FIXProxy Specification FIX50

V1.5

Oct,2018

Document History

Revision	Published	Summary of Changes
1.0	01 Oct 2018	First Release
1.1	08 Oct 2018	FIX5.0 should also use FIXT.1.1 framework
1.2	10.Oct 2018	Updating with SecurityList/SecurityListRequest, TradingSessionStatus/TradingSessionStatusRequest, MarketDataRequest/MarketDataSnapshotFullRefresh/ MarketDataIncrementalRefresh.
1.3	16.Oct 2018	Update MDIncrGrp with tag OpenCloseSettlFlag; Update the SecListGrp component block.
1.4	18.Oct 2018	Updating TradingSessionStatus; Updating MarketDataIncrementalRefresh/MDIncGrp; Updating MarketDataSnapshotFullRefresh/MDFullGrp; Updating Order Management Description.
1.5	28.Dec.2018	Updating the scope of msgTpye.

Index

1. CONTEXT

1.1 Introduction

This document introduces the FIX Specification for FIX50, which are dedicated to accessing AIX trading platform via FIXProxy.

1.2 Intended Audience

Technical staff of institutions which need to access AIX trading platform.

2. FIX MESSAGE DEFINATIONS

2.1 Session

2.1.1 Logon(A)

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = A	
98	EncryptMethod	Y	(Always unencrypted)	Int
108	HeartBtInt	Y	Note same value used by both sides	Int
141	ResetSeqNumFlag	N	Indicates both sides of a FIX session should reset sequence numbers	Boolean
553	Username	Y	The FIX connector username	String
554	Password	Y	The FIX connector password. No security exists without transport level encryption	String
1137	DefaultApplVerID	Y	Specifies the service pack	String

			release being applied by default to the messages in this session. The only valid value is '7' = FIX50	
Standard Trailer Y		Y		

Valid range for HeartBtInt is from 15 to 60 seconds.

If the HeartBtInt is out of this range, the server will reply with the last valid value or the default value (30).

2.1.2 Logout(5)

The logout message initiates or confirms the termination of a FIX session. Disconnection without the exchange of logout messages should be interpreted as an abnormal condition.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 5	
58	Text	N	Free format text string	String
Standard Trailer		Y		

2.1.3 Reject(3)

The reject message should be issued when a message is received but cannot be properly processed due to a session-level rule violation. An example of when a reject may be appropriate would be the receipt of a message with invalid basic data (e.g. MsgType=&) which successfully passes check sum and body length checks. As a rule, messages should be forwarded to the trading application for business level rejections whenever possible.

Rejected messages should be logged and the incoming sequence number incremented.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 3	
45	RefSeqNum	Y	MsgSeqNum of rejected message SeqNum	SeqNum
371	RefTagID	N	The tag number of the FIX field being referenced	Int
372	RefMsgType	N	The MsgType of the FIX message being referenced	String
373	SessionRejectReason	N	Code to identify reason for a session-level Reject message. 0 – Invalid tag number 1 – Required tag missing	Int

			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 = SendingTime Accuracy Problem 11 = Invalid MsgType 13 = Tag appears more than once 14 = Tag specified out of required order 15 = Repeating group fields out of order 16 = Incorrect NumInGroup count for repeating group 99 – Other.	
58	Text	N	Free format text string	String
Standard Trailer		Y		

2.1.4 Test Request (1)

The test request message forces a heartbeat from the opposing application. The test request message checks sequence numbers or verifies communication line status. The opposite application responds to the Test Request with a Heartbeat containing the TestReqID.
The TestReqID verifies that the opposite application is generating the heartbeat as the result of Test Request and not a normal timeout. The opposite application includes the TestReqID in the resulting Heartbeat. Any string can be used as the TestReqID (one suggestion is to use a timestamp string).

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 1	
112	TestReqID	Y		String
Standard Trailer		Y		

2.1.5 Heartbeat (0)

The Heartbeat monitors the status of the communication link and identifies when the last of a string of messages was not received.
When either end of a FIX connection has not sent any data for [HeartBtInt] seconds, it will transmit a Heartbeat message. When either end of the connection has not received any data for (HeartBtInt + (HeartBtInt ÷ 2))seconds, it will transmit a Test Request message. If there is still no heartbeat message received after (HeartBtInt + (HeartBtInt ÷ 2))seconds then the connection should be considered lost and corrective action be initiated. If HeartBtInt is set to zero then no regular heartbeat messages will be generated. Note that a test request message can still be sent independent of the value of the HeartBtInt, which will force a Heartbeat

message.

