

NASDAQ OMX Futures

Specialized Quote Interface

Version 1.1

July 19, 2013

Table of Contents

Table of Contents	2
1 Overview	3
2 Architecture	4
3 Data Types	5
4 Messaging.....	5
5 Processing Hints & Tips	6
6 Message Format Guidelines	9
7 Administrative Messages	10
7.1 System Event Message	10
7.2 Trading Product Directory Message	10
7.2.1 Directory Message.....	10
7.3 Security Trading Action Message	13
7.4 Rapid-Fire Admin Message.....	14
7.5 Rapid-Fire Configuration Control.....	14
7.5.1 Rapid-Fire Control Request Message	14
7.5.2 Rapid-Fire Control Reply Message.....	15
8 Quote Messages.....	16
8.1 Short Quote Block Message.....	16
8.2 Long Quote Block Message	17
8.3 Quote Reply Message.....	19
8.4 Detailed Quote Reply Message	21
9 Purge / Reentry Messages	23
9.1 Issue Purge Message	23
9.2 Issue Purge Reply Message.....	24
9.3 Issue Market Reentry Message	25
9.4 Product Market Reentry Message	25
9.5 Market Reentry Reply Message.....	26
10 SQF Orders	27
10.1 SQF Order Functionality	27
10.1.1 SQF Order Request	28
10.1.2 SQF Order Accept Message.....	29
10.1.3 SQF Order Reject Message	29
10.1.4 SQF Order Execution Message	30
10.1.5 SQF Order Canceled Message	31
Notifications.....	33
10.2 Purge Notifications	33
10.2.1 Trading Product Purge Notification Message	33
10.2.2 Issue Purge Notification Message	35
10.3 Market Reentry Notifications	35
10.3.1 Issue Market Reentry Notification Message	36
10.3.2 Product Market Reentry Notification Message	37
10.4 Execution and Cancel Notifications.....	38
10.4.1 Quote Execution Notification Message	38
10.5 Pre Trade Risk Notification.....	39
11 Support	41
12 Appendix A – SQF Client To Host Messages.....	42
13 Appendix B – Participant Types	43
14 Appendix C – Revision Control Log.....	44

1 Overview

Specialized Quote Interface (SQF) provides a low latency, high throughput mechanism for streaming quoters to enter their markets into NASDAQ OMX FUTURES.

SQF features the following data elements:

- Low latency, high throughput, robust streaming quote interface.
 - Low Latency
 - The quote interface server is directly on matching engine infrastructure
 - Smaller bandwidth profile by making use of
 - Binary Data
 - Product ID vs. specifying full canonical symbology
 - High Throughput
 - The firms can have multiple connections for increased quoting throughput
 - Bulk quoting
 - Quoting of up to 200 quotes per quote block message.
 - Robust features
 - Enhanced Determinism
 - Quote acknowledgement = Quote is processed by matching engine! Each Quote Acknowledgement provides exact sequence of the quote from the matching engine.
 - Rapid Fire Risk Protection
 - Purging of quotes for a given issue based on firm specified execution parameters
 - Purging on Disconnect
 - Purging of quotes when a port disconnects
 - Purging of quotes by specifying the
 - Firm (or badge)
 - Issue
 - Trading symbol
 - SQF Order mechanisms
 - One sided IOC Order
 - Used to hit a market
- Purge Notification messages, for reporting purges on issues quoted on this interface.
- Pre trade Risk Notification and Reject messages
 - Warnings: indicating that a cutoff limit is being approached, but has not been reached.
 - Cutoffs: indicating that a cutoff limit has been reached. All quotes/orders are purged/canceled at this point and no new quotes or orders are accepted.
 - Preemptive Pre Trade Risk Reject messages: indicating that a message was rejected to prevent a Pre trade risk cutoff limit from being breached.
 - Cutoff Pre Trade Risk Reject messages: indicating that a message was rejected because there is a pre trade risk cutoff in effect for the firm, trader or a group (either firm or trader) related to the message.
- Quote/Order Execution and Order Cancellation Notification messages, for reporting executions and cancels on quotes and order requests sent on this interface. See "Processing Hints and Tips" section for more details.
- Administrative and market event messages including:
 - Trading action messages to inform market participants when a specific product is halted or released for trading.
 - Trading Product Directory messages to relay basic symbol information for traded products.

