



SUMO FIX  
Programming Specification for FIX 4.2  
**Version 2020-016**  
*Updated March 11, 2020*

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## 1 Overview

This document contains the FIX 4.2 protocols used by NASDAQ, the functionality of NASDAQ FIX, and the user requirements for accessing the NASDAQ FIX protocol. This document outlines the messages transmitted via FIX for entering orders into the NASDAQ Market Center. This document considers neither messages transmitted via other entry points into NASDAQ or applications other than NASDAQ Market Center. Future releases will include other NASDAQ applications.

Users should be familiar with the FIX 4.2 specifications, as this document supplements those specifications.

NASDAQ supports:

- Order;
- Cancel;
- Cancel/Replace; and
- Order Status.

These messages are not currently supported in NASDAQ FIX:

### **Quote Processing**

Mass Quote  
Quote Acknowledgement  
Quote Cancel  
Quote Request  
Quote Status Request

### **Market Data**

Market Data Request  
Market Data – Snapshot / Full Refresh  
Market Data – Incremental Refresh

### **Other**

Advertisements  
Allocation  
Allocation ACK  
Bid Request  
Bid Response  
E-mail  
Indications of Interest  
List Execute  
List Status  
List Strike Price  
News  
Security Definition  
Security Definition Request  
Security Status  
Security Status Request  
Settlement Instructions  
Trading Session Status  
Trading Session Status Request



As new NASDAQ FIX functionality becomes available, you will receive technical updates detailing that functionality. At the same time the technical update is distributed, this programming specification will be updated on the NASDAQ Trader web site.

### **1.1 Related Documentation**

Both the *NASDAQ FIX Trade Reporting Programming Specification* and *FIX for ACES Programmings Specification* can be found at:

<http://www.nasdaqtrader.com/trader/tradingservices/specsinstallguides/specsinstallguide.stm>

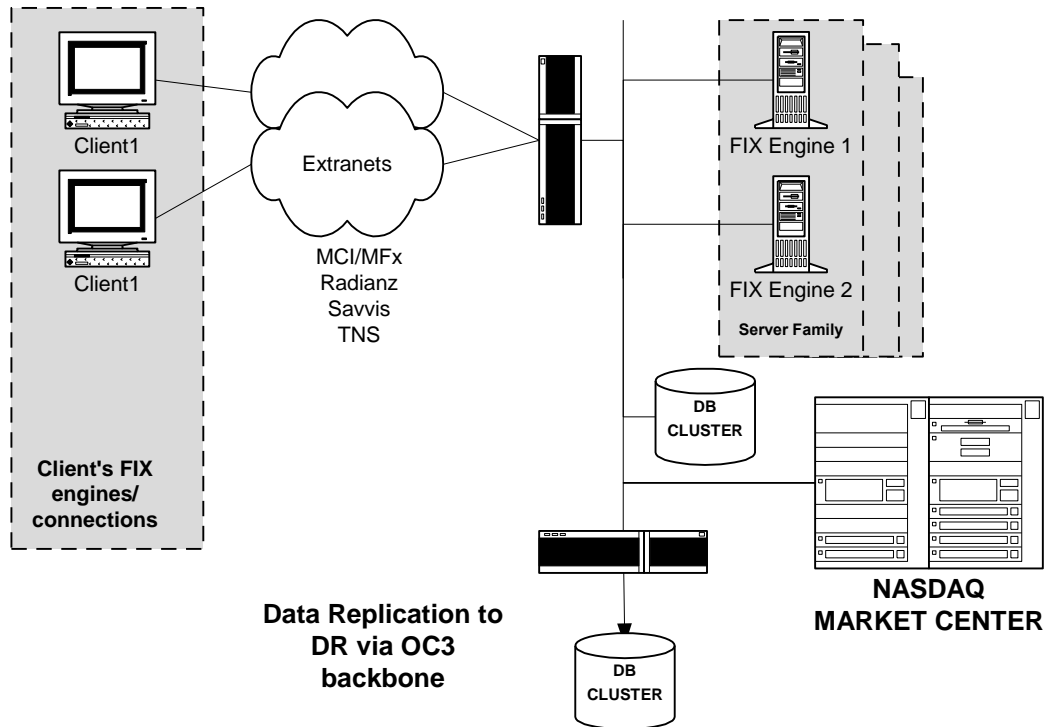
## **1.2 NASDAQ Customer Support**

 NASDAQ FIX Support  
 NASDAQ FIX Support

212.231.5180  
<mailto:techhelpdesk@nasdaq.com>

## 2 Session Overview

### 2.1 Architecture



### 2.2 Connectivity

- A connector ID is good for one and only one I1I2.
- The initial logon message is validated for both the sender comp ID (MPID) and the sender sub ID (I1I2).
- If logon fails, the user will not receive a message indicating this failure.
- Subsequent administrative and application messages will validate the connector ID and I1I2.

## ***2.3 Hours of Operation***

All times are Eastern.

### ***2.3.1 Regular Trading Day***

### **2.3.1.1 Logon/Logoff**

<b>FIX Startup</b>	<b>FIX Shutdown</b>
4:00 a.m. ET	8:00 p.m. ET

- NASDAQ FIX will be up and accessible at 4:00 a.m.
- NASDAQ FIX will remain up and running until 8:00 p.m.
- Although it is not required, we suggest you log off at the end of your trading day. Otherwise, NASDAQ will log you off at shutdown.

### **2.3.1.2 Order-Entry for NMS Security Trading**

<b>Start Time</b>	<b>End Time</b>
7:00 a.m. ET	8:00 p.m. ET



### **2.3.1.3 Order-Entry for Other Exchange-listed Security Trading**

<b>Start Time</b>	<b>End Time</b>
7:00 a.m. ET	8:00 p.m. ET

- Orders entered between 4:00 a.m. and 7:00 a.m. will be rejected.

NASDAQ FIX will reset its inbound and outbound sequence numbers to 1 at approximately 8:00 p.m. each day.

### **2.3.2 Early Close Trading Day**

A planned early market close usually occurs at 1:00 p.m. NASDAQ will notify you of an early close by Head Trader Alert that will provide closing times. In unforeseen circumstances, an unplanned early market close may be necessary. Again, NASDAQ will notify you of such an event by Head Trader Alert. Head Trader Alerts are available online at: [http://www.nasdaqtrader.com/dynamic/newsindex/headtraderalerts\\_2006.stm](http://www.nasdaqtrader.com/dynamic/newsindex/headtraderalerts_2006.stm).

### 2.3.2.1 Logon/Logoff

FIX Startup	FIX Shutdown
4:00 a.m. ET	4:00 p.m. ET

- As with regular trading days, NASDAQ FIX will be up and accessible at 4:00 a.m.
- Logons are accepted any time after 4:00 a.m..
- NASDAQ FIX will remain up and running until 4:00 p.m.
- Logoffs are not required. If you choose to log off, do so by 4:00 p.m.

### 2.3.3 Non-trading Days

All messages, including logon, will be rejected on non-trading days. Of course, users will be able to logon and test on User Acceptance Test days.

## 2.4 Trading Session ID (336=?)

NASDAQ has defined a new trading session. This new session includes pre-market, regular market, and extended market hours. These trading sessions are defined in TradingSessionID [336] by the values "P" and "X". Orders with a trading session ID of "P" will be displayed to the market during the regular trading day. Orders with a trading session ID of "X" will be displayed during the regular and extended markets. These rules apply to both NMS and other exchange-listed securities.

## 2.5 Encryption

NASDAQ FIX, in its initial releases, will not support use of encrypted messages. While these specifications indicate that the use of tags 90 and 91 are optional in the message header, no encryption/decryption is intended.

## 2.6 Expiry

When an expiry event has occurred, the FIX engine will respond to the submitting user as follows:

If the inbound message was a 35=D or 35=E, NASDAQ will send an execution report (35=8) with an ExecType Rejected (150=8), OrdRejReason (103=8), and text in tag 58 to the effect of *Transaction Time Expired*.

If the inbound message was a 35=F or 35=G, NASDAQ will send an execution report (35=8) with an ExecType Rejected (150=8), CxlRejReason (102=8), and text in tag 58 to the effect of *Transaction Time Expired*.

As a default, your connector will be set up to perform this expiry checking. If you notice that all of your inbound messages are being rejected because of expiry checking, it may be that your and our system clocks are significantly different. Please contact the NASDAQ

Technical Support Desk and they will temporarily disable expiry checking for your connectors.

## ***2.7 Session Rejects***

Sometimes, messages that are inbound to NASDAQ FIX are rejected directly resulting in session level rejects. In these cases, you will receive a reject message (35=3) that includes the reject reason (tag 373) and detailed, specific causes of the reject (tag 58).

## 3 NASDAQ FIX for Orders

### 3.1 Tags

#### 3.1.1 Supported Message Types (35=?)

TYPE	Message	Inbound, Outbound, or Both
0	Heartbeat	B
1	Test Request	B
2	Resend Request	B
3	Reject	O
4	Sequence Reset	B
5	Logout	B
8	Execution Report	O
9	Order Cancel Reject	O
A	Logon	B
D	Order Single	I
F	Order Cancel Request	I
G	Cancel/Replace Request	I
H	Order Status Request	I

NASDAQ FIX uses execution reports to communicate various statuses of the order. These reports go out when NASDAQ FIX/NASDAQ:

- Accepts/acknowledges an order;
- Rejects an order;
- Pends a cancel;
- Accepts/processes a cancel;
- Pends a cancel/replace;
- Accepts/processes a cancel/replace;
- Rejects a cancel/replace; and
- Executes a trade.

Each of these events will be mapped out in this section, depicting what the execution report will convey under each scenario.

#### 3.1.2 Supported Order Types (40=?)

NASDAQ FIX supports Market (1), Limit (2), and Pegged (P) order types. Other exchange-listed securities cannot be part of a pegged order. Pegged orders are discussed in detail in section 3.3.

#### 3.1.3 Supported Order TIFs (59 =?)

NASDAQ FIX supports DAY (0), OPG (2), IOC (3), GTC (1), GTX (5) and CLO (7) orders.

Additionally, as a result of the NASDAQ Crossing Network, NASDAQ also supports the following values in TIF:

- A – Able to participate in all Intraday crosses
- N- Participates only in the Next Intraday cross

R – Participates only in Regular Intraday crosses (no afterhours)

You may enter GTX orders one of two ways. You may use value 5 (GTX) in tag 59. You may also use value 1 (GTC) in tag 59 and value X (regular and extended trading hours) in tag 336, TradingSessionID, similarly to how you enter DAYX orders now. If you select 59 = 5 and 336 = P, then NASDAQ will process this order as a GTX.

GTD, FOK, and OPG may be supported in subsequent releases.  
DAYX and IOX orders may also be entered, by entering 59 = 0 or 3 and 336,TradingSessionID = X.