Heartbeats issued as the result of Test Request must contain the TestReqID transmitted in the Test Request message. This is useful to verify that the Heartbeat is the result of the Test Request and not as the result of a regular timeout.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 1	
112	TestReqID	N	Required when the heartbeat is the result of a Test Request message.	String
Standard Trailer		Y		

2.2 Infrastructure

2.2.1 Business Message Reject (j)

The Business Message Reject message can reject an application-level message which fulfils session-level rules and cannot be rejected via any other means. Note if the message fails a session-level rule (e.g. body length is incorrect), a session-level Reject message should be issued.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT

Standard Header		Y	MsgType = j (lowercase)	
45	RefSeqNum	N	MsgSeqNum of rejected message	SeqNum
372	RefMsgType	Y	The MsgType of the FIX message being referenced.	String
379	BusinessRejectRefID	N	The value of the business-level "ID" field on the message being referenced. Required unless the corresponding ID field (see list above) was not specified.	String
380	BusinessRejectReason	Y	Code to identify reason for a Business Message Reject message.	Int
58	Text	Y	Free format text string	String
Standard Trailer		Y		

2.3 Application

2.3.1 New Order Single (D)

The new order message type is used by institutions wishing to electronically submit securities orders for execution.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = D	
11	ClOrdID	Y	Unique identifier for Order as assigned by the buy-side (institution, broker, intermediary etc.). Uniqueness must be guaranteed within a single trading day. Firms, particularly those which electronically submit multi-day orders, trade globally or throughout market close periods, should ensure uniqueness across days, for example by embedding a date within the ClOrdID field. Maximum length 20 characters.	String
Component block<Parties>		N	Insert here the set of “Parties” (firm	

			identification) fields.	
Component block<Instruments>		Y	Insert here the set of “Instrument” (symbology) fields.	
1	Account	Y	Trading account identifier associated with the order.	String
38	OrderQty	Y	Quantity ordered. This value represents the number of shares for equities or par, face or nominal value for Fixed Income instruments.	Qty
40	OrdType	Y	Indicates the type of order.	Char
44	Price	Y/N	Required for all limit order types – not required for Market orders.	Price
54	Side	Y	Side of the market	Char
60	TransactTime	Y	Time of order creation by Trader. This field is not processed by the Exchange nor is it	UTCTimeStamp

			used as a mechanism to place an order at a future time.	
59	TimeInForce	N	Indicates time in force techniques that are valid for the specified market segment. Absence of this field indicates default duration ‘day’.	Char
432	ExpireDate	Y/N	Conditionally required if TimeInForce = ‘Good till Date/Time’. Not to be specified with ExpireTime.	LocalMktDate
126	ExpireTime	Y/N	Conditionally required if TimeInForce = ‘Good till Date/Time’. Not to be specified with ExpireDate.	UTCTimeStamp
1138	DisplayQty	N	Specifies the disclosed volume on hidden/iceberg	Qty

			orders.	
58	Text	N	Free Text. Maximum length 30 characters.	String
Standard Trailer		Y		

2.3.2 Order Cancel Request (F)

The order cancel request message requests the cancellation of all of the remaining quantity of an existing order. Note that the Order Cancel/Replace Request should be used to partially cancel (reduce) an order. The request will only be accepted if the order can successfully be withdrawn from the Exchange without executing.

A cancel request is assigned a ClOrdID and is treated as a separate entity. If rejected, the ClOrdID of the cancel request will be sent in the Cancel Reject message, as well as the ClOrdID of the actual order in the OrigClOrdID field. The ClOrdID assigned to the cancel request must be unique amongst the ClOrdID assigned to regular orders and replacement orders.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = F	
11	ClOrdID	Y	Unique identifier for Order as assigned by the buy-side (institution, broker, intermediary etc.). Uniqueness must be guaranteed	String

			within a single trading day. Firms, particularly those which electronically submit multi-day orders, trade globally or throughout market close periods, should ensure uniqueness across days, for example by embedding a date within the ClOrdID field. Maximum length 20 characters.	
37	OrderID	Y/N	Unique order identifier as assigned by Nasdaq ME that identifies the Order to be changed. Note: all Nasdaq ME generated OrderIDs are integers. A non-integer value will result in a	String

			session-level reject due to invalid data format.	
41	OrigClOrdID	Y/N	ClOrdID(11) of the order to be cancelled. Maximum length 20 characters. Mandatory if OrderID (37) is not set.	String
Component block<Instrument>		N	Insert here the set of “Instrument” (symbology) fields. This is ignored by the exchange.	
54	Side	N	Side of the market. This is ignored by the exchange	Char
60	TransactTime	Y	Time this order request was initiated. This field is not processed by the Exchange nor is it used as a mechanism to cancel an order at a future time.	UTCTimeStamp

Standard Trailer		Y		

2.3.3 Order Cancel/Replace Request (G)

The order cancel/replace request is used to change the parameters of an existing order.

Do not use this message to cancel the remaining quantity of an outstanding order, use the Order Cancel Request message for this purpose.

Cancel/Replace will be used to change any valid attribute of an open order (i.e. reduce/increase quantity, change limit price, change instructions, etc.).

Note that Instrument, Side cannot be amended.

Either OrigClOrdID (41) or OrderID (37) must be set (not both).