2 Architecture

The NASDAQ OMX FUTURES trading infrastructures may consist of multiple matching engines. Each engine trades a subset of the issues trading at the exchange.

The SQF infrastructure is such that the firms connect to one or more servers residing directly on the matching engine infrastructure. Any given port can trade all symbols on NASDAQ OMX FUTURES.

The advantage to connecting directly to the engine's infrastructure is one of reduced latency for quote and order updates. Additionally, the receipt of any given quote or order acknowledgement means the corresponding request is live in the matching engine.

Upon disconnect, each line will immediately purge all issue/firm combinations with trading products quoted on that line. For more information, refer to "Purge on Disconnect" description in Processing Hints & Tips section.

The Specialized Quote Interface uses the in the following communication protocol:

Protocol Option	
SoupBinTCP Version 4.00	TCP Interface

* Please note that firms are encouraged to provide local redundancy in the NY Metro Area, while using the Mid-Atlantic Region for disaster recovery in the event NASDAQ OMX FUTURES order entry is switched from the NY Metro Area.

3 Data Types

All integer fields are unsigned big-endian (network byte order) binary encoded numbers. Note that integers may be one, two, four or eight bytes in length. The size is specified for each message field.

All alphanumeric fields are left justified and padded on the right with spaces

Prices are 8 byte integer fields. When converted to a decimal format, prices are in fixed point format with 10 whole number places followed by 8 decimal digits. Sub-MPV prices are rejected.

Message Id, Quote Id and Execution Id fields are binary. There is no restriction on the content of these fields.

Timestamp reflects the system time at which various events occur. For every message, the timestamp is expressed in two fields: "Seconds", which is the number of whole seconds after midnight of the day that the message is sent; and "Nanoseconds", which is the sub-second portion of the time which represents the integer number of nanoseconds. The "Seconds" field will have a range of 0 to 86399 (i.e. 12:00:00am to 11:59:59pm) and "Nanoseconds" will have a range of 0 to 999999999. All times in this protocol are U.S. Eastern Time zone.

4 Messaging

Message Delivery

Some messages sent from the SQF interface host to the client are assumed to be sequenced and their delivery must be guaranteed by the lower level Soup protocol. An example of this is an execution notification. The SoupBinTCP is the typical lower level protocol used to guarantee the delivery and sequencing of SQF messages sent from the SQF interface host to the client. Details on requesting a resend of sequenced messages can be found in the SOUP specification. Appendix A summarizes which host to client messages are sequenced vs. unsequenced.

Some other messages sent from the SQF interface host are considered to be of short term value and are therefore unsequenced. Delivery of unsequenced messages is not guaranteed. Quote Message Responses are an example of an unsequenced message.

All message transmissions originating from NASDAQ OMX FUTURES via SQF have their sequences/unsequenced identification notes within this specification.

Messages sent from the client to the SQF interface host are inherently non-guaranteed even if they are carried by a lower level protocol that guarantees delivery (like TCP/IP sockets). Therefore, all host-bound messages are designed so that they can be benignly resent for robust recovery from connection and application failures.

5 Processing Hints & Tips

Determining when a Quote is processed by the Matching Engine

Upon receipt of a quote response message for a given quote block, all of the firm's quotes for that block have been processed by the matching engine (assuming that the quote was sent after receipt of the "Start of Quote" System Event Message). In addition, the order in which the matching engine processed individual quotes can be determined by the sequence number provided for each quote in the acknowledgement response.

Determining when a Purge takes Quotes out of Play

Upon receipt of a purge response message for a given purge, the firm's quotes are guaranteed to be out of the market. The firm can use sequence number as well to determine sequencing of purges in relation to quotes.

Determining when an Order is processed by the Matching Engine

Upon receipt of an order accept message for a given order request, the firm's order is guaranteed to be processed by the matching engine. An order must specify an order id that is unique with respect to any currently open order on the receiving port.

Maximizing Throughput

Quote block messages can contain up to 200 quotes. Densely packing quotes in each quote block increases throughput. However, firms must be aware that there is an inherent trade-off in terms of cost to latency. That is, when densely packaging quotes in a quote block message, processing the block will take longer than processing a less densely packaged quote block. The firms must manage this dynamic to their own preference.