### 3.1.4 Price fields

NASDAQ supports decimal pricing, but does not support sub-penny pricing. Any orders that are received with price fields held in amounts that are more granular than 0.01 will be:

Side	Action
Buys	Rounded down to the nearest 0.01
Sells	Rounded up to the nearest 0.01

### 3.1.5 AvgPx

An average price is returned only on Fills, Partial Fills and Execution Reports. The average price is computed using this formula:

$$\text{AvgPx} = [(\text{AvgPx} * \text{CumQty}) + (\text{LastShares} * \text{LastPx})] / (\text{LastShares} + \text{CumQty}).$$

If MsgType = 8 and the message is not a fill or partial fill, then AvgPx = 0. If OrdStatus ≠ 1 or 2, then AvgPx = 0.

## **3.2 NASDAQ Implementation of FIX**

### **3.2.1 Mass Order Cancel**

You can choose to cancel all open orders automatically upon disconnect in these situations:

- Logout sent by the firm;
- NASDAQ initiated server fail-over;
- NASDAQ initiated connection kill;
- Network failure and resulting disconnects; and
- Client FIX engine failure.

You must first send written authorization to NASDAQ. Mass cancel should be used in extraordinary circumstances only and not for routine log off. Mass cancel will be performed manually if NASDAQ's FIX engine fails. If you do not have an authorization on file, then NASDAQ will consult you first. When the connection is re-established, you will receive the UROUTS resulting from the cancels.

The FIX engine will cancel all open orders. As some trades may happen too close to logoff to be reported, we cannot assure complete cancellation of all open orders.

While mass cancel is in progress, you are not allowed to log on. Please allow at least 10 seconds between connection attempts.

NASDAQ's Mass Cancel Indicator has three values:

- N = you do not participate in mass cancel;
- Y = you participate in mass cancel and all orders are applicable; and
- O = you participate in mass cancel, but you want On Open, On Close, and Imbalance Only and Mid-day cross orders excluded from the cancel.

If you choose "O", then orders with tags (9376 = I) or (59 = 2,7, or A,N,R) or (40 = 5 or B) will be excluded from mass cancel.

### **3.2.2 Other Unsolicited Cancels**

There are a number of situations in which NASDAQ's system can return a cancel of an order without that cancel being specifically requested by you. When this occurs, the Cancel Accept message will be as outlined above with one very specific difference. Tag 11, CIOrdId, when created for one of these unsolicited cancels, will contain the Original order id, just as tag 41 will. Whereas normally tag 11 responds with your *cancel* order ID, unsolicited cancels respond with the *original* order ID.

### 3.2.3 Possible Duplicates and Resends

You should set tag 43, PossDupFlag, if you are sending a message with a sequence number that was already used. This tag is required for retransmissions. NASDAQ will process as follows:

If tag 43 =	& Seq # is a dup	Then, NASDAQ will...
Y	Y	Ignore the message.
Y	N	Process the message normally.
N	Y	Drop the connection.
N	N	Process the message normally.

You should set tag 97, PossResend, if you are sending a message that may be a duplicate of another message. NASDAQ will process as follows:

If tag 97 =	& tag 11 is a dup	Then, NASDAQ will...
Y	Y	Reject the message.
N	Y	Reject the message.
Y	N	Process the message normally.
N	N	Process the message normally.

### 3.2.4 Reject Messages

Messages can be rejected when tag content validation fails, resulting in business level rejects. Messages can also be rejected by the application. Both business and application rejects include order, cancel, and cancel/replace rejects.

### 3.2.5 Service Bureau On Behalf Of

NASDAQ allows service bureaus to submit transactions for several customers over a single connector. These customers enter the application as their own entity, that is, with their own MPID. Service bureaus are no longer required to have a distinct connector for each customer. A service bureau may, however, have multiple connectors and use them however they wish.

Service bureaus will be required to submit both their NASDAQ-assigned dummy I1I2s and each customer I1I2 for each message. Specifically, the service bureau will submit a message containing:

- Tag 49, SenderCompId, the service bureau's company ID;
- Tag 50, SenderSubId, the service bureau's stub I1I2;
- Tag 115, OnBehalfOfId, the individual customer's MPID; and
- Tag 116, OnBehalfOfSubId, the individual customer's I1I2.

The processing of these tags for service bureaus differs from standard processing. The MPID submitted in tag 49 is a 4-character code that identifies the service bureau. It could be a valid NASDAQ MPID or a representative code used for FIX processing only. This



flexibility is allowed because the value is not passed to a destination system. Likewise, the dummy I1I2 submitted in tag 50 is not passed to the destination system. It is used only for identification purposes.

If a service bureau submits a message that includes values for tags 49 and 50, but does not include values in both tag 115 and tag 116, then the message will be rejected.

On messages from NASDAQ to the service bureau, tags 115 and 116 are unused. The individual customer's MPID is returned to the service bureau in tag 128, DeliverToCompId, and the I1I2 is returned in tag 129, DeliverToSubId.

## **3.3 NASDAQ Order Functionality**

### **3.3.1 Pegged Orders**

The price of a pegged order will automatically be adjusted to reflect the price movement of the NBBO. A pegged order will, therefore, track the inside and assure that the order's price position relative to the inside bid or ask price remains consistent.

You will be able to enter three types of pegged orders:

- Regular pegged orders are pegged to a price equal to the inside quote on the same side of the NBBO. A regular buy order will be pegged to the Inside Bid price. A regular sell order will be pegged to the Inside Offer price.
- Reverse pegged orders are pegged to a price that is better than the inside quote on the contra side of the market. A reverse pegged buy order will be pegged to a price that is better than the Inside Offer price. A reverse pegged sell order will be pegged to a price that is better than the Inside Bid price.
- Mid-point Pegged orders are pegged to the midpoint of the NBBO.

Short sale orders may be entered as a regular and reverse pegged orders.

You will specify pegged orders using peg option, peg offset value, and cap price. The peg option defines if the order will be pegged. If pegged, set OrdType (40) = P (pegged). To indicate the type of pegged order, set ExecInst (18) = R for a regular pegged order where the order will be pegged to the inside on the same side, set ExecInst (18) = P for a reverse pegged order where the order will be pegged to the inside on the opposite side of the market, or set , ExecInst (18) = M for a mid-point pegged order.

Cap Price is an optional field that defines a limit price at which the pegging action stops. By setting this limit, you can prevent the order from executing at an undesirable price. Failure to enter a cap price will allow the order price to continue pegging to the Inside Bid/offer allowing the order to execute at any price. At order entry, if the Inside exceeds the Cap Price for a Buy order or the Inside is less than the Cap Price for a Sell order, the system converts the order to a standard limit order. Both buy and sell orders cannot be priced higher than the cap price. Once the buy order reaches the cap price, the price becomes fixed at that cap price. All pegging action is terminated, effectively converting the order into a standard limit order.

Pegged orders:

- can have only DAY as TIF;
- cannot be preferenced;
- do not require an order price;
- are regulated by all existing order entry and update rules; and
- will receive the same solicited and unsolicited messages as other orders.

Pegging cannot be used in tandem with any DOT strategies (i.e: DOTA, DOTM).

### **3.3.2 Discretionary Orders**

A discretionary order allows you to enter an order that is displayed to the market at a specified price, but executable at a price that is better than the displayed price, as defined by an incremental price improvement spread.

Discretionary orders:

- cannot be preferenced;
- are regulated by all existing order entry and update rules; and
- will receive the same solicited and unsolicited messages as other orders.

Participants will specify discretionary orders using the following parameters:

Display Price is the price at which the order quantity is quoted and displayed. The user may enter a limit price in the price tag (44) to fix the price range at which the order is displayed and executable. The display price may be at or away from the current inside price on that side. Orders entered with a price of Market will be rejected immediately and returned to the entering firm. The user may peg the display price of the discretionary order using the rules and parameters defined for a regular pegged order type to provide a floating price range at which the order is displayed and executable. The user will not be able to use the reverse pegged option for discretionary orders.

You may indicate an incremental value that is applied to the display price to establish a price range within which the discretionary order may be executed. The values of DiscretionOffset (389) are from .01 to .99. If DiscretionOffset is specified, then DiscretionInst (388) is required. This field identifies the price to which a DiscretionOffset is related to which it should be added. The only DiscretionInst value supported at this time is 0. Discretionary orders entered with a discretionary offset of zero (0) will be rejected immediately and returned to the entering firm.

Discretionary short sale orders cannot be entered as pegged or reverse pegged. Discretionary orders cannot be entered as reverse pegged.

Orders for other exchange-listed securities cannot be discretionary.

## 4 Message Formats

The following tables describe NASDAQ's special handling or requirements for each of the supported FIX messages.

### 4.1 Standard Messages

All inbound messages will begin with a standard header and end with a standard footer.

#### 4.1.1 Header Inbound to NASDAQ

Tag	Field Name	Req'd	NASDAQ Implementation
8	BeginString	Y	FIX.4.2, unencrypted, must be first field in the message.
9	BodyLength	Y	Unencrypted, must be second field in the message.
34	MsgSeqNum	Y	Integer message sequence number.
35	MsgType	Y	Unencrypted, must be third field in the message. See section 3.1.1 for supported message types.
43	PossDupFlag	N	Required for retransmissions. Indicates possible retransmission of message with this sequence number Valid values: Y = Possible duplicate N = Original transmission
49	SenderCompID	Y	To be supplied by Member. This is your 4-character ID assigned to you by NASDAQ as part of your NASDAQ connectivity. For service bureau on behalf of, this tag contains the service bureau's company ID. See section 3.2.5.
50	SenderSubID	Y (NASDAQ)	User ID must be supplied here. NASDAQ assigns this ID to you as part of your NASDAQ connectivity. For service bureau on behalf of, this tag contains the service bureau's stub I1I2. See section 3.2.5.
52	SendingTime	Y	YYYYMMDD-HH:MM:SS Currently, this tag is not functional.
56	TargetCompID	Y	NSDQ
57	TargetSubID	Y	1-character indicator to indicate destination system within NASDAQ. S = NASDAQ Market Center trading If tag 57 is any other value, NASDAQ will reject.
90	SecureDataLen	N	Not supported in initial release. Encrypted length. Required to identify any such section of the message. See the FIX specifications.
91	SecureData	N	Not supported in initial release. See the FIX specifications.
97	PossResend	N	This tag is required if the message is being resent and is a possible duplicate of a different message sequence number.