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = G	
11	ClOrdID	Y	Unique identifier for Order as assigned by the buy-side (institution, broker, intermediary etc.). Uniqueness must be guaranteed within a single trading day. Firms, particularly those which electronically submit multi-day orders, trade globally or throughout	String

			market close periods, should ensure uniqueness across days, for example by embedding a date within the ClOrdID field. Maximum length 20 characters.	
37	OrderID	Y/N	Unique identifier of the order as assigned by the Exchange. Mutually exclusive with OrigClOrdID (41).	String (All Nasdaq ME generated OrderIDs are integers. A non-integer value will result in a session-level reject due to invalid data format.)
41	OrigClOrdID	Y/N	ClOrdID(11) of the order to be replaced. Maximum length 20 characters. Mutually exclusive with OrderID (37).	String

Component block<Parties>		N	Insert here the set of "Parties" (firm identification) fields.	
Component block <Instrument>		N	Insert here the set of "Instrument" (symbology) fields. This is ignored by the exchange.	
38	OrderQty	Y	Quantity ordered. This value represents the number of shares for equities or par, face or nominal value for Fixed Income instruments.	Qty
40	OrdType	Y	Indicates the type of order to change to (must follow rules of the Exchange)	Char
44	Price	Y/N	Required for all limit order types.	Price
54	Side	N	Side of the market. This is ignored by the exchange	Char
60	TransactTime	Y	Time of execution/order creation. This field is not processed by the Exchange nor is it	UTCTimeStamp

			used as a mechanism to amend an order at a future time.	
59	TimeInForce	N	Indicates time in force techniques that are valid for the specified market segment.	Char
432	ExpireDate	Y/N	Conditionally required if TimeInForce = 'Good till Date/Time'. Not to be specified with ExpireTime.	LocalMktDate
126	ExpireTime	Y/N	Conditionally required if TimeInForce = 'Good till Date/Time'. Not to be specified with ExpireDate.	UTCTimeStamp
1138	DisplayQty	N	Specifies the disclosed volume on hidden/iceberg orders.	Qty
58	Text	N	Free Text. Maximum length 30 characters.	String
Standard Trailer		Y		

2.3.4 Execution Report (8)

The execution report message is used to:

1. Confirm the receipt of an order

2. Confirm changes to an existing order (i.e. accept cancel and replace requests)

3. Report order status information

4. Report fill information on working orders

5. Report fill information on tradeable or restricted tradeable quotes

6. Report on rejected orders

7. Report on orders cancelled.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 8	
11	ClOrdID	Y/N	Unique identifier for Order as assigned by the buy-side (institution, broker, intermediary etc.). Uniqueness must be guaranteed within a single trading day. Firms, particularly those which electronically submit multi-day orders, trade globally or throughout market close periods, should ensure uniqueness across days, for example by embedding a date within the ClOrdID field. Required when referring to orders that where electronically submitted	String

			over FIX or otherwise assigned a ClOrdID(11).	
17	ExecID	Y	Unique identifier of execution message as assigned by the Exchange.	String
37	OrderID	Y	Unique identifier of the order as assigned by the Exchange.	String (All Nasdaq ME generated OrderIDs are Integers.)
41	OrigClOrdID	Y/N	Conditionally required for response to a Cancel or Cancel/Replace request.	String
150	ExecType	Y	Type of Execution being reported. Describes the specific ExecutionRpt (i.e. Pending Cancel) while OrdStatus (39) will always identify the current order status (i.e. Partially Filled).	Char
Component block<Parties>		N	Insert here the set of “Parties” (firm identification) fields.	
Component block <Instrument>		Y	Insert here the set of “Instrument”(symbology) fields.	
1	Account	N	Trading account identifier.	String

14	CumQty	Y	Total matched quantity.	Qty
31	LastPx	N	Price of this fill.	Price
32	LastQty	N	Quantity (e.g. shares) bought/sold on this fill.	Qty
38	OrderQty	N	Quantity ordered.	Qty
39	OrdStatus	Y	Describes the current state of an order.	Char
40	OrdType	N	Order type.	Char
44	Price	N	Price on order.	Price
54	Side	Y	Side of order.	Char
59	TimeInForce	N	Indicates time in force techniques that are valid for the specified market segment. Absence of this field indicates a ‘day’ order.	Char
60	TransactTime	N	Time of execution/order creation expressed in Universal Time Coordinated.	UTCTimeStamp
75	TradeDate	N	Indicates date of trade referenced in this message in YYYYMMDD format.	LocalMktDate
432	ExpireDate	Y/N	Conditionally required if TimeInForce = ‘Good till Date/Time’. Not to be specified with ExpireTime.	LocalMktDate

126	ExpireTime	Y/N	Conditionally required if TimeInForce = 'Good till Date/Time'. Not to be specified with ExpireDate.	UTCTimeStamp
64	SettlDate	N	Specific date of trade settlement. Settlement Date is in YYYYMMDD format.	LocalMktDate
103	OrdRejReason	N	For optional use with ExecType = 8 (Rejected). Code to identify reason for order rejection.	Int
151	LeavesQty	Y	Quantities open for further execution. If the OrdStatus is Cancelled, DoneForTheDay, Expired or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty –CumQty.	Qty
880	TrdMatchID	N	Identifier assigned by the trading system for a trade. This is the Nasdaq ME trade id.	String
1057	AggressorIndicator	N	Used to identify whether the order initiator is an aggressor or not in the trade.	Boolean
1138	DisplayQty	N	Replaces 'MaxFloor' and specifies the disclosed volume on hidden/iceberg	Qty

			orders. This field is always returned as part of a fill or partial fill for all order types. For non-hidden/iceberg orders this field will contain the same value as LeavesQty (151).	
378	ExecRestatementReason	N	Code to identify source of order transaction. 4 - Broker option 8 - Market (Exchange) option 99 - Other	Int
58	Text	N	Free Text. On an error condition, this will specify the Nasdaq ME generated error message.	String
797	CopyMsgIndicator	N	Drop Copy.	Boolean
Standard Trailer		Y		