Minimizing Latency

Firms should take advantage of the synchronous nature of the SQF protocol and, while waiting for a quote response from NASDAQ OMX FUTURES, overwrite older quotes in their system waiting to be sent as firm/symbol pairs are repriced. In this way, when the quote response is received from NASDAQ OMX FUTURES, the most recent quotes for each firm/symbol pair can be sent.

Avoiding Queuing

SQF is strictly one-in-flight protocol on a given port. As a best practice, after submitting any request on a given port, regardless of the participant firm to the NASDAQ OMX FUTURES system, the client should wait for the arrival of either ACCEPT or REJECT response. Arrival of the ACCEPT/REJECT message indicates that the next request can be submitted. Not adhering to this practice can lead to unintentional queuing in the TCP stack.

Avoiding Timing Issues/Race Conditions

Firms may load balance firm/symbol combinations across multiple ports. However, they should wait until either an ACCEPT or REJECT response is received for a given firm/symbol combination quote or purge in order to avoid race conditions for subsequent quote blocks.

Trading Symbol Reentry

Whenever a Quote for a firm/symbol combination is purged, the firm must send a reentry message to the exchange for either the specific trading symbol that was purged or for the entire Firm/Issue pair or for the entire Firm before any further quotes will be accepted for the firm/symbol combination. Quotes can be purged in several ways:

- by the firm entering a 0 x 0 quote
- by the firm sending a purge request (Issue Purge Message)
- by the system. In this case the firm will receive an Trading Symbol Purge Notification (Future or Option) or Issue Purge Notification message (Issue)

Given the scenario when the firm sends a Quote unaware of the previous Quote having been purged on the system (the Purge Notification sent by NASDAQ OMX FUTURES is in flight to the firm and not yet received), the sent Quote will be rejected with "Quote Status Code" set to "I" (reentry required). In this case the firm will receive the notification and rejected quote, will be aware of the scenario, and can take appropriate action, such as sending a Trading Symbol or Issue or Firm Reentry message.

Firm

A firm identifies a participant in the book.

Trader ID

A firm must indicate the identity of the submitting trader within their firm when any order or quote related message is submitted. The set of valid trader ids for a given firm must be coordinated with member services.

Participant Type

A firm must indicate the participant type in each quote and order request. This value is specified using a code specified in the first column of the table in Appendix B.

Account

A firm must supply a clientAccount with each quote and each order submitted. This field is left justified, alphanumeric, padded with spaces on the right. This field must contain at least 1 (and up to 10) nonspace alphanumeric characters. This account is passed on to the clearing authority and to the user on any user drops and clearing feeds.

Purge on Disconnect

As soon as a port disconnect is detected all firm / issue combinations that have sent quotes or orders on the affected port since the start of session are immediately purged from all ports unless there were no quotes received on the affected port since last connect. In other words, if a port disconnects, all issues related to firm/trading-symbol combinations that have been sent on the disconnected port in that session will be purged from all ports in which they are present.

Order Outs (Cancels)

Outs for SQF orders are always returned.

Order and Quote Executions

Executions for SQF orders are always returned. Notification of Executions from Quotes is a subscription option.

Notification Ports

The SQF connection (port) can be configured as a "Notification Port". A Notification Port is an SQF Port which can receive notification messages, in particular: Purge Notifications and Execution Notifications are sent to SQF lines configured as Notification Ports. Notification ports can concurrently be used for sending quotes as well.

Purge-only Ports

An SQF connection (port) can be configured as a "Purge-only" port. Purge-only port allows entry of issue-level and firm level purges only. Requests of any other type cause Purge-only port to immediately terminate its connection. Purge-only port responds to issue-level and firm-level purges with the usual responses specified by the SQF protocol. No notifications are disseminated on Purge-only ports. Issue-level and firm-level purge requests received by Purge-only ports are handled by the system in a way that ensures minimum possible latency.

Symbol Information before 7am

Firms are encouraged to receive symbol information for their use by processing Directory Messages. In the event the firm needs this information before "Start of System Hours" (approximately 7:00am); this information may be obtained from the NASDAQ Trader Website.