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>NASDAQ Implementation</b>
115	OnBehalfOfCompID	N	You can use this field to submit your customer's MPID. This value will be returned to you in tag 128 on the outbound message. Please note that while it is possible for you submit a chain of transactions with inconsistent values for this tag in different messages, you are strongly advised not to do so. For broker dealer on behalf ofs, this tag contains the customer's MPID. See section 1.1.1 For service bureau on behalf ofs, this tag contains the individual customer's MPID. See section 3.2.5..
116	OnBehalfOfSubID	N	You can use this field to submit your customer's I1I2. This value will be returned to you in tag 129 on the outbound message. Please note that while it is possible for you submit a chain of transactions with inconsistent values for this tag in different messages, you are strongly advised not to do so. For broker-dealer on behalf ofs, this tag contains the customer's MPID. See section 1.1.1.. For service bureau on behalf ofs, this tag contains the individual customer's I1I2. See section 3.2.5..
122	OrigSendingTime	N	YYYYMMDD-HH:MM:SS Required for message resends.

#### **4.1.2 Trailer Inbound to NASDAQ**

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>NASDAQ Implementation</b>
10	Checksum	Y	See FIX specifications.

### 4.1.3 Header Outbound from NASDAQ

Tag	Field Name	Req'd	NASDAQ Implementation
8	BeginString	Y	FIX.4.2, unencrypted, must be first field in the message.
9	BodyLength	Y	Unencrypted, must be second field in the message.
34	MsgSeqNum	Y	See the FIX specifications.
35	MsgType	Y	Unencrypted, must be third field in the message. Refer to Supported Message types.
43	PossDupFlag	N	Required for retransmissions. See the FIX specifications.
49	SenderCompID	Y	Will hold "NSDQ".
50	SenderSubID	N	1-character indicator to denote which destination system within NASDAQ was involved. S = NASDAQ Market Center
52	SendingTime	Y	YYYYMMDD-HH:MM:SS Please note that this time is the time the message left NASDAQ's FIX application. It has no relevancy to execution time, reject time, or cancel time in the destination systems.
56	TargetCompID	Y	From 49 on the original inbound message.
57	TargetSubID	Y	From 50 on the original inbound message.
90	SecureDataLen	N	Not supported in initial release. Encrypted length. Required to identify any such section of the message. See the FIX specifications.
91	SecureData	N	Not supported in initial release. See the FIX specifications.
115	OnBehalfOfCompID	N	This field will not be populated. See tag 128.
116	OnBehalfOfSubID	N	This field will not be populated. See tag 129.
122	OrigSendingTime	N	YYYYMMDD-HH:MM:SS. Required for message resends.
128	DeliverToCompID	N	Your MPID as stated in tag 115 in the inbound message is returned to the service bureau in this tag. Please see the explanation after this table. For service bureau on behalf of messages, this field contains the service bureau's customer's MPID.
129	DeliverToSubID	N	Your I1I2 as stated in tag 116 in the inbound header is returned to the service bureau in this tag. Please see the explanation below. For service bureau on behalf of messages, this field contains the service bureau's customer's I1I2.

#### Sent from A to B via Q:

If A sends to Q, then:

SenderCompID = A  
 TargetCompID = Q  
 DeliverToCompID = B

If Q sends to B, then:  
 SenderCompID = Q  
 OnBehalfOfCompID = A  
 TargetCompID = B  
 OnBehalfOfSendingTime = A's time

**B responds to A via Q:**

If B sends to Q, then:  
 SenderCompID = B  
 TargetCompID = Q  
 DeliverToCompID = A

If Q sends to A, then:  
 SenderCompID = Q  
 OnBehalfOfCompID = B  
 TargetCompID = A  
 OnBehalfOfSendingTime = B's time

#### **4.1.4 Trailer Outbound from NASDAQ**

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>NASDAQ Implementation</b>
10	Checksum	Y	See FIX specifications.

### 4.1.5 Session Reject

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>		MsgType = 3
45	RefSeqNum	Y	MsgSeqNum of Rejected message
58	Text	Y (NASDAQ Q)	Where possible, coded message that includes an indicator and text to explain reason for rejection. 0001 Invalid tag number 0002 Required tag missing 0003 Tag not defined for this message type 0004 Undefined Tag 0005 Tag specified without a value 0006 Value is incorrect (out of range) for tag 0007 Incorrect data format for value 0009 Signature problem 0010 Tag CompID problem 0011 SendingTime accuracy problem 0012 Invalid value for MsgType tag
371	RefTagId	N	The tag number, if appropriate, being referenced in tag 373.
372	RefMsgType	N	The message type, tag 35, of the FIX message being referenced.
373	SessionRejectReason	Y (NASDAQ Q)	As per FIX specifications, the reason for the 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
5149	Memo	N	This tag will contain the text in the message that is being rejected.
	<i>Standard Trailer</i>		



## 4.2 Administrative Messages

### 4.2.1 Heartbeat

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 0
112	TestReqID	N	Required when the heartbeat is in response to a Test Request. It is the TestReqID received from TestRequest message.
	<i>Standard Trailer</i>	Y	

### 4.2.2 Logon

After establishing your TCP connection with NASDAQ FIX, a Logon must be the first message that you send. NASDAQ will respond with its own Logon. You must wait for that Logon before sending additional messages. Messages received without a prior logon will be rejected with a "Please Logon" message.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = A
95	RawDataLength	N	
96	RawData	N	
98	EncryptMethod	Y	Must be 0.
108	HeartBtInt	Y	NASDAQ recommends an interval between 30-60 seconds. If you submit a value of less than 30 seconds, the logon will be rejected.
	<i>Standard Trailer</i>	Y	

### 4.2.3 Test Request

The HeartBtInt that is specified in the Logon message will be used to make sure that your connection is alive and functioning. If NASDAQ detects inactivity for a period longer than the HeartBtInt + 1 second, we will send a Test Request to determine if you are still active. If after another HeartBtInt, there is still no activity, NASDAQ will send another test request. If there is still no activity after this additional HeartBtInt, NASDAQ will immediately send a logout message and the connection will be closed. It is expected that similar logic will be used on your side in order to detect host activity.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 1
112	TestReqID	Y	Date/Time combination
	<i>Standard Trailer</i>	Y	

### 4.2.4 Resend Request

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 2

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
7	BeginSeqNo	Y	Beginning sequence number of Requested Message
16	EndSeqNo	Y	Ending sequence number of Requested Message
	<i>Standard Trailer</i>	Y	

### 4.2.5 Sequence Reset

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
	<i>Standard Header</i>	Y	MsgType = 4
36	NewSeqNum	Y	Next expected sequence number
123	GapFillFlag	N	
	<i>Standard Trailer</i>	Y	

### 4.2.6 Logout

Logouts will occur as a normal end of day routine but may also occur as a result of inactivity. It is the user's responsibility to logout prior to 5:00 p.m. each trading day.

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
	<i>Standard Header</i>	Y	MsgType = 5
58	Text	N	
	<i>Standard Trailer</i>	Y	

## 4.3 Application Messages

### 4.3.1 Inbound to NASDAQ

Note: An invalid FIX tag on an inbound message will result in no response.

#### 4.3.1.1 New Order – Single

You use this message to send orders to NASDAQ. You will receive either an Order Acknowledgement or a reject message in response.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = D
1	Account	N	Account mnemonic as agreed between broker and institution. Limited to 20 characters. The sum of tags 1 and 11 cannot exceed 19 characters.
11	ClOrdID	Y	Must be unique for each order. Limited to 20 characters.
15	Currency	N	Reserved for future use.
18	ExecInst	N	Valid values: f= Intermarket Sweep Order (ISO) R or H = regular pegged to NBBO P = reverse pegged to NBBO M = Mid-Point Peg Q = Market Maker Peg y = Trade-at Intermarket Sweep Order B = Reactive Trade Now b = Reactive Trade Now opt-out
21	HandlInst	Y	Valid value: 1 = automated execution order, private, no broker intervention
22	IDSource	N	Reserved for future use.
38	OrderQty	Y	For NMS orders, acceptable values range from 1 to 999999. No commas, decimals, or spaces are allowed, nor are negative numbers. This value represents the total Order Quantity. If MaxFloor (Tag 111) is not present, the display quantity will be set to the Order Quantity. If MaxFloor (Tag 111) is present, the display quantity will be set to the Max Floor size and the reserve size will be set to the difference between Order Quantity and MaxFloor). (Order Quantity – MaxFloor). To enter an odd lot: Enter total order quantity in OrderQty (Tag 38) To enter an order with reserve: Enter total order quantity (display + reserve) in OrderQty (Tag 38). Enter display quantity in MaxFloor (Tag 111). The order's display quantity will be set to Max Floor. Reserve size

Tag	Field Name	Req'd	Comments
			will be set to (Order Quantity – MaxFloor). Refresh size will be set to Max Floor. To enter an order without reserve: Enter total order quantity in OrderQty (Tag 38). Do not include MaxFloor (Tag 111) in the message. For other exchange-listed securities, only round lot multiples and mixed lots are allowed. Odd lots are not allowed and will be rejected if entered. An order submitted to ITS must be in round lots.
40	OrdType	Y	Valid Values: 1 = market 2 = limit P = pegged If tag 40 contains any other value, NASDAQ will reject the order. Other exchange-listed security orders cannot be pegged. Please see note at the end of this table.
44	Price	N	Required if tag 40 = 2. 1-10 character decimal price. "12.34" is the correct presentation of twelve dollars and thirty-four cents. If tag 40 = 1 or 5 and tag 44 is present, NASDAQ will reject the order. If tag 40 = P and tag 44 is present, then this tag will be treated as the Peg Cap Price.
48	SecurityID	N	Reserved for future use.
54	Side	Y	Valid Values: 1 = buy 2 = sell 5 = sell short 6 = sell short exempt If tag 54 is any other value, NASDAQ will reject.
55	Symbol	Y	1-14 character security identifier. Spaces, periods, commas are not allowed. All incoming messages will send the symbol as entered. If the symbol is sent in lower case, then NASDAQ will reject it. This field will contain the base listed symbol only for listed securities. See SymbolSfx [65] field for additional information about the security.

Tag	Field Name	Req'd	Comments
59	TimeInForce	N	<p>Valid values:  0= DAY (default)  1 = GTC  2 = At the Opening (OPG)  3 = Immediate or Cancel (IOC)  5 = GTX  7 = At the Close  A = Able to participate in all Mid-day crosses  N = Participates only in the Next Mid-day cross  R = Participates only in Regular Mid-day crosses  (no afterhours)</p> <p>If tag 59 contains any other value, then NASDAQ will reject it.  NASDAQ automatically converts MKT orders to IOC.  X and IOX orders are supported. In order to create an IOX order, this tag 59 should be coded with a "3" while tag 336 is coded with an X. In order to create an X order, this tag 59 should be coded with a "0" while tag 336 is coded with an X.  If this tag 59 = A, N, or R, then tag 110 is also required.  Please see note at the end of this table.</p>
60	TransactTime	Y	<p>The time that you released this request.  If NASDAQ FIX receives a New Order Single that is more than 120 seconds old, the transaction will be rejected. That is, if tag 60 is more than 120 seconds older than the NASDAQ FIX engine's GMT, then the order is rejected with a 103=4. It is important that you are aware of possible variances between our time stamp and your time stamp. NASDAQ's clocks are synchronized with the Global Positioning Satellite that is maintained by the Department of Defense.</p>
65	SymbolSfx	N	<p>This field will contain only the additional information about the security (e.g. preferred, warrants, etc.) for listed securities. This additional information must be in CMS format and is uppercase. No delimiters are allowed in this tag. For example, security "OXY PRB" would be formatted as follows:  Symbol [55]: OXY  SymbolSfx [65]: PRB</p>
76	ExecBroker	N	<p>If a give-up MPID is to be indicated to NASDAQ market center, place the MPID here. Give-Up trades are prohibited through the ITS system for exchange-listed securities.</p>
99	StopPx	N	Reserved for future use.