2.3.5 Order Cancel Reject (9)

The order cancel reject message is issued by the Exchange upon receipt of a cancel request or cancel/replace request message which cannot be honoured. Filled orders cannot be changed. When rejecting a Cancel/Replace Request (or Cancel Request), the Cancel Reject message should provide the ClOrdID which was specified on the Cancel/Replace Request (or Cancel Request) message for identification, and the OrigClOrdId should be that of the last accepted order except in the case of CxlRejReason = “Other”.

Refer to the Text (58) field for specific information on the reason for the rejection.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = 9	
11	ClOrdID	Y	Unique identifier for Order as specified in the Cancel or Cancel/Replace request.	String
37	OrderID	Y	Unique identifier of the order as assigned by the Exchange. If CxlRejReason=”Unknown order”, specify “NONE”.	String
39	OrdStatus	Y	Describes the current status of the order. If CxlRejReason = "Unknown Order", specify Rejected.	Char
41	OrigClOrdID	Y/N	ClOrdID(11) of the order to be replaced or cancelled.	String
60	TransactTime	Y	Time of order cancellation request rejection by the Exchange.	UTCTimeStamp
102	CxlRejReason	N	Code to identify reason for cancel rejection. 1 – Unknown order	Int

			6 – Duplicate order (e.g. duplicate ClOrdID) 99 – Other. Refer to 'text' (58) for exact reason for Rejection.	
434	CxlRejResponseTo	Y	Identifies the type of request that a Cancel Reject is in response to.	Char
58	Text	N	Specify Nasdaq ME generated error message.	String
Standard Trailer		Y		

2.3.6 Trade Capture Report [AE]

The Trade Capture report may be used for:

• The Exchange relaying confirmed Trades (or Trade changes) to counterparties of the trade.

• The Exchange relaying confirmed Trades to parties not directly involved in the execution.

• Used to facilitate the reporting of off market Trades by counterparties (negotiated deals).

Trade Capture Report relaying Confirmed Trades

The exchange sends a Trade Capture Report (AE) to all involved parties to inform them that:

• A Trade has occurred or an existing trade has been cancelled

• A privately negotiated trade has been initiated, confirmed or declined.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = AE	

571	TradeReportID	Y	Unique identifier for the Trade Capture Report.	String
17	ExecID	N	Exchanged assigned Execution ID.	String
487	TradeReportTransType	N	Identifies Trade Report message transaction type 0 = New 1 = Cancel	Int
856	TradeReportType	N	Type of Trade Report 0 = Submit 1 = Alleged 3 = Decline 6 = Trade Report Cancel 10 = Pended (trade awaiting approval)	Int
880	TrdMatchID	N	Identifier assigned by the trading system for a trade.	String
Component block <Instrument>		Y	Insert here the set of “Instrument”(symbology) fields.	
828	TrdType	N	Type of Trade. 0 = Regular Trade 22 = Privately Negotiated Trades	Int
150	ExecType	N	Type of Execution being reported.	Char

			F = Trade	
572	TradeReportRefID	N	The TradeReportID that is being referenced for some action, such as correction or cancellation.	String
31	LastPx	Y	Trade Price	Price
32	LastQty	Y	Trade Quantity.	Qty
60	TransactTime	N	Time the transaction represented by this Trade Capture Report occurred	UTCTimeStamp
64	SettlDate	N	Specific date of trade settlement (Settlement Date) in YYYYMMDD format.	LocalMktDate
75	TradeDate	N	Used to report trade date.	LocalMktDate
Component block <TrdCapRptSideGrp>		Y	Insert here the set of "TrdCapRptSideGrp" fields.	
797	CopyMsgIndicator	N	Indicates Drop Copy.	Boolean
Standard Trailer		Y		

Trade Capture Report to report off market Trades

The Intiator should send a Trade Capture Report (AE) to the exchange to report a privately negotiated trade.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = AE	
571	TradeReportID	Y	Unique identifier for the Trade Capture Report.	String
487	TradeReportTransType	N	Identifies Trade Report message transaction type 0 = New	Int
856	TradeReportType	N	Type of Trade Report 0 = Submit	Int
828	TrdType	N	Type of Trade. 22 = Privately Negoiated Trades	Int
Component block <Instrument>		Y	Insert here the set of “Instrument”(symbology) fields.	
31	LastPx	Y	Trade Price	Price
32	LastQty	Y	Trade Quantity.	Qty
60	TransactTime	N	Time the transaction represented by this Trade Capture Report occurred	UTCTimeStamp
Component block <TrdCapRptSideGrp>		Y	Insert here the set of “TrdCapRptSideGrp” fields.	
Standard Trailer		Y		