Release Management

The SQF specification version updates will be conducted such that it remains backward compatible on a Version - n basis. The number of backward compatible releases will be determined by the exchange on a release by release basis.

6 Message Format Guidelines

All messages described below have byte sizes and offsets.

The Specialized Quote Interface will support these basic types of messages:

- System Events
- Administrative Data
- Quote and Order submissions
- Notification information

Within the system event, administrative and notification types, the exchange may support multiple message formats as outlined below.

7 Administrative Messages

All administrative notification messages are optional. It is possible to configure an SQF port to deliver only certain types of administrative messages.

7.1 System Event Message

The system event message type is used to signal a market or data feed handler event. The format is as follows:

System Event Message				
Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AS" = System Event Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Event Code	10	1	Alpha	Refer to System Event Codes below
Version	11	1	Integer	Version of the SQF Quote Interface. Currently set to 1.
Sub-version	12	1	Integer	Sub-version of the SQF Quote Interface. Currently set to 0.

Notes:

- 1) This is a sequenced message and therefore can be replayed upon re-connection.

System Event Codes		
Code	Explanation	When (typically)
"O"	<i>Start of Messages.</i> This is always the first message sent in any trading day.	After ~6:00am
"S"	<i>Start of System Hours.</i> This message indicates that NASDAQ OMX FUTURES is open.	~7:00am
"E"	<i>End of System Hours.</i> This message indicates that NASDAQ OMX FUTURES is now closed.	~5:30pm
"C"	<i>End of Messages.</i> This is always the last message sent in any trading day.	~5:35pm

7.2 Trading Product Directory Message

At the start of each trading day, the system disseminates directory messages for all symbols trading on the system.

7.2.1 Directory Message

Option Directory				
Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AD" = Trading Symbol Directory Message

Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Product Type	10	1	Alpha	"O" = Option, "F" = Future
Product ID	11	4	Integer	Product ID assigned daily, valid for the trading day. Unique only when combined with product type.
Symbol	15	6	Alphanumeric	Futures: Assigned Futures symbol (e.g. NAUZ3). Options: Underlying symbol for the option contract. This will be the symbol the options contract is based on (normally the Futures symbol, but may differ if it is not a regular-settlement/regular-deliverable).
Expiration Date	21	4	Integer	Option Expiration or Future maturity date in CCYYMMDD format.
Strike Price	25	8	Integer	For product type "O", denotes the explicit strike price of the product. Refer to Data Types for field processing notes. For all other product types, 0
Option Type	33	1	Alpha	Option Type: "C" = Call (Option) "P" = Put (Option) " " = (Future)
Issue Symbol	34	13	Alpha	Denotes the unique underlying issue symbol for this symbol (e.g. NAU).
Tradable	47	1	Alpha	Denotes whether or not this product is tradable at the exchange. The allowable values are: "Y" = Product is tradable "N" = Product is not tradable
MPV	48	8	Integer	Minimum Price Variation for this product. All prices must be a multiple of this price.
Symbol Start Time	56	4	Integer	Timestamp in seconds when the symbol starts trading
Symbol End Time	60	4	Integer	Timestamp in seconds when the symbol ends trading
Issue Type	64	1	Integer	Provides Issue Type D=Commodity C=Currency I=Index F=ETF M=Metal E=Energy
ExecAlgo	65	1	Integer	Execution Algorithm P=Price/Time R=Prorata

Notes:

- 1) **IMPORTANT:** The unique key for each symbol is the combination of the product type and the product ID. Product IDs are NOT unique across different product types.
- 2) The product directory messages are sent once per symbol, typically before the "Start of System Hours" System Event. Should it be necessary, intra-day updates to this message will be sent as they occur. In the case of an intra-day update, for a given Product Type/Product ID pair, the canonical information for the symbol is invariant (will not change). The canonical information consists of Symbol/Issue Symbol, Expiration Year Month and Day, Strike Price and Option Type. Other attributes for the product may change.
- 3) This is a sequenced message and therefore can be replayed upon re-connection.
- 4) If a Trading Product is removed from the system intra-day, a new product directory message will be sent with "Tradable" field set to "N". Any Quotes sent for this removed product will be rejected. All existing quotes for this product will be purged.
- 5) NASDAQ OMX FUTURES validates incoming order/quote prices against the MPV.