Tag	Field Name	Req'd	Comments
100	ExDestination	N	<p>This tag indicates the execution destination for your order. If this tag is not present, then the order will execute with NASDAQ.</p> <p>Allowed values are:</p> <p>A = American Stock Exchange  N = New York Stock Exchange  O = NASDAQ  blank = executes with NASDAQ (default)</p> <p>DOTA/DOTD = Behaves similar to the SCAN strategies, except that the strategy only allows non-attributable orders. Any on-open, on-close Time in Force (TIF) instruction and all pre-market orders will be sent to the primary for the primary cross. NOTE: This strategy will only access the NYSE or NYSE MKT (AMEX) primary markets. Orders received in all other symbols will participate in the NASDAQ cross instead of the primary.</p> <p>SCAN = First attempts to execute against orders available on the NASDAQ book at a price equal to or better than the NBBO. After executing any marketable orders on the NASDAQ book, the order will be displayed via TotalView-ITCH at the most aggressive price possible that would not result in a trade through for 20 to 30 milliseconds, after which it will then route to other markets. If shares remain unexecuted after routing they are posted on the NASDAQ book. Once the order is posted to the NASDAQ book, if it is subsequently locked or crossed, the system will not route out again.</p> <p>STGY = Behaves similar to SCAN, except that the order will route out again after posting to the NASDAQ book if the order is subsequently locked or crossed.</p> <p>DOTM (DOT when Marketable) – Behaves similar to the STGY strategies, except that the strategy only allows non-attributable orders. Any on-open, on-close close Time in Force (TIF) instruction and all pre-market orders will be sent to the primary for the primary cross. NOTE: This strategy will only access the NYSE or NYSE MKT (AMEX) primary markets. Orders received in all other symbols will participate in the NASDAQ cross instead of the primary.</p>

Tag	Field Name	Req'd	Comments
			<p>DOTI - Attempts to execute against orders in the NASDAQ book at a price equal to or better than the NBBO. If unfilled, it will then route to NASDAQ OMX BX (BX) where it will also attempt to execute at the NBBO or better. If still unfilled, the order will route to the NYSE or NYSE MKT (AMEX) where the order will remain until executed or cancelled. Any orders received with on-open or on-close Time in Force (TIF) instruction will be sent to the primary for the primary cross. NOTE: This strategy will only access the NYSE or NYSE MKT (AMEX) primary markets.</p> <p>TFTY – Routes to Nasdaq OMX BX, dark pools, and NYSE or AMEX without checking the NASDAQ book first.</p> <p>Directed Order – This unique order is directed to a market center other than NASDAQ as specified by the entering party. Directed orders do not check the NASDAQ book and are routed at the entered price and entered quantity. If unexecuted, the order (or unexecuted portion thereof) shall be returned to the entering party. This order type can be entered as an Intermarket Sweep Order (ISO), Trade-at Intermarket Sweep Order (TAISO), and may only be used for orders with time-in-force of IOC.</p> <p>MOPP - Route to all protected quotes for display size only. Depending on the time in force (TIF) on the order, the remaining shares will be posted to the NASDAQ book or be cancelled back to the entering party. Once an order posts to NASDAQ it is no longer eligible for routing.</p> <p>SKIP = Behaves like SCAN and opts out of sending orders to Dark Pools  SKNY = Behaves like STGY and opts out of sending orders to Dark Pools  SAVE - accesses BX, NASDAQ, NYSE, all other protected quotes and additional destinations. If shares remain unexecuted after routing they are posted on the NASDAQ book. Once the order is posted to the NASDAQ book, if it is subsequently locked or crossed, the system will not route out again.  QSAV - Behaves like SAVE but routes to</p>

Tag	Field Name	Req'd	Comments
			<p>NASDAQ first.</p> <p>QTFY - Behaves like TFTY but routes to NASDAQ first.</p> <p>DOTZ - Attempts to execute against orders in the NASDAQ book at a price equal to or better than the NBBO. If unfilled, the order will route to the NYSE or NYSE MKT (AMEX) where the order will remain until executed or cancelled. Any orders received with on-open or on-close Time in Force (TIF) instruction will be sent to the primary for the primary cross. NOTE: This strategy will only access the NYSE or NYSE MKT (AMEX) primary markets.</p> <p>LIST - Enables firms to participate in the opening and closing processes of each security's primary listing market and also take advantage of NASDAQ's liquidity during the remainder of the trading day.</p> <p>CART - will enable firms to check the BX, PSX and NASDAQ book before (optionally) posting to the NASDAQ book</p> <p>SOLV - will be similar to the SAVE strategy but will route out again after posting if the NASDAQ book is subsequently locked or crossed.</p> <p>QSLV - QSLV is similar to QSAV except that it will route back out after posting on Nasdaq if crossed or locked.</p> <p>RFTY - Retail investor orders designated as non-marketable that upon receipt become marketable will route to off-exchange destinations for potential price improvement opportunities. Retail investor orders may route to additional destinations if not fully executed (similar to SCAN). Retail investor orders not executed after routing will be posted to the Nasdaq book for potential execution and display.</p> <p>QRTY - Behaves like RFTY but routes to NASDAQ first.</p> <p>SCAR - Simultaneously accesses Nasdaq, BX and PSX before optionally posting to the Exchange book.</p> <p>MIDP - searches midpoint liquidity on Nasdaq, BX, PSX, external NMS and dark venues before optionally posting to the exchange book as midpoint peg order.</p>
110	MinQty	N	<p>If tag 59 = A, N, or R, indicating a desire to participate in the NASDAQ Crossing Network, then this tag 110 must be present and must contain a "minimum acceptable execution quantity". This must be, at a minimum equal to one round lot.</p>



Tag	Field Name	Req'd	Comments
111	MaxFloor	N	Optional 1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. <u>Example 1 - New Order Entered with Max Floor:</u> In FIX New Order Single Message OrdQty = 10000 and Max Floor = 1000. In NASDAQ Market Center, the display quantity = 1000, Reserve Quantity = 9000 and Refresh Quantity = 1000. <u>Example 2 - New Order Entered without Max Floor:</u> In FIX New Order Single Message OrdQty = 10000. In NASDAQ market center, the display quantity = 10000, Reserve Quantity = 0 and Refresh Quantity = 0.
211	PegDifference	N	.01 - .99 allowed for regular and reverse pegged.
336	TradingSessionID	N	Values are: P = Regular market hours (default) X = Regular and extended trading hours
388	DiscretionInst	N	Required only if tag 389 is present. Code to identify the price that a DiscretionOffset is related to and should be mathematically added to. NASDAQ supports only a value of 0 = related to display price.
389	DiscretionOffset	N	If present, this field implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed.
528	OrderCapacity	N	Valid values: A = Agency P = Principal R = Riskless Principal If tag 528 is anything else, NASDAQ will reject the order.
5149	Memo	N	Free format, 60-character text field. Single and double quotes, pipes, and carets are not allowed. This text cannot be changed in an order modify message.
9211	SMAtribFlag	N	Indicates whether the order should be anonymous or not. Y = attributable - Price to Display (default) N = anonymous - Price to Display C = anonymous - Price to Comply P = Post Only order W = Mid-Point Post Only order
9212	SMAIQFlag	N	This value is used to specify whether internalization is allowed on this order. Keep in mind that AIQ means <i>self match prevention</i> . I = Do not prevent this order from matching orders with same MPID. (This is the default

Tag	Field Name	Req'd	Comments
			value of this tag as well)
9214	SMBnchdFlag	N	For NMS orders, a 1-character indicator, B, for bunched orders. This tag is passed back on execution reports.
9234	BlkOrdFlag	N	For other exchange-listed securities, allows a participant to submit a block order, indicated by a 'Y' in this field, The flag is applicable only if it is indicated on an ITS commitment. It will be ignored if the order is preferenced to a security participant or to only other exchange-listed securities. Currently, two reasons exist to use this tag: 1. It may indicate an order has a sizeable quantity, 10,000 shares or more, or a large order value, \$200,000 or greater. It may also indicate that the order is away from the inside. 2. It may indicate that the commitment may be in response to a complaint received via ITS, and the order has to be executed at the block price to satisfy the complaint.
9376	SMExecAlgorFlag	N	For NMS orders, value that indicates which execution algorithm is to be used. I = imbalance only T = price/time (default) Allowed values for exchange-listed securities are: T = price/time  The Imbalance-Only algorithm (I) identifies specific On Open or On Close orders that are liquidity-providing orders intended to offset a buy/sell imbalance during the opening and closing cross auctions.
	<i>Standard Trailer</i>	Y	

Note: NASDAQ will still support an alternative means of coding *at the close* orders. If desired, you may code tag 40 to include the values, 5 = Market on Close (MOC) and B = Limit on Close (LOC). Please note that if this tag = 5 or B and tag 59 contains any value, then we will ignore the value coded in 59. This is not the preferred means of coding *at the close* order types, but it is accepted.