Trade Capture Report for Counterparty to Confirm/Decline

The Counterparty should send a Trade Capture Report (AE) to the exchange to either confirm or decline a pending privately negotiated trade.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = AE	
571	TradeReportID	Y	Unique identifier for the Trade Capture Report.	String
487	TradeReportTransType	N	Identifies Trade Report message transaction type 2 = Replace	Int
828	TrdType	N	Type of Trade. 22 = Privately Negoiated Trades	Int
572	TradeReportRefID	Y	The TradeReportID that was originally generated by the exchange that is being referenced for some action, such as confirmation or cancellation.	String(20)
856	TradeReportType	Y	Type of Trade Report. Required when confirming or withdrawing a trade. 2 = Accept 3 = Decline	

Component block <Instrument>		Y	Insert here the set of "Instrument"(symbology) fields	
31	LastPx	Y	Trade Price	Price
32	LastQty	Y	Trade Quantity.	Qty
60	TransactTime	N	Time the transaction represented by this Trade Capture Report occurred	UTCTimeStamp
Component block <TrdCapRptSideGrp>		Y	Insert here the set of "TrdCapRptSideGrp" fields.	
Standard Trailer		Y		

2.3.7 Trade Capture Report Ack [AR]

The Trade Captue Report Ack will be used by the Exchange to acknowledge or reject a Trade Capture Report from a client.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = AE	
571	TradeReportID	Y	Identifier for the Trade Capture Report.	String

487	TradeReportTransType	N	Identifies Trade Report message transaction type. 0 = New 1 = Cancel 2 = Replace	Int
856	TradeReportType	N	Type of Trade Report 0 = Submit 2 = Accept 3 = Decline	Int
939	TrdRptStatus	N	0 = Accepted 1 = Rejected	Int
17	ExecID	N	Exchange assigned Execution ID	String
60	TransactTime	N	Time the transaction represented by this Trade Capture Report occurred	UTCTimeStamp
751	TradeReportRejectReason	N	Reason for Rejection of Trade Report 99 – Other. Refer to returned Text (58) field for exact reason for rejection	Int
572	TradeReportRefID	N	The TradeReportID that is being referenced for some action, such as confirmation or cancellation.	String
58	Text	N	If TradeReportRejectReason is set, text of reason	String

Standard Trailer		Y		

2.3.8 SecurityListRequest

The SecurityListRequest will be used to request all the securities which will be traded during current business day. The SecurityListRequest msg with a unique SecurityReqID is only valid during one session, which means that if the FIX user logouts or disconnects, a new SecurityListRequest msg is expected after this FIX user re-logins.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = x	
320	SecurityReqID	Y	Unique ID of a Security Definition Request. The uniqueness should be guaranteed during one session by the FIX user. If FIX user sends duplicated SecurityReqIDs in one session, the new one will always be ignored.	String
559	SecurityListRequestType	Y	The only valid value is 4 (“All Securities”).	Int
Standard Trailer		Y		

2.3.9 SecurityList

The SecurityList is the response to SecurityListRequest. SecurityList will be sent after receiving a SecurityListRequest from FIX Clients. And SecurityList will also be sent whenever some security's info(such as reference price) changes.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = y	
320	SecurityReqID	Y	Unique ID of a Security Definition Request.	String
322	SecurityResponseID	Y	Unique ID of a Security Definition message.	String
560	SecurityRequestResult	Y	The results returned to a Security Request message. The value is always 0("Valid request").	Int
Component block <SecListGrp>		Y	Insert here the set of "SecListGrp" fields.	
Standard Trailer		Y		

2.3.10 TradingSessionStatusRequest

The TradingSessionStatusRequest will be used to subscribe the securities's status during current business day. The TradingSessionStatusRequest msg with a unique TradSesReqID is only valid during one session, which means that if the FIX client logouts or disconnects, a new TradingSessionStatusRequest msg is expected after this FIX client re-logins.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = g	
335	TradSesReqID	Y	Unique ID of a TradingSessionStatus Request. The uniqueness should be guaranteed during one session by the FIX user. If FIX user sends duplicated TradSesReqIDs, the new one will always be ignored.	String
263	SubscriptionRequestType	Y	Subscription Request Type. . The only valid value is '1' (Snapshot + Updates (Subscribe)).	Char
Standard Trailer		Y		

2.3.11 TradingSessionStatus

The TradingSessionStatus is the response to TradingSessionStatusRequest. After receiving a TradingSessionStatusRequest, the TradingSessionStatus of all securities will be sent in a specific frequency(every 10 mins). And TradingSessionStatus will also be sent whenever the status of a security changes.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = h	
335	TradSesReqID	Y	Provided for a response to a specific Trading Session Status Request message.	String
625	TradingSessionSubID	Y	Optional market assigned sub identifier for a trading phase. Valid values: 2 = Opening or opening auction 3 = (Continuous) Trading 4 = Closing or closing auction 6 = Intraday Auction	String
340	TradSesStatus	Y	The security state during current TradingSessionSubID. Valid values:	Int

			1 = Halted/Suspended 2 = Open/Unsuspended 3 = Closed 4 = Pre-Open 5 = Pre-Close	
341	TradSesStartTime	Y	Starting time of this trading session status updating.	UTCTimestamp
58	Text	Y	Description of this trading session status updating.	String
55	Symbol	Y	Marketplace identifier for a security.	String
Standard Trailer		Y		

2.3.12 MarketDataRequest

The MarketDataRequest will be used to subscribe the market data during current business day. The MarketDataRequest msg with a unique MDReqID is only valid during one session, which means that if the FIX client logouts or disconnects, a new MarketDataRequest msg is expected after this FIX client re-logins.