7.3 Security Trading Action Message

NASDAQ OMX FUTURES will use this administrative message to indicate the current trading status of a trading product within the NASDAQ OMX FUTURES Market.

After the start of system hours, the system will use the Trading Action message to relay changes in trading status for an individual trading symbol. Messages will be sent when a future or option is halted or is released for trading.

Trading Action Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AH" = Trading Action Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	11	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Current Trading State	15	1	Integer	Reflects the current trading state for the product. The allowable values are: H = Halt in effect T = Trading Resumed S = Symbol Starting (quote/orders now accepted) E = Symbol Ending (quote/orders no longer accepted)

Notes:

- 1) At the start of the day, all trading products are assumed to be trading unless notified by this message.
- 2) This is a sequenced message and therefore can be replayed upon re-connection.

7.4 Rapid-Fire Admin Message

This optionally delivered message specifies firms' per issue risk mitigation parameters (Rapid Fire settings).

Rapid-Fire Admin Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AF" = Rapid Fire Admin Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Issue Symbol	14	13	Alphanumeric	Issue Symbol (e.g. NAU)
Percentage	27	2	Integer	Displayed size percentage (e.g. 100)
Interval	29	2	Integer	Time interval (in milliseconds)

Notes:

- 1) The Rapid-Fire Admin messages are sent per firm/issue pair, typically after Product Directory messages. Rapid fire parameters are set to system default values unless specifically overridden via SQF message or by NASDAQ OMX FUTURES operations personnel.
- 2) Default Rapid-Fire parameters are not disseminated
- 3) Intra-day updates to the rapid-fire settings will be sent out as soon as the changes initiated via mechanisms mentioned above take effect.
- 4) This is a sequenced message and therefore can be replayed upon re-connection.
- 5) Rapid-Fire Admin messages are only disseminated to ports associated with the firm involved.

7.5 Rapid-Fire Configuration Control

SQF clients can change their risk-protection parameters using Rapid-Fire Control message. Rapid-Fire control changes can be issued any time after the start of system hours and take effect immediately.

7.5.1 Rapid-Fire Control Request Message

Rapid-Fire Change Request Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AF" = Rapid Fire Change Request Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader that submitted the request
Issue Symbol	14	13	Alphanumeric	Issue Stock Symbol
Percentage	27	2	Integer	Displayed size percentage (e.g. 100). Maximum allowed value is 1000
Interval	29	2	Integer	Time interval (in milliseconds)

Notes:

- 1) A valid Rapid Fire Change Request Message results in a Rapid-Fire Admin message sent out to all "notification" ports configured for the same firm/issue pair.
- 2) Rapid Fire Change causes system to reset the ongoing trade volume accumulation for the specified firm/issue pair. New parameters take effect immediately.
- 3) Rapid Fire Change settings are maintained for the duration of the current trading session. System reverts to the default as well as the settings maintained by NASDAQ OMX FUTURES personnel at the beginning of every trading day.

7.5.2 Rapid-Fire Control Reply Message

This message is sent as a response to the Rapid-Fire Control Request Message (AF) and indicates the validity of the request.

Rapid-Fire Change Reply Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AA" = Admin Control Reply Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Status Code	6	1	Alphanumeric	" " = valid request "A" = invalid firm "B" = invalid symbol "C" = not permitted "R" = market closed "T" = invalid trader id "Y" = invalid block "Z" = system unavailable

Notes:

- 1) This is an unsequenced message and therefore cannot be replayed upon re-connection.

8 Quote Messages

NASDAQ OMX FUTURES supports four different message formats for quote submission. It is possible to receive a "regular" or "detailed" reply message (acknowledgment) for each of the quote request types. Detailed replies contain system assigned unique sequence numbers for the Bid and Ask parts of the quote. The reply format is controlled by the case of the quote message subtype – upper case subtype requests are replied with regular acknowledgments, lower case subtype requests are replied with detailed acknowledgments. E.g. "QQ" quote is responded with regular reply, "Qq" is responded with the detailed one.