Directed Order Destination Codes	
Market Center	Destination Code
NYSE American	ISAM
NYSE Arca	ISPA
Nasdaq BX	ISBX

CBOE	ISCB
NYSE Chicago	ISCX
NYSE National	ISCN
NYSE	ISNY
BATS Z	ISBZ
BATS Y	ISBY
EDGA	ISNA
EDGX	ISNX
Nasdaq PSX	ISPX
IEX	ISIX
Long Term Stock Exchange	ISLT

### 4.3.1.2 Order Cancel Request

You use this message to cancel orders that you have sent to NASDAQ. NASDAQ will always return both a Pending Cancel when the inbound cancel request is received by NASDAQ FIX, and either an Accepted Cancel or a Rejected Cancel after the cancel is acted upon by the destination system. We intend to send the Pending Cancel message before the Cancel Acknowledgement message, but that sequence is not guaranteed. NASDAQ views a cancel request as a request to cancel any remaining quantity on an order. As such, any value passed in tag 38 in a cancel request is superfluous.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = F
1	Account	N	Account mnemonic as agreed between broker and institution. Limited to 20 characters. The sum of tags 1 and 11 cannot exceed 19 characters.
11	ClOrdID	Y	This is your new and unique ID for this request. Limited to 20 characters.
37	OrderID	N	This is NASDAQ's reference number for the order to be canceled. If you do not supply this number, then NASDAQ will supply it for you.
38	OrderQty	N	NASDAQ will always cancel any remaining quantity in response to a cancel request.
41	OrigClOrdID	Y	This is your unique id of the original order, the order to be canceled. Limited to 20 characters.
54	Side	Y	Must be the same as the side of the original order.
55	Symbol	Y	Must be the same as the symbol of the original order. All incoming messages will send the symbol as entered. If the symbol is sent in lower case, then NASDAQ will reject it. For other exchange-listed securities, this field will contain the base listed symbol only. See SymbolSfx [65] field for additional information about the security.
60	TransactTime	Y	The time that you released this request.
65	SymbolSfx	N	For other exchange-listed securities, this field will contain only the additional information about the security (e.g. preferred, warrants, etc.). This additional information must be in CMS format and is uppercase. No delimiters are allowed in this tag. For example, security "OXY PRB" would be

Tag	Field Name	Req'd	Comments
			formatted as follows: Symbol [55]: OXY SymbolSfx [65]: PRB
125	CxlType	N	Not used. Whereas this was a required tag in earlier versions of FIX, this tag is no longer used. If it is present on any cancel requests inbound to NASDAQ, we will ignore it.
5149	Memo	N	Free format, 60-character text field. Single and double quotes, pipes, and carets are not allowed.
	<i>Standard Trailer</i>	Y	

### 4.3.1.3 Cancel/Replace Request

You use this message to cancel/replace orders that you have sent to NASDAQ. NASDAQ will return both a Pending Cancel/Replace, when the inbound cancel request is received by NASDAQ FIX, and either an Accepted Cancel/Replace or a Rejected Cancel/Replace after the cancel is acted upon by the destination system.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = G
1	Account	N	Account mnemonic as agreed between broker and institution. Limited to 20 characters. The sum of tags 1 and 11 cannot exceed 19 characters.
11	ClOrdID	Y	This is your new and unique ID for this request. Limited to 20 characters.
18	ExecInst	N	As per the original New Order Single.
21	HandlInst	Y	Valid value: 1 = automated execution order, private, no broker intervention
37	OrderID	N	This is NASDAQ's reference number for the order to be canceled. If you have not taken an action against the original order, then this number is the ID as passed back in the original order acknowledgement. If you have taken an action against the original order, such as a cancel/replace, then this number is the ID as passed back in the associated acknowledgement message.
38	OrderQty	Y	This value represents the new total Order Quantity. This new order quantity will be compared to the original Order Quantity to determine whether to

Tag	Field Name	Req'd	Comments
			<p>increment or decrement the order. For NMS orders, acceptable values range from 1 to 999999. Other exchange-listed security orders allow only round and mixed lots.</p> <p>If incrementing the order and the original MaxFloor is greater than 0, the Reserve Size will be increased.</p> <p>If incrementing the order and there is no original MaxFloor, the display quantity will be increased.</p> <p>If decrementing the order, the Display Quantity will be decreased. If the decrement quantity is greater than the display size and Reserve Size is greater than 0, Reserve Size will be decreased.</p> <p>If MaxFloor is specified on the CxIRpl and there was none on the original order, the Qty increment will be applied to Reserve and all subsequent Qty increments will be applied to Reserve. Please refer to the MaxFloor field description for further details.</p>
40	OrdType	Y	<p>Must be the same as the original order. Other exchange-listed security orders do not allow pegged orders.</p>
41	OrigClOrdID	Y	<p>ClOrderID of the order to be canceled. (Original ClOrderID if order has not been replaced or ClOrderID of last Replace.)</p>
44	Price	N	<p>1-10 character decimal price. 12.34 is the correct presentation of twelve dollars and thirty four cents.</p>
54	Side	Y	<p>Must be the same as the side of the original order.</p>
55	Symbol	Y	<p>Must be the same as the symbol of the original order. All incoming messages will send the symbol as entered. If the symbol is sent in lower case, then we will reject it.</p> <p>For other exchange-listed securities, this field will contain the base listed symbol only. See SymbolSfx [65] field for additional information about the security.</p>
59	TimeInForce	N	<p>Valid values:  0= DAY  1 = GTC  2 = At the Opening (OPG)  3 = Immediate or Cancel (IOC)  5 = GTX  7 = At the Close  A = Able to participate in all Intraday crosses  N = Participates only in the Next Intraday cross  R = Participates only in Regular Intraday crosses</p> <p>If this tag 59 = A,N, or R, then tag 110 is also required.</p> <p>You may modify DAY to GTC and GTC to DAY only.</p>
60	TransactTime	Y	<p>The time that you released this request.</p>

Tag	Field Name	Req'd	Comments
			If NASDAQ FIX receives a cancel/replace request that is more than 120 seconds old, the transaction will be rejected. That is, if tag 60 is more than 120 seconds older than the NASDAQ FIX engine's GMT, then the order is rejected with a 103=4. It is important that you are aware of possible variances between our time stamp and your time stamp. NASDAQ's clocks are synchronized with the Global Positioning Satellite that is maintained by the Department of Defense.
65	SymbolSfx	N	For other exchange-listed securities, this field will contain only the additional information about the security (e.g. preferred, warrants, etc.). This additional information must be in CMS format and is uppercase. No delimiters are allowed in this tag. For example, security "OXY PRB" would be formatted as follows: Symbol [55]: OXY SymbolSfx [65]: PRB
76	ExecBroker	N	Must be the same as the ExecBroker of the original order. For other exchange-listed securities, Give-Up trades are prohibited through the ITS system.
100	ExDestination	N	This tag indicates the execution destination for your order. If this tag is not present, then the order will execute with NASDAQ. Allowed values are:  A = American Stock Exchange N = New York Stock Exchange O = NASDAQ blank = executes with NASDAQ (default)  DOTA = Attempts to execute against orders in the NASDAQ book at a price equal to or better than the NBBO. If marketable against other markets upon entry, the order will IOC other market centers and any unfilled shares will re-post on the NASDAQ book.  SCAN = First attempts to execute against orders available on the NASDAQ book at a price equal to or better than the NBBO. After executing any marketable orders on the NASDAQ book, the order will be displayed via TotalView-ITCH at the most aggressive price possible that would not result in a trade through for 20 to 30 milliseconds, after which it will then route to other markets. If shares remain unexecuted after routing they are posted on the NASDAQ book. Once the order is posted to the NASDAQ book, if it is subsequently locked or

Tag	Field Name	Req'd	Comments
			<p>crossed, the system will not route out again.</p> <p>STGY = Behaves similar to SCAN, except that the order will route out again after posting to the NASDAQ book if the order is subsequently locked or crossed.</p> <p>DOTM (DOT when Marketable) – Attempts to execute against orders in the NASDAQ book at a price equal to or better than the NBBO; if marketable against other markets upon entry, or if locked/crossed subsequent to posting on the NASDAQ book, the order will IOC other market centers and any unfilled shares will re-post on the NASDAQ book.</p> <p>DOTI - Attempts to execute against orders in the NASDAQ book at a price equal to or better than the NBBO. If unfilled, it will then route to NASDAQ OMX BX (BX) where it will also attempt to execute at the NBBO or better. If still unfilled, the order will route to the NYSE or NYSE Alternext where the order will remain until being executed or cancelled.</p> <p>DOTD - Routes directly to the NYSE or Amex without checking the NASDAQ book.</p> <p>TFTY – Routes to Nasdaq OMX BX, dark pools, and NYSE or AMEX without checking the NASDAQ book first.</p> <p>Directed Order – Order routed directly to market center identified. See Directed Order Destination Code table</p> <p>MOPP - Route to protected quotes for display size only, then resides in the NASDAQ book. Once it posts on the book it will not route out again if the market moves. All orders, except IOC orders, will post to the book if not filled in the market.</p> <p>SKIP = Behaves like SCAN and opts out of sending orders to Dark Pools</p> <p>SKNY = Behaves like STGY and opts out of sending orders to Dark Pools</p> <p>SAVE - accesses BX, NASDAQ, NYSE, all other protected quotes and additional destinations. If shares remain unexecuted after routing they are posted on the NASDAQ book. Once the order is</p>

Tag	Field Name	Req'd	Comments
			<p>posted to the NASDAQ book, if it is subsequently locked or crossed, the system will not route out again.</p> <p>QSAV - Behaves like SAVE but routes to NASDAQ first.</p> <p>QTFY - Behaves like TFTY but routes to NASDAQ first.</p> <p>DOTZ – Behaves like DOTI and opts out of sending orders to Nasdaq BX</p> <p>LIST - Enables firms to participate in the opening and closing processes of each security's primary listing market and also take advantage of NASDAQ's liquidity during the remainder of the trading day.</p> <p>CART - will enable firms to check the BX, PSX and NASDAQ book before (optionally) posting to the NASDAQ book</p> <p>SOLV - will be similar to the SAVE strategy but will route out again after posting if the NASDAQ book is subsequently locked or crossed.</p> <p>QSLV - QSLV is similar to QSAV except that it will route back out after posting on Nasdaq if crossed or locked.</p> <p>RFTY – retail investor orders designated as non-marketable that upon receipt become marketable will route to off-exchange destinations for potential price improvement opportunities. Retail investor orders may route to additional destinations if not fully executed (similar to SCAN). Retail investor orders not executed after routing will be posted to the Nasdaq book for potential execution and display.</p> <p>QRTY – Behaves like RFTY but routes to NASDAQ first.</p> <p>SCAR – Simultaneously accesses Nasdaq, BX and PSX before optionally posting to the Exchange book.</p> <p>MIDP - searches midpoint executions on Nasdaq, BX, PSX, external NMS and dark venues before optionally posting to the exchange book as midpoint peg order.</p>
110	MinQty	N	<p>If tag 59 = A, N, or R, indicating a desire to participate in the NASDAQ Crossing Network, then this tag 110 must be present and must contain a "minimum acceptable execution quantity". This must be, at a minimum equal to one round lot.</p>
111	MaxFloor	N	<p>Optional 1-6 character field indicating the new refresh quantity. Must be in shares in round lot</p>