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = V	
262	MDReqID	Y	Unique ID of a MarketData Request.	String

			The uniqueness should be guaranteed during one session by the FIX user. If FIX user sends duplicated MDReqIDs, the new one will always be ignored.	
263	SubscriptionRequestType	Y	SubcriptionRequestType indicates to the other party what type of response is expected. The only valid value is '1' (Snapshot + Updates (Subscribe))	Char
Standard Trailer		Y		

2.3.13 MarketDataSnapshotFullRefresh

The MarketDataSnapshotFullRefresh is the response to MarketDataRequest. After receiving a MarketDataRequest, the MarketDataSnapshotFullRefresh of all securities will be sent in a specific frequency(every 4 mins).

Every MarketData Entry in MDFullGrp is "aggregated", which means that every MarketData Entry represents an aggregated OrderBook/TradeBook on this price level(the price level is identified by MDEntryPx and MDPriceLevel).

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = W	

75	TradeDate	Y	Used to specify the trading date for which a set of market data applies.	LocalMktDate
262	MDReqID	Y	Provided for a response to a specific MarketData Request message.	String
55	Symbol	Y	Marketplace identifier for a security.	String
Component block <MDFullGrp>		Y	Insert here the set of "MDFullGrp" fields.	
Standard Trailer		Y		

2.3.14 MarketDataIncrementalRefresh

The MarketDataIncrementalRefresh is the response to MarketDataRequest. After receiving a MarketDataRequest, the MarketDataIncrementalRefresh will be sent whenever market data updates.

For MDEntryType = Bid/Offer/Trade Volume, the MarketData Entry in MDIncGrp is "aggregated"(can be referred to the explaination in MarketDataSnapshotFullRefresh).

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
Standard Header		Y	MsgType = X	
75	TradeDate	Y	Used to specify the trading date for which a set of market data applies.	LocalMktDate

262	MDReqID	Y	Provided for a response to a specific MarketData Request message.	String
Component block <MDIncGrp>		Y	Insert here the set of "MDIncGrp" fields.	
Standard Trailer		Y		

3. ORDER MANAGEMENT

3.1 Unique ClOrdID (11)

Nasdaq ME will only check for uniqueness of ClOrdID(11) on New Order Single, Order Cancel/Replace Request and Order Cancel Request messages for open or traded orders. If a firm has multiple FIX connections, then ClOrdID(11) should be unique across all FIX connections for that firm.

3.2 Order Identification

A FIX order is identified by either by its current ClOrdID using OrigClOrdID (41) for each FIX connection, or by Nasdaq ME OrderID (37) for the whole system.

OrderID(37) should be used to identify an order between FIX connections, even if they belong to the same firm. The Nasdaq ME (Exchange) OrderID is guaranteed to be unique for all order durations including over-night orders.

If Nasdaq ME, OrderID (37) is used, OrigClOrdID(41) should be set to "NONE". OrderID (37) is unique for every order.

Note: OrderID (37) will change if order amendment results in loss of orderbook priority.

3.3 Order Modification via Order Cancel/Replace Request

Order modification is accomplished through the use of the Order Cancel/Replace Request message. An order modification is NOT a delta change to order instructions. The values set in the Cancel Replace represent the requested new order state. An Execution Report will relay the new state of the order.

A new ClOrdID must be provided in the Order Cancel/Replace Request message.

3.4 Order Cancellation

If the user wishes to cancel a single previously sent order, the Order Cancel Request message is used. Execution Reports are issued relaying the status of every cancelled order.

In some cases orders may be cancelled in the system without prior request by the user. These will be sent as unsolicited Execution Reports to the client.

The system will generate cancel messages (Execution Report –IOC/Fok Order Cancel) for every IOC and FoK order.

3.5 On-Behalf Order Management

The FIX session may be used for Order Management in two ways:

• The FIX userId is both operator and user for the transaction.

• The FIX userId is the operator Id operates 'on-behalf of' the user given in SenderSubID (50).

AIX Nasdaq ME FIX connections operate only in 'on-behalf of' mode.

A FIX order message with SenderSubID will send two usernames, the OperatorId and UserId.

Nasdaq ME first checks that the OperatorId, the owner of the FIX session, has permission to enter messages 'on-behalf' of the UserId from the SenderSubID. The transaction is then processed with the permissions of UserId.

3.6 Order Status

Order state changes are disseminated in Execution Report messages. Every state change is communicated in a separate Execution Report. The OrdStatus (39) field specifies the state.