8.1 Short Quote Block Message

The Short Quote Block message is used to submit quotes. It can contain a variable number of quotes - up to 200 - within a single application level message. The Short Quote Block message utilizes the exchange assigned Product ID to specify the symbol that is being quoted. The Product ID for each product can be obtained from the Trading Product Directory messages. The Short Quote Block message contains a Message ID field to provide the firm with a means to uniquely identify the quote block.

Short Quote Block Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QQ" = Short Quote Block (Results in a Regular Reply) "Qq" = Short Quote Block (Results in a Detailed Reply)
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this quote block
Message ID	14	8	Binary	Firm defined unique quote message identifier reported on clearing executions
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops. Format is left-justified, alphanumeric, padded with spaces on the right. This field is required to have at least 1 nonspace, alphanumeric character.
Quote Count	32	2	Integer	Number of quotes in the message
<i>1 – 200 quotes comprised of the following fields...</i>				
Product Type		1	Alpha	"F" = Future "O" = Option
Product ID		4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Bid Price		8	Integer	The bid price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Bid Size		4	Integer	The ask contracts of the new quote.
Ask Price		8	Integer	The ask price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 10 whole number places

				followed by 8 decimal digits.
Ask Size		4	Integer	The ask contracts of the new quote.
Participant Type		1	Alpha	Participant Type (See appendix B for values)
OpenClose		1	Alpha	"O" = Open "C" = Close

Notes:

- 1) 0 x 0 quotes are accepted and are processed as a purge of that symbol. The firms are required to send a reentry message before the first new quote following a 0 x 0 quote.
- 2) The Message ID contents will appear in the Quote ID field in the Execution Notification messages and the Clearing Trade Interface (CTI) trade messages. In the short quote block message above, this field uniquely identifies the quote block, not the individual quote within the block which may be executed against.
- 3) Both bid and ask must be provided for each quote submitted.
- 4) See the Processing Hints and Tips Section for tips on quote message processing.

8.2 Long Quote Block Message

The Long Quote Block message is used to submit quotes. It can contain a variable number of quotes - up to 200 - within a single application level message. The Long Quote Block message utilizes the exchange assigned Product ID to specify the product that is being quoted. The Product ID for each product can be obtained from the Trading Product Directory message. The Long Quote Block message contains a Message ID field to provide the firm with a means to uniquely identify the quote block. The Long Quote Block message differs from the Short Quote Block message as it includes a Quote ID field to provide the firms with a means to uniquely identify each quote within the block.

Long Quote Block Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QL" = Long Quote Block (Results in a Regular Reply) "QI" = Long Quote Block (Results in a Detailed Reply)
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this quote block
Message ID	14	8	Binary	Firm defined unique message identifier.
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops. Format is left-justified, alphanumeric, padded with spaces on the right. This field is required to have at least 1 nonspace, alphanumeric character.
Quote Count	32	2	Integer	Number of quotes in the message
<i>1 – 200 quotes comprised of the following fields...</i>				
Quote ID		8	Binary	Firm defined unique quote identifier reported on clearing executions. Overrides the message identifier on clearing executions.
Product Type		1	Alpha	"F" = Future "O" = Option

Product ID		4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Bid Price		8	Integer	The bid price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Bid Size		4	Integer	The bid contracts of the new quote.
Ask Price		8	Integer	The ask price of the new quote. NOTE: When converted to a decimal format, this price is in fixed point format with 10 whole number places followed by 8 decimal digits.
Ask Size		4	Integer	The ask contracts of the new quote.
Participant Type		1	Alpha	Participant Type (See appendix B for values)
OpenClose		1	Alpha	"O" = Open "C" = Close

Notes:

- 1) 0 x 0 quotes are accepted and are processed as a purge of that symbol. The firms are required to send a reentry message before the first new quote following a 0 x 0 quote..
- 2) The Quote ID contents will appear in the Quote ID field in the Execution Notifications and the Clearing Trade Interface (CTI) trade messages. In the long quote block message above, this field uniquely identifies the individual quote within the block which may be executed against.
- 3) Both bid and ask must be provided for each quote submitted.
- 4) See the Processing Hints & Tips Section for tips on quote message processing.

8.3 Quote Reply Message

This message is a response to "QQ" and "QL" requests.