Tag	Field Name	Req'd	Comments
			<p> multiples. The new Max Floor Size will update the Refresh Size.  <u>Example 1 - Cancel Replace Decrement:</u>  The FIX New Order Single was entered with the following values:  OrdQty = 10000  MaxFloor = 1000  The order has the following values:  Display Quantity = 1000  Reserve Quantity = 9000  Refresh Quantity = 1000  A FIX Cancel/Replace Message is entered with OrdQty = 8000. Since the Original Order Quantity is greater than Cancel/Replace Order Quantity, the order will be decremented by 2000 shares. The display quantity will be decremented by 1000 and the Reserve Quantity will be decremented by 1000. Then the order will be Refreshed by 1000 resulting in the following values:  Display Quantity = 1000  Reserve Quantity = 7000  Refresh Quantity = 1000   <u>Example 2 - Cancel Replace Increment with MaxFloor:</u>  The FIX New Order Single was entered with the following values:  OrdQty = 10000  MaxFloor = 1000  The order has the following values:  Display Quantity = 1000  Reserve Quantity = 9000  Refresh Quantity = 1000  A FIX Cancel/Replace Message is entered with OrdQty = 12000. Since the Original Order Quantity is less than Cancel/Replace Order Quantity, the order will be incremented by 2000 shares. Since the order has a MaxFloor, the reserve quantity will be incremented by 2000 resulting in the following values:  Display Quantity = 1000  Reserve Quantity = 11000  Refresh Quantity = 1000   <u>Example 3 - Cancel Replace Increment without MaxFloor:</u>  The FIX New Order Single was entered with the following values:  OrdQty = 10000  The order has the following values:  Display Quantity = 10000  A FIX Cancel/Replace Message is entered with </p>

Tag	Field Name	Req'd	Comments
			OrdQty = 12000. Since the Original Order Quantity is less than Cancel/Replace Order Quantity, the order will be incremented by 2000 shares. Since the order does not have a MaxFloor, the display quantity will be incremented by 2000 resulting in Display Quantity = 12000.
211	PegDifference	N	Must be the same as the original order.
336	TradingSessionID	N	Must be the same as the original order.
5149	Memo	N	Free format, 60-character text field. Single and double quotes, pipes, and carets are not allowed. This text cannot be modified.
	<i>Standard Trailer</i>	Y	

#### 4.3.1.4 Order Status Request

You use this message to obtain an order's status. The tags below are the only tags considered by NASDAQ on this message. All other tags are ignored.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = H
11	ClOrdID	Y	This is your unique ID of the original order, the order whose status you are requesting.
37	OrderID	N	This is NASDAQ's reference number for the order whose status you are requesting, as passed back in the original order acknowledgement.
54	Side	Y	Must be the same as the side of the original order.
55	Symbol	Y	Must be the same as the symbol of the original order. All incoming messages will send the symbol as entered. If the symbol is sent in lower case, then we will reject it. For other exchange-listed securities, this field will contain the base listed symbol only. See SymbolSfx [65] field for additional information about the security.
65	SymbolSfx	N	For either xchange-listed securities, this field will contain only the additional information about the security (e.g. preferred, warrants, etc.). This additional information must be in CMS format and is uppercase. No delimiters are allowed in this tag. For example, security "OXY PRB" would be formatted as follows: Symbol [55]: OXY SymbolSfx [65]: PRB
5149	Memo	N	Free format, 60-character text field. Single and double quotes, pipes, and carets are not allowed.
	<i>Standard Trailer</i>	Y	



## 4.3.2 Outbound from NASDAQ

### 4.3.2.1 Order Acknowledgement

You will receive this message when NASDAQ FIX receives a New Order Single, and its destination system has accepted that order.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID, as submitted on the original New Order Single.
14	CumQty	Y	0
15	Currency	N	Not present in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per New Order Single.
20	ExecTransType	Y	Valid value: 0 = New
37	OrderID	Y	NASDAQ's Order Reference number, as generated by its destination system.
38	OrderQty	Y	The order's original quantity.
39	OrdStatus	Y	Valid value: 0 = New 1 = Partial Fill 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected A = Pending New
40	OrdType	N	As per the original New Order Single.
44	Price	N	As per the original New Order Single. If tag 40 = P and tag 44 is present, this tag is the Peg Cap Price.
54	Side	Y	As per the original New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	As per the New Order Single.
65	SymbolSfx	N	As per the New Order Single.
110	MinQty	N	As per the New Order Single.
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Valid value: 0 = New
151	LeavesQty	Y	For an Order Acknowledgement, Leaves Qty is equal to OrderQty.
211	PegDifference	N	As per original order.
336	TradingSessionID	N	NASDAQ will echo the value of the new order single

Tag	Field Name	Req'd	Comments
			message.
388	DiscretionInst	N	Code to identify the price a DiscretionOffset is related to and should be mathematically added to. NASDAQ supports only a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the New Order Single.
	<i>Standard Trailer</i>	Y	

### 4.3.2.2 Execution/Trade Report

You will receive this message when your order has been executed.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	An average price is returned on Fills and Partial fills. The average price is computed using this formula: $AvgPx = [(AvgPx * CumQty) + (LastShares * LastPx)] / (LastShares + CumQty)$ .
11	ClOrdID	Y	NASDAQ FIX will return the Client Order Id as submitted on the original New Order Single
14	CumQty	Y	Cumulative quantity executed against this order.
15	Currency	N	Not present in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per the New Order Single.
19	ExecRefID	N	Not present in Execution reports for trade reports.
20	ExecTransType	Y	0 = New
31	LastPx	Y	Price of shares executed in this fill.
32	LastShares	Y	Number of shares executed in this fill.
37	OrderID	Y	NASDAQ's Order Reference number for the original order that is being executed, as generated by its destination system.
38	OrderQty	Y	The order's original quantity, or, as per State matrixes in FIX 4.2 specifications.
39	OrdStatus	Y	Valid values: 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel 8 = Rejected A = Pending New
40	OrdType	N	As per the New Order Single.
41	OrigClOrdID	Y	ClOrdID of the first order in a Cancel Replace chain.
44	Price	N	As per the New Order Single.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	As per the New Order Single.
60	TransactTime	N	Time of the execution as per execution venue system.
65	SymbolSfx	N	As per the New Order Single.
76	ExecBroker	N	This tag echoes the value that was submitted in the incoming new order single.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round

Tag	Field Name	Req'd	Comments
			lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Valid values: 1 = Partial Fill 2 = Fill
151	LeavesQty	Y	Quantity left on the order, as per State Matrixes – Appendix D of FIX specifications. Note that in initial implementations, the Leaves quantity returned here is the sum of unexecuted display and reserve quantities.
211	PegDifference	N	As per the New Order Single.
336	TradingSessionID	N	As per the New Order Single.
375	ContraBroker	N	MPID. First field in repeating group. Required if NoContraBrokers > 0. This field will be present in the message if the OrdStatus = 1 or 2. For exchange-listed securities: 4-char MPID or 4-char exchange  Exchange Values: American Stock Exchange = AMEX Boston Stock Exchange = BOSX Cincinnati Stock Exchange = CINN Chicago Stock Exchange = XMSE International Stock Exchange = INSE New York Stock Exchange = NYSE Pacific Stock Exchange = PACX
382	NoContraBrokers	N	Number of ContraBrokers repeating group instances. This field will be present in the message if the OrdStatus = 1 or 2.
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ market center supports only a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the New Order Single.
9231	TradeThruFlag	N	For other exchange-listed securities, Y identifies when the order that corresponds to this trade report is traded through another market center.
9730	LiqProvFlg	Y	Required on trade reports, this indicates whether the execution of this order accessed liquidity or provided liquidity. Allowed values:

Tag	Field Name	Req'd	Comments
			<p>R = liquidity accessor  A = liquidity provider  J = Non-displayed liquidity provider  L = Closing Cross liquidity provider  C = Closing Cross liquidity accessor  M = Opening Cross liquidity provider  O = Opening Cross liquidity accessor  I = Intraday Cross and Post_Close Cross billable  K = Halt/IPO Cross liquidity provider  H = Halt/IPO Cross liquidity accessor  X = Routed  D = Routed to DOT  Y = Re-routed by NYSE  F = Opening Trade (on NYSE)  G = On-Close Execution (on NYSE)  S = Odd-Lot Execution (on NYSE)  U = Added Liquidity (on NYSE)  B = Routed to BX  E = NYSE Other  P = Routed to PSX  T = Executed in Open, Close, or Re-open on ARCA  m = Removed liquidity at a midpoint  k = Added liquidity via a midpoint order  7 = Displayed, liquidity-adding order improves the NBBO  8 = Displayed, liquidity-adding order sets the QBBO while joining the NBBO  4 = Added displayed liquidity in a Group A symbol  5 = Added non-displayed liquidity in a Group A symbol  6 = Liquidity Removing Order in a Group A symbol  g = Added non-displayed midpoint liquidity in a Group A symbol  n = Midpoint Extended Life Order Execution  v = MIDP Order executed on away NMS protected market center  w = MIDP Order executed on off-exchange venue</p>
9870	ReserveSize	N	Indicates the leaves quantity of the reserve size. Reserve size must be either in round lot multiples or in mixed lots. You may configure your system, so that you do not receive this tag.
9872	DisplaySize	N	Indicates the display quantity. You may configure your system, so that you do not receive this tag.
	<i>Standard Trailer</i>	Y	



### **4.3.2.3 Restatement Message**

This message will tell the user the amount their orders were reduced down to as a result of a partially cancelled quantity.

<b>Restatement</b>			
<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
	<b>Standard Header</b>	<b>Y</b>	<b>MsgType = 8</b>
37	OrderID	Y	OrderID, as assigned by NASDAQ, is required to be unique for each chain of orders.
17	ExecID	Y	Identifier of execution message as assigned by broker (will be 0 (zero) for ExecTransType=3 (Status)). NASDAQ assigns the ExecID based on the OUCH match number of the transaction. If you cross yourself on a trade the buy and sell orders will have the same ExecID.
20	ExecTransType	Y	Identifies transaction type Valid values: 0 = New 1 = Cancel Trade breaks will be sent with an ExecTransType of '1'. NASDAQ does not support trade corrections.
76	ExecBroker	Y	The destination to send orders to. Currently INET, DOTA, DOTD, DOTI, DOTM, TFTY, MOPP, STGY, SCAN, SKIP, SKNY, SAVE, QSAV, QTFY, DOTZ, LIST, SOLV, CART, QSLV, RFTY, QRTY, SCAR, MIDP and Directed Order Destination Codes (please see Directed Codes table below) are available. Will default to "INET" if not specified.
150	ExecType	Y	Describes the type of execution report. For restatement, this value will always be: D = Restated
39	OrdStatus	Y	Describes the current state of a CHAIN of orders, same scope as OrderQty, CumQty, LeavesQty, and AvgPx Valid Value for restatement will be: 0 = New
55	Symbol	Y	Ticker symbol. The format of the symbol is native INET ymbology. More information can be found at the following link: <a href="http://www.nasdaqtrader.com/Trader.aspx?id=CQSSymbolConvention">http://www.nasdaqtrader.com/Trader.aspx?id=CQSSymbolConvention</a>  NOTE: the entire symbol (root and suffix included) needs to be in tag.
54	Side	Y	
38	OrderQty	Y	
32	LastShares	Y	Quantity of shares bought/sold on this (last) fill. For restatement, this value will always be "0".
31	LastPx	Y	Price of this (last) fill.
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 - CumQty.
14	CumQty	Y	Currently executed shares for chain of orders.

6	AvgPx	Y	Calculated average price of all fills on this order.
19	ExecRefID	N	Required for Cancel and Correct ExecTransType messages
1	Account	N	As specified in the NewOrder
11	ClOrdID	N	As specified in the NewOrder
44	Price	N	As specified in the NewOrder
211	PegDifference	N	As specified in the NewOrder
41	OrigClOrdID	N	ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order.
109	ClientID	N	Used for firm identification in third-party transactions. If a ClientID was specified in the original order then it will be returned in all subsequent execution reports.
18	ExecInst	N	Can contain multiple instructions, space delimited. Only 'M' (Midpoint Peg), 'N' (No-Peg), 'P' (Market Peg), and 'R' (Primary Peg) are supported. 'f' means Intermarket Sweep (ISO) 'y' means Trade-at Intermarket Sweep Order
9140	DisplayInst	N	May be used to specify NASDAQ's different display options.  Y = Anonymous-Price to Comply A = Attributable-Price to Display N = Non-Display I = Imbalance Only
75	TradeDate	N	Used when reporting other than current day trades.
59	TimeInForce	N	Absence of this field indicates Market Hours order
40	OrdType	N	Valid values: 2 = Limit P = Pegged (requires ExecInst of P or R)
60	TransactTime	N	Time of execution/order creation (expressed in GMT).
47	Rule80A/OrderCapacity	N	All values are supported. 'A' (agent) is the default.
58	Text	N	Free format text string,
9882	LiquidityFlag	N	Will be returned within all execution reports that contain a partial or full fill.  See Liquidity Flags Table below for values
111	MaxFloor	N	As specified in the NewOrder
378	ExecRestatementReason	Y	For restatement, this value will always be: 5 = Partial decline of OrderQty
	<b>Standard Trailer</b>	<b>Y</b>	

### 4.3.2.4 Order Reject

You will receive this message when a New Order Single message is rejected. Tag 103, OrdRejectReason, and the ExecType =8 signify the fact that this message is a reject. NASDAQ will include tag 103. Specific causes, i.e. more detailed explanations, will be conveyed by tag 58. Although tag 58 is intended as text, NASDAQ will communicate reasoning via a series of codes, so as both to economize message length and to allow application decision on your part without the need for parsing text.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID as submitted on the original New Order Single.
14	CumQty	Y	Set to 0 for an Order Reject.
15	Currency	N	Not present in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per the New Order Single.
20	ExecTransType	Y	0 = New
37	OrderID	Y	NASDAQ's Order Reference number, as generated by its destination system.
38	OrderQty	Y	The order's original quantity.
39	OrdStatus	Y	8 = Rejected
40	OrdType	N	As per the New Order Single.
44	Price	N	As per the New Order Single. If tag 40 = P and tag 44 is present, this tag is the Peg Cap Price.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
58	Text	N	Where possible, a coded message to explain reason for rejection.
59	TimeInForce	N	If this tag was present in the original New Order Single, it will be returned here. Otherwise, this tag will not be returned.
65	SymbolSfx	N	As per the New Order Single.
103	OrdRejReason	N	Code to identify reason for order rejection. Valid values: 0 = Broker option 1 = Unknown symbol 2 = Exchange closed 3 = Order exceeds limit 4 = Too late to enter 5 = Unknown Order 6 = Duplicate Order (e.g. dupe ClOrdID) 7 = Duplicate of a verbally communicated order 8 = Stale Order
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be

Tag	Field Name	Req'd	Comments
			returned.
150	ExecType	Y	8 = Rejected
151	LeavesQty	Y	For an Order reject, Leaves Qty is equal to OrderQty.
211	PegDifference	N	As per the New Order Single.
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ Market Center only supports a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the New Order Single.
	<i>Standard Trailer</i>	Y	

### 4.3.2.5 Pending Cancel

You will receive this message in response to a Cancel Request. This message is followed by either an Accepted Cancel or a Rejected Cancel after the request has been acted upon. Although there is no guarantee of sequencing, the intent is to return the Pending Cancel before the Cancel Acknowledgement. It is, therefore, incumbent upon you to have cancel processing logic that anticipates this possibility.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID as submitted on the Cancel request.
14	CumQty	Y	For a pending cancel, this represents the current total executed quantity against this order when the cancel request was received. As per State Matrixes, Appendix D of FIX specifications.
15	Currency	N	Not present, in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per the New Order Single.
20	ExecTransType	Y	For this pending message: 0 = New
37	OrderID	Y	NASDAQ's Order Reference number for the order attempting to be canceled, as generated by its destination system.
38	OrderQty	Y	The order's original quantity or from state matrixes in FIX 4.2 specifications.
39	OrdStatus	Y	Valid value: 6 = pending cancel
40	OrdType	N	As per the New Order Single.
41	OrigClOrdID	Y	Returns your unique ID of the order to be cancelled.
44	Price	N	As per the New Order Single. If tag 40 = P and tag 44 is present, this tag is the Peg Cap Price.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	As per the New Order Single.
65	SymbolSfx	N	As per the New Order Single.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Valid values: 6 = pending cancel
151	LeavesQty	Y	For a pending cancel, this represents the current leaves quantity for this order when the cancel request was received.

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
211	PegDifference	N	As per the New Order Single.
336	TradingSessionID	N	As per the New Order Single.
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ market center only supports a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the Cancel Request.
	<i>Standard Trailer</i>	Y	

### 4.3.2.6 Accepted Cancel

You will receive this message in response to a Cancel Request, unless that request is rejected. The accepted cancel conveys that the remaining quantity or a portion thereof has been cancelled. NASDAQ presumes that a cancel request is for all remaining shares. NASDAQ may cancel part of the remaining quantity. This message is usually preceded by a Pending Cancel, although sequencing is not guaranteed.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0 if no fills have occurred.
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID as submitted on the Cancel request.
14	CumQty	Y	For a cancel, this represents the total executed quantity against this order when the cancel occurred.
15	Currency	N	Not present in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per the original New Order Single.
20	ExecTransType	Y	Valid value: 0 = New
31	LastPx	Y	Set to 0 for Accepted Cancels.
32	LastShares	Y	Set to 0 for Accepted Cancels.
37	OrderID	Y	NASDAQ's Order Reference number for the order attempting to be canceled, as generated by its destination system.
38	OrderQty	Y	The order's original quantity or from State matrixes as per FIX 4.2 specifications.
39	OrdStatus	Y	Valid value: 4 = Cancelled
40	OrdType	Y	As per the New Order Single.
41	OrigClOrdID	Y	Returns your unique ID of the order to be cancelled.
44	Price	N	As per the original New Order Single. If tag 40 = P and tag 44 is present, this tag is the Peg Cap Price.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
58	Text	N	This tag is returned only for unsolicited cancels.
59	TimeInForce	N	As per the New Order Single.
65	SymbolSfx	N	As per the New Order Single.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Valid value: 4 = Cancel
151	LeavesQty	Y	Will be zero in most cases, but in the case of order delivery scenarios as mentioned below, this may be non-zero in cases where tag 378 = 5.



<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
211	PegDifference	N	As per the New Order Single.
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ market center supports only a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the Cancel Request.
9870	ReserveSize	N	Indicates the quantity of the reserve size. Reserve size must be either in round lot multiples or in mixed lots. You may configure your system, so that you do not receive this tag.
9872	DisplaySize	N	Indicates the display quantity. You may configure your system, so that you do not receive this tag.
	<i>Standard Trailer</i>	Y	

### 4.3.2.7 Rejected Cancel

NASDAQ FIX sends this message when a Cancel Request is rejected. We will include tag 102 in its Cancel Reject messages. Specific causes will be detailed in tag 58.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 9
11	ClOrdID	Y	NASDAQ FIX will return the Client Order Id as submitted on the Cancel request.
37	OrderId	Y	If CxlRejReason=1, then this tag will be populated with "None". Otherwise, this tag will contain NASDAQ's order reference number.
39	OrdStatus	Y	Order status after the cancel reject is applied.
41	OrigClOrdID	Y	Returns your unique id of the original order - the order that was attempted to be canceled.
58	Text	N	Where possible, coded message to explain reason for rejection.
76	ExecBroker	N	Not used.
102	CxlRejReason	N	Code to identify reason for cancel rejection. Valid values: 0 = Too late to cancel 1 = Unknown order 2 = Broker Option 3 = Order already in Pending Cancel or Pending Replace status
5149	Memo	N	This tag will contain the text included in the Cancel Request.
	<i>Standard Trailer</i>	Y	

### 4.3.2.8 Pending Cancel/Replace

You will receive this message in response to a Cancel/Replace Request. Either an accept or reject message follows after the request has been acted upon by the destination system.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0 if no partial fills have occurred.
11	ClOrdID	Y	NASDAQ FIX will return the Client Order Id as submitted on the Cancel/replace request.
14	CumQty	Y	For a pending cancel/replace, this represents the current total executed quantity against this order when the cancel request was received. As per State Matrixes – Appendix D of FIX specifications.
15	Currency	N	Not present, in initial releases
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	As per the original New Order Single.
20	ExecTransType	Y	For this pending message: 0 = New
37	OrderID	Y	NASDAQ's Order Reference number for the order attempting to be canceled/replaced, as generated by its destination system.
38	OrderQty	Y	The order's original quantity, or, as per State matrixes as per FIX 4.2 specifications.
39	OrdStatus	Y	Valid value: E = pending replace
40	OrdType	N	As per the New Order Single.
41	OrigClOrdID	Y	Returns your unique id of the original order – the order to be canceled.
44	Price	N	If tag 40 = P and tag 44 is present, this tag is the Peg Cap Price.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	As per the New Order Single.
65	SymbolSfx	N	As per the New Order Single
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Valid value: E = Pending Replace
151	LeavesQty	Y	For a pending cancel/replace, this represents the current leaves quantity for this order when the cancel/replace request was received. Note that in initial implementations, the Leaves quantity returned here is the sum of unexecuted display, reserve, and delivery quantities.
211	PegDifference	N	As per the New Order Single.

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ market center supports only a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the Cancel/Replace Request.
	<i>Standard Trailer</i>	Y	

### 4.3.2.9 Accepted Cancel/Replace

You will receive this message in response to a Cancel/Replace Request, unless that request is rejected. This message is usually preceded by a Pending Cancel/Replace, although sequencing is not guaranteed.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	0.0
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID as submitted on the Cancel/Replace request.
14	CumQty	Y	As per State Matrixes, Appendix D of FIX specifications.
15	Currency	N	Not present in initial releases.
17	ExecID	Y	Uniquely generated by NASDAQ FIX, this is an identifier for this message.
18	ExecInst	N	Not present in initial releases.
19	ExecRefID	N	Reference ID.
20	ExecTransType	Y	Valid value: 0 = New
31	LastPx	N	0 for Cancel Replace acknowledgements.
32	LastShares	N	0 for Cancel Replace acknowledgements.
37	OrderID	Y	NASDAQ's Order Reference number for the order attempting to be cancel/replaced, as generated by its destination system.
38	OrderQty	Y	The order's original quantity, or, as per State matrixes as per FIX 4.2 specifications.
39	OrdStatus	Y	As per State matrixes in FIX 4.2 specifications.
40	OrdType	N	As per the New Order Single.
41	OrigClOrdID	Y	Unique ID of the order to be cancel/replaced.
44	Price	N	1-10 character decimal price. 12.34 is the correct presentation of twelve dollars and thirty four cents.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	As per the New Order Single.
65	SymbolSfx	N	As per the New Order Single.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	As per State matrixes in FIX 4.2 specifications.
151	LeavesQty	Y	The leaves quantity will be returned representing this order's leaves quantity as of the processing of this cancel replace. Note that in initial implementations, the Leaves quantity returned here is the sum of unexecuted display, reserve, and delivery quantities.
211	PegDifference	N	As per New Order Single.

<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
388	DiscretionInst	N	Code to identify the price to which a DiscretionOffset is related and should be added. NASDAQ Market Center supports only a value of 0 = related to display price. Required if DiscretionOffset is specified. This tag will be returned only if it was present in the original New Order Single.
389	DiscretionOffset	N	If present implies a discretionary order. This value (.01-.99) is applied to the display price to establish the price range within which the discretionary order may be executed. This tag will be returned only if it was present in the original New Order Single.
5149	Memo	N	This tag will contain the text included in the Cancel/Replace Request.
9870	ReserveSize	N	Indicates the quantity of the reserve size. Reserve size must be either in round lot multiples or in mixed lots. You may configure your system, so that you do not receive this tag.
9872	DisplaySize	N	Indicates the display quantity. You may configure your system, so that you do not receive this tag.
	<i>Standard Trailer</i>	Y	

### 4.3.2.10 Rejected Cancel/Replace

You will receive this message when a Cancel/Replace is rejected. NASDAQ will include tag 102. Specific causes will be detailed in tag 58.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 9
11	ClOrdID	Y	NASDAQ FIX will return the Client Order ID as submitted on the Cancel/Replace request.
37	OrderID	Y	If CxlRejReason=1, then this tag will be populated with "None". Otherwise, this tag will contain NASDAQ's order reference number.
39	OrdStatus	Y	Order status after the cancel/replace reject is applied.
41	OrigClOrdID	Y	Returns your unique ID of the order that was attempted to be replaced.
58	Text	N	Where possible, coded message to explain reason for rejection.
76	ExecBroker	N	Not used.
102	CxlRejReason	N	Code to identify reason for cancel rejection. Valid values: 0 = Too late to cancel 1 = Unknown order 2 = Broker Option 3 = Order already in Pending Cancel or Pending Replace status
5149	Memo	N	This tag will contain the text included in the Cancel/Replace Request.
	<i>Standard Trailer</i>	Y	

### 4.3.2.11 Order Status Response

You will receive this message in response to an Order Status Request. It represents the current state of the order when NASDAQ FIX receives the request.

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	N	This field is limited to 20 characters.
6	AvgPx	Y	An average price is returned on Fills and Partial fills. The average price is computed using this formula: AvgPx = [(AvgPx * CumQty) + (LastShares * LastPx)] / (LastShares + CumQty).
11	ClOrdID	Y	As per the New Order Single.
14	CumQty	Y	Total shares executed against this order to date.
15	Currency	N	As per the New Order Single.
17	ExecID	Y	Set to 0 for Order Status response.
18	ExecInst	N	Not present in initial releases.
20	ExecTransType	Y	Valid value: 3 = Status
37	OrderID	Y	NASDAQ's Order Reference number for the original order, as generated by its destination system.
38	OrderQty	Y	Original quantity of the order.
39	OrdStatus	Y	Identifies current status of order. Valid values: 0 = New 1 = Partially filled 2 = Filled 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 B = Calculated C = Expired D = Accepted for bidding E = Pending Replace (e.g. result of Order Cancel/Replace Request) Q = Self Trade Protection
40	OrdType	N	As per the New Order Single.
44	Price	N	As per the New Order Single.
54	Side	Y	As per the New Order Single.
55	Symbol	Y	As per the New Order Single.
59	TimeInForce	N	The TIF after considering all cancel/replace orders.
65	SymbolSfx	N	As per the New Order Single.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be



<b>Tag</b>	<b>Field Name</b>	<b>Req'd</b>	<b>Comments</b>
			returned.
150	ExecType	Y	As per State matrixes in FIX 4.2 specifications.
151	LeavesQty	Y	Quantity left on the order, as per State Matrixes – Appendix D of FIX specifications. Note that in initial implementations, the Leaves quantity is returned here.
5149	Memo	N	This tag will contain the text included in the New Order Single.
9870	ReserveSize	N	Indicates the current quantity of the reserve size. Reserve size must be either in round lot multiples or in mixed lots. You may configure your system, so that you do not receive this tag.
9872	DisplaySize	N	Indicates the display quantity. You may configure your system, so that you do not receive this tag.
	<i>Standard Trailer</i>	Y	

### ***4.3.2.12 Drop Copies***

NASDAQ FIX provides drop-copy services on both an application and execution level. A separate I1I2 is required to receive drop copies. The drop copy message will not conform to FIX 4.2 execution report specifications. Some of the expected and mandatory fields may be missing.

NASDAQ introduces functionality that allows you to filter drop copy messages. Messages will be filtered by entering I1I2. If the entering I1I2 on the execution report corresponds to an entering I1I2 that you provided for filtering, then that execution report will be drop copied. If the entering I1I2 on the execution report is not one of the I1I2s that you provided for filtering, then the execution report is not drop copied. If you would like to use filtered drop copies, please contact the NASDAQ Technical Support Desk at 800.243.4284.

### ***4.3.2.13 Application Drop Copy***

NASDAQ is introducing additional drop copy functionality. This new functionality allows you to register to receive drop copies of all application messages. You must register to receive these new messages. Registration occurs on a connector-by-connector basis. Note that every application message that you receive over your primary connector will be duplicated on your drop copy connector. There is no message format table associated with this new functionality. If you would like to receive application drop copies, please contact the NASDAQ Technical Support Desk at 800.243.4284.

### 4.3.2.14 Execution Drop Copy

Tag	Field Name	Req'd	Comments
	<i>Standard Header</i>	Y	MsgType = 8
1	Account	Y	As specified in New Order Single.
6	AvgPx	Y	The value of this tag is always 0.
11	ClOrdId	Y	CLORDID of the original order. This is the CLORDID of the first order in a Cancel Replace Chain.
14	CumQty	Y	The value of this tag is always 0.
17	ExecId	Y	Execution reference number returned from NASDAQ market center.
20	ExecTransType	Y	The value of this tag is always 0.
31	LastPx	Y	Price of this Partial Fill/Fill.
32	LastShares	Y	Executed quantity.
37	OrderID	Y	Unique ORDERID assigned by NASDAQ market center.
39	OrdStatus	Y	Order status indicating a Partial Fill/Fill.
54	Side	Y	Side indicating bought or sold.
55	Symbol	Y	Security Symbol.
60	TransactTime	Y	The time that you released this request.
65	SymbolSfx	Y	Security symbol suffix.
110	MinQty	N	As per the New Order Single
111	MaxFloor	N	1-6 character field indicating the display quantity and refresh quantity. Must be in shares in round lot multiples. If MaxFloor = 0, then this tag will not be returned.
150	ExecType	Y	Indicates indicating a Partial Fill/Fill.
151	LeavesQty	Y	Non-Restate leaves quantity.
375	ContraBroker	Y	The other side on this execution.
382	NoContraBrokers	Y	The number of ContraBroker entries.
5149	Memo	N	This tag will contain the text included in the New Order Single.
9730	LiqProvFlag	Y	Indicates if the FIRM accessed or provided liquidity. See Execution/Trade Report.
9870	ReserveSize	N	Indicates the quantity of the reserve size. Reserve size must be either in round lot multiples or in mixed lots. You may configure your system, so that you do not receive this tag.
	<i>Standard Trailer</i>	Y	

## 5 Revision History

Version	Date	Notes
Version 2013-001	10/25/2013	Created the spec
Version 2014-001	06/19/2014	Updated the format of the document
Version 2015-001	01/13/2015	Added Liquidity flag values "d", "e", "f", "j", "r", "t", "4", "5", "6", "g"
Version 2015-002	09/01/2015	Revised the description for Liquidity flag value "T" Removed Liquidity flag value "Z"
Version 2016-001	01/11/2016	Added ExDestination values "RFTY", "QRTY" Revised description of Liquidity flag values "4", "5", "6", "g" Added Liquidity flag values "a", "x", "y"
Version 2016-002	02/29/2016	Added Liquidity flag values "b", "c", "h", "N" Revised description of Liquidity flag values "a", "x", "y"
Version 2016-003	06/24/2016	Added directed order destination value "ISIX"
Version 2016-004	07/18/2016	Added value "y" to tag 18 Added Destination Code TAISO
Version 2016-005	08/15/2016	Added Execinst values y, f to cancel/replace request
Version 2016-006	8/31/2016	Added value "B" to tag 18 inbound
Version 2016-007	09/08/2016	Added value "b" to tag 18 inbound
Version 2016-008	10/17/2016	Added value "QRPO" to ExDestination
Version 2017-009	04/26/2017	Removed value "QRPO" from ExDestination
Version 2018-010	03/01/2018	Removed following liquidity flags: a, x, y, b, c, h and N Added liquidity flag "n"
Version 2018-011	05/15/2018	Renamed market center "CINN/NSX" to "NYSE National"
Version 2019-012	04/02/2019	Updated Tag 76=ExecBroker to include "SCAR" Updated Tag 100=ExDestination to include description of SCAR
Version 2019-013	06/07/2019	Added liquidity flags: "v" & "w"
Version 2019-014	07/23/2019	Updated Tag 76=ExecBroker to include "MIDP" Updated Tag 100=ExDestination to include description of MIDP
Version 2020-015	1/30/2020	Reactived directed order destination value "ISIX"
Version 2020-016	3/11/2020	Added destination code "ISLT" and updated Directed Order Destination Codes table