4. COMPONENT BLOCKS

4.1 Standard Header

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
8	BeginString	Y	Must be first field in message, the value must be “FIXT.1.1”	String
9	BodyLength	Y	Must be second field in message.	Length
35	MsgType	Y	Must be third field in message.	String
49	SenderCompID	Y	Identifies the firm sending the message.	String
56	TargetCompID	Y	Identifies the firm receiving the message.	String
34	MsgSeqNum	Y	Sequence Number	SeqNum
50	SenderSubID	N	Assigned value used to identify specific message	String

			originator (e.g. desk, trader, etc.)	
57	TargetSubID	N	Assigned value used to identify specific message receiver (e.g. desk, trader, etc.)	String
43	PossDupFlag	N	Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request.	Boolean
97	PossResend	N	Required when message may be duplicate of another message sent under a different sequence number.	Boolean
52	SendingTime	Y	Can be embedded within encrypted data section.	UTCTimeStamp
122	OrigSendingTime	N	Required for message resent as a result of a ResendRequest. If data is not available set to same value as SendingTime	UTCTimeStamp

4.2 Standard Trailer

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
10	CheckSum	Y	Always last field in message.	String

4.3 Instrument (symbology) Component Block

The Instrument component block contains all the fields commonly used to describe a security or instrument. The Instrument component block can be used to describe any asset type supported by FIX.

Values to populate the Instrument component should be sourced from the ITCH Total View reference data spin.

The Instrument component, when part of a transaction that is inbound to the Exchange, mayuse either Symbol(55)/SecuritySubtype(762) or SecurityID(48)/SecurityIDSource(22) to identify the Security.

An outbound Instrument block may contain both identifying pairs.

Instrument Component with Block Symbol and SecuritySubType

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
55	Symbol	Y	Marketplace identifier for a security.	String
762	SecuritySubType	Y/N	In Nasdaq ME, this field is used to specify board on which Symbol is listed. Default is the main board for the security.	String

Instrument Component with Nasdaq ME Orderbook Identifier

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
48	SecurityID	Y	Unique marketplace assigned integer identifier for an order book. This provides a fast lookup for the orderbook.	String

22	SecurityIDSource	Y	M = Marketplace assigned identifier	Char

4.4 Parties Component Block

The Parties component is used to provide identifiers for parties involved in the transaction(e.g. firm, trader, Exchange, etc.).

The Parties component block is used to identify and convey information on the entities both central and peripheral to the financial transaction represented by the FIX message containing the Parties Block. The Parties block allows many different types of entities to be expressed through use of the PartyRole field and identifies the source of the PartyID through the PartyIDSource.

TAG	FIELD NAME		REQUIRED	COMMENTS	FORMAT
453	NoPartyIDs		N	Repeating group below should contain unique combinations of PartyID, PartyIDSource, and PartyRole.	NumInGrp
->	448	PartyID	N	Used to identify source of PartyID. Required if PartyIDSource is specified. Required if NoPartyIDs > 0	String
->	447	PartyIDSource	N	Used to identify class source of PartyID value. Required if PartyID is specified. Required if NoPartyIDs > 0.	Char
->	452	PartyRole	N	Identifies the type of PartyID (e.g. Executing	Int

				Broker). Required if NoPartyIDs > 0.	

4.5 TrdCapRptSideGrp Component Block

The TrdCapRptSideGrp component block contains two Parties block for each side.

TAG	FIELD NAME		REQUIRED	COMMENTS	FORMAT
552	NoSides		Y	Number of sides	NumInGrp
->	54	Side	Y	Side of order	Char
->	1	Account	N	Account	String
->	37	OrderID	N	Unique ID of the Order assigned by the exchange.	String
->	11	ClOrdID	N	Unique ID of the Order as assigned at Order entry.	String
->	Component block <Parties>		Y	Insert here the set of “Parties” (symbology) fields.	

4.6 SecListGrp Component Block

TAG	FIELD NAME	REQUIRED	COMMENTS	FORMAT
146	NoRelatedSym	Y	Number of repeating symbols specified.	NumInGrp

->	55	Symbol	Y	Marketplace identifier for a security.	String
->	107	SecurityDesc	Y	Describing the group of this security.	String
->	1150	TradingReferencePrice	Y	Reference price for the current trading price range.	Price
->	58	Text	Y	Describing the trading currency of this security.	String

4.7 MDFullGrp Component Block

TAG	FIELD NAME		REQUIRED	COMMENTS	FORMAT
268	NoMDEntries		Y	Number of entries following.	NumInGrp
->	269	MDEntryType	Y	Description Type Market Data entry. Valid values: 0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 5 = Closing Price	Char

				7 = Trading Session High Price 8 = Trading Session Low Price B = Trade Volume	
->	270	MDEntryPx	Y	Price of this Market Data Entry.	Price
->	271	MDEntrySize	Y	Quantity or volume represented by this Market Data Entry.	Qty
->	272	MDEntryDate	Y	Date of this Market Data Entry.	UTCDateOnly
->	273	MDEntryTime	Y	Time of this Market Data Entry.	UTCTimeOnly
->	346	NumberOfOrders	N	In an Aggregated Book, used to show how many individual orders make up an MDEntry	Int
->	1023	MDPriceLevel	Y	Display position of the price level for this Market Data Entry, numbered from most competitive to least competitive, per market side, beginning with 1	Int