The Quote Reply message is used to inform the firm of the status of the quotes sent to the matching engine. A quote may be rejected by the matching engine, in which case a quote status code states the reason why the quote was rejected. Sequencing information for valid quotes is returned which may be used to determine the relative order of quotes or purges processed by the matching engine.

Quote Reply Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QR" = Quote Reply Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this quote block
Message ID	14	8	Binary	Firm defined unique message identifier
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops
Block Status Code	32	1	Alphanumeric	" " = valid "A" = invalid firm "T" = invalid trader id "Y" = invalid block "Z" = system unavailable
Quote Count	33	2	Integer	The number of quotes in the submitted quote block
Valid Quote Count	35	2	Integer	The number of valid quotes in the submitted quote block. A valid quote is defined as a quote or purge (0 x 0 quote) that has a Quote Status Code of " "
<i>1-200 quote responses comprised of the following fields...</i>				
Quote Status Code		1	Alphanumeric	" " = valid quote "B" = invalid symbol "C" = not permitted "D" = invalid side "E" = invalid size "F" = invalid price "G" = invalid spread "I" = reentry required "K" = pretrade risk preemptive reject "L" = pretrade risk cutoff reject "M" = Invalid open/close "P" = not in free trading "R" = market closed "U" = Bad account
Sequence		8	Integer	Relative sequence of the valid quote processed by the matching engine. Quotes/purges with higher sequence number occur after quotes/purges with lower sequence number. This field is

				zero if the request was invalid. Unique across all ports connected to a matching engine.
--	--	--	--	--

Notes:

- 1) The Quote Reply message is used by NASDAQ OMX FUTURES to respond to all submitted quote block message types.
- 2) Subtracting the Valid Quote Count field from the Quote Count field yields the number of invalid quotes and purges (0x0 quotes) in the quote block.
- 3) The Quote Reply message is assumed to apply to the last quote block message that has yet to be responded to for a given port. However, it does include the Message ID of the referenced quote block for convenience.
- 4) As a best practice, for a given port, firms should wait until the quote block response is received prior to sending another quote block to avoid unintentionally queuing within the TCP stack.
- 5) If firms load balance symbols across multiple connections, the firm is advised to wait for the quote response prior to submitting a new quote for a given symbol down a different connection to avoid timing issues/race conditions.
- 6) This is an unsequenced message and therefore cannot be replayed upon re-connection.
- 7) It is recommended that the firm send one quote per firm/option combination in one block for a given symbol. If more than one quote is sent in a block, each quote will be processed by the matching engine in the order that they appear in the quote block.

8.4 Detailed Quote Reply Message

This message is a response to "Qq" and "Ql" requests.

This reply is identical in circumstance and behavior to the Quote Reply Message described in the previous chapter. The only difference is inclusion of individual Bid/Ask sequence numbers.

Detailed Quote Reply Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"Qr" = Detailed Quote Reply Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this quote block
Message ID	14	8	Binary	Firm defined unique message identifier
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops
Block Status Code	32	1	Alphanumeric	" " = valid "A" = invalid firm "T" = invalid trader id "Y" = invalid block "Z" = system unavailable
Quote Count	33	2	Integer	The number of quotes in the submitted quote block
Valid Quote Count	35	2	Integer	The number of valid quotes in the submitted quote block. A valid quote is defined as a quote or purge (0 x 0 quote) that has a Quote Status Code of " "
<i>1-200 quote responses comprised of the following fields...</i>				
Quote Status Code		1	Alphanumeric	" " = valid quote "B" = invalid symbol "C" = not permitted "D" = invalid side "E" = invalid size "F" = invalid price "G" = invalid spread "I" = reentry required "K" = pretrade risk preemptive reject "L" = pretrade risk cutoff reject "M" = Invalid open/close "P" = not in free trading "R" = market closed "U" = Bad account
Sequence		8	Integer	Quotes/purges with higher sequence number occur after quotes/purges with lower sequence number. This field is zero if the request was invalid. Unique across all ports connected to a matching engine.
Bid Sequence		8	Integer	Day-unique order reference number

				assigned by NASDAQ OMX FUTURES to the Bid side of the quote
Ask Sequence		8	Integer	Day-unique order reference number assigned by NASDAQ OMX FