0	Comment
22300	OrderResponseRefNum	No	
22301	OrderResponseRejType	No	
22302	OrderResponseRejCode	No	

6.2 Enumerations added

Enum	Enum description	Tag	Comment
D	Restated	150	Standard FIX states "Execution report sent unsolicited ***by sell side*** with ExecRestatementReason (378) set"; amended to "***by buy or sell side***" for this implementation.

6.3 Reject Reason Table

This table contains the Reject Reason Code (Tag 751) and associated Reject Reason (Tag 58) returned on rejected entries. This list will be subject to updates as necessary.

Tag 22302	Reject Reason
002	SYMBOL IS MISSING
003	SYMBOLSFX IS MISSING
004	SECURITY NOT FOUND
005	INVALID REGULATORY DATE/TIME
006	INVALID ORDER RESPONSE REFNUM
007	INVALID FORMAT
009	TYPE IS MISSING
010	INVALID TYPE
019	INVALID PRICE
021	ADF ENTRY SUSPENDED
022	INVALID STATUS
023	INVALID SIDE
024	NOT WITHIN ALLOWABLE TIME
027	ENTERING MPID NOT AUTHORIZED
031	RPID REQUIRED

Tag 22302	Reject Reason
032	INVALID LAST PRICE
033	INVALID AVG PRICE
034	INVALID MIN QUANTITY
035	INVALID CUMULATIVE QUANTITY
036	INVALID EXPIRE TIME
037	INVALID DELETE DATE
038	INVALID DELETE TIME
039	INVALID EXPIRE DATE
040	DUPLICATE ORDER RESPONSE REFNUM
041	INVALID EXPIRE DATE/TIME
043	INVALID LEAVES QUANTITY
044	INVALID CANCEL QUANTITY
045	INVALID LAST QUANTITY
048	PRICE REQUIRED
062	INVALID SYMBOL
063	INVALID SYMBOL SUFFIX
068	SECURITY NOT FOUND
078	INVALID QUANTITY
097	INVALID CAPACITY
098	ORDER RESPONSE REGULATORY TIMESTAMP REQUIRED
099	DELETE TRANSACTION TIMESTAMP REQUIRED
100	EXPIRE TIMESTAMP REQUIRED
103	SECURITY NOT ADF AUTHORIZED
104	INVALID ORDER ID
105	ORDER RESPONSE ALREADY DELETED
107	INVALID ORDER ORIGINATOR
110	INVALID AS-OF DATE
111	INVALID CLIENT ORDER ID
112	INVALID EXECUTION ID
113	INVALID ORDER STATUS
114	INVALID ORDER TYPE
115	INVALID TIME IN FORCE
116	MINIMUM QTY REQUIRED
117	INVALID EXECUTION TYPE
118	RESTATEMENT REASON REQUIRED
119	INVALID RESTATEMENT REASON
120	CUMULATIVE QTY REQUIRED
121	LEAVES QTY REQUIRED
122	ORDER RESPONSE REFERENCE NUMBER REQUIRED
141	INVALID REPORTING FACILITY
170	ORDER RESPONSE NOT ALLOWED
171	NSDQ SUBPRODUCT ENTRY SUSPENDED
172	AMEX SUBPRODUCT ENTRY SUSPENDED
173	ARCA SUBPRODUCT ENTRY SUSPENDED
174	BATS SUBPRODUCT ENTRY SUSPENDED
175	NYSE SUBPRODUCT ENTRY SUSPENDED
176	FIX PROTOCOL ENTRY SUSPENDED
177	ORDER RESPONSE ENTRY SUSPENDED, EMC HALT
179	MPID NOT AUTHORIZED
180	QUANTITY REQUIRED
195	WEB PROTOCOL ENTRY SUSPENDED
197	ENTERING MPID IS HALTED

Tag 22302	Reject Reason
200	ISSUE NOT ACTIVE OR INACTIVE
201	ORIGINATING PARTY NOT AUTHORIZED
998	INVALID ORIGINATING CLIENT ID
999	CAN NOT BE PROCESSED AS SUBMITTED

7 Limitations

7.1 Field lengths and data types

All fields in this specification adhere to the standard FIX 4.4 field definitions. Please refer to http://fixprotocol.org/specifications/FIX.4.4 for details.
In addition, this solution imposes the following restrictions on fields:

Tag	FIX tag name	Comment
11	ClOrdID	Max 40 characters.
17	ExecID	Max ~~12~~ 40 characters.
18	ExecInst	Max 10 characters.
19	ExecRefID	Max ~~12~~ 40 characters.
37	OrderID	Max 40 characters.
55	Symbol	Max 14 characters.
58	Text (Reject Reason)	Max 20 characters.
1031	CustOrderHandlingInst	Max 20 characters.

Revision History

Revision	Date	Comment
1.0	8/14/2013	• Baseline version.
1.1	10/28/2013	• Amended maximum field size of OrderID (Tag 37) and ClOrdID (Tag 11) from 20 bytes to 40 bytes.
1.2	11/19/2013	• Amended all timestamps to include milliseconds. Affects TrdRegTimestamp (Tag 769), ExpireTime (Tag 126) and TransactTime (Tag 60).
1.3	12/27/2013	• Updated guidance in Section 4.3.6 and in Order Response entry layout to reflect identification of non-FINRA members with the "C" designation. • Updated to reflect throughout the document that only the Order Entry firm (aka Order Origination Firm) is required in Order Responses and Deletes and removed Entering Firm from the formats. • Updated ExecID (Tag 17) Comments to reflect additional conditions where value "0" is allowed.
1.4	2/14/2014	• Section 4.4.3 – Updated definition of TrdRegTimestamp (Tag 769). • Section 4.4.4 – Updated definition of TransactTime (Tag 60). • Section 5.1.1 – Updated Comment for Tag 769. • Section 5.1.1 – Added Tag 60 as a required field. • Section 5.2.1 – Updated Comment for Tag 22302. • Section 6.3 – Added new section containing Reject Reason Table (corresponding values for Tag 22302). • Redefined format of UTCTimestamp to allow submission of timestamp without milliseconds. Affects Tags 769, 126 and 60.
1.5	8/7/2014	• Section 5.1.1 – Updated Comments for Tags 150, 378 and 32 to support anti-internalization orders. • Section 6.2 – Added Tag 150, value "D" as a deviation of standard FIX for the support of anti-internalization orders.
1.6	4/30/2015	• Amended maximum field size of ExecID (Tag 17) and ExecRefID (Tag 19) from 12 bytes to 40 bytes.