4.8 MDIncGrp Component Block

TAG	FIELD NAME		REQUIRED	COMMENTS	FORMAT
268	NoMDEntries		Y	Number of entries following.	NumInGrp
->	279	MDUpdateAction	Y	(Must be first field in this repeating group.) Type of Market Data update action. Valid values: 0 = New 1 = Change 2 = Delete	Char
->	269	MDEntryType	Y	Description Type Market Data entry. Valid values: 0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price 8 = Trading Session Low Price B = Trade Volume	Char

->	55	Symbol	Y	Marketplace identifier for a security.	String
->	270	MDEntryPx	Y	Price of this Market Data Entry.	Price
->	271	MDEntrySize	N	Quantity or volume represented by this Market Data Entry.	Qty
->	272	MDEntryDate	Y	Date of this Market Data Entry.	UTCDateOnly
->	273	MDEntryTime	Y	Time of this Market Data Entry.	UTCTimeOnly
->	286	OpenCloseSettlFlag	N	Used if MDEntryType = Opening Price(4), Closing Price(5). The value is always “0”.	MultipleCharValue
->	346	NumberOfOrders	N	In an Aggregated Book, used to show how many individual orders make up an MDEntry	Int
->	1023	MDPriceLevel	N	Display position of the price level for this Market Data Entry, numbered from most competitive to least competitive, per	Int

				market side, beginning with 1	

5. VALID FIELD ENUMERATIONS SORTED BY TAG NAME

TAG	FIELD NAME	COMMENTS	FORMAT
1057	AggressorIndicator	Used to identify whether the order initiator is an aggressor or not in the trade. Valid values: Y – Order initiator is aggressor N – Order initiator is passive	Boolean
380	BusinessRejectReason	Valid values: 0 – Other 1 – Unknown ID 2 – Unknown Security 3 – Unknown Message Type 4 – Application not available 5 – Conditionally required field missing 6 – Not Authorized	Int
102	CxlRejReason	Identifies the reason for the cancel rejection. Valid values: 1 – Unknown order	Int

		6 – Duplicate order (e.g. duplicate ClOrdID) 99 – Other. Refer to returned Text (58) field for exact reason for rejection.	
434	CxlRejResponseTo	Identifies the type of request that a Cancel Reject is in response to. Valid values are: 1 – Order Cancel Request 2 – Order Cancel/Replace Request	Char
150	ExecType	Type of Execution being reported. Describes the specific ExecutionRpt while OrdStatus (39) will always identify the current order status (i.e. Partially Filled) Valid values: 0 – New 4 – Cancelled 5 – Replaced 8 – Rejected C – Expired F – Trade (partial fill or fill) H – Trade Cancel	Char
103	OrdRejReason	For optional use with ExecType = 8 (Rejected). Code to identify reason for	Int

		order rejection. Valid values are: 1 – Unknown symbol 5 – Unknown order 6 – Duplicate order (e.g. duplicate CLOrdID) 11 – Unsupported order characteristic 15 – Unknown account(s) 99 – Other. Refer to returned Text (58) field for exact reason for rejection	
39	OrdStatus	Describes the current state of an order. Valid values are: 0 – New 1 – Partially filled 2 – Filled 4 – Cancelled 5 – Replaced 8 – Rejected C – Expired	Char
40	OrdType	Indicates the type of order. Valid values are: 1 – Market – The Price (44) field is not used, the order executes against the best prices order on the opposite side.	Char

		2 – Limit – The Price (44) field is specified and the order will execute at this price or better.	
447	PartyIDSource	Used to identify class source of PartyID value. Required if PartyID is specified. Required if NoPartyIDs > 0. Valid value is: C – Participant identifier D – Proprietary/Custom code	Char
452	PartyRole	Identifies the type of PartyID (e.g. Executing Broker). Required if NoPartyIDs > 0. Valid values are: 5 – Investor ID 7 – Entering Firm 36 – Entering Trader 37 – Contra trader	Int
22	SecurityIDSource	Identifies class or source of the SecurityID value. Required if SecurityID is specified. M – Marketplace assigned identifier	Char
373	SessionRejectReason	Code to identify reason for a session-level Reject message.	Int

		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 – SendingTime accuracy problem 11 – Invalid MsgType 13 – Tag appears more than once 14 – Tag specified out of required order 15 – Repeating group fields out of order 16 – Incorrect NumInGroup count for repeating group 99 – Other. Refer to returned Text (58) field for exact reason for rejection	
54	Side	Optional qualifier used to indicate the side of the market. Valid values are:	Char

		1 – Buy 2 – Sell 5 – Short Sell 6 – Covered Short Sell	
59	TimeInForce	Indicates time in force techniques that are valid for the specified market segment. Valid values are: 0 – Day 1 – Good till cancelled 3 – Immediate or Cancel (IOC) 4 – Fill or Kill (FoK) 6 – Good till date (GTD)	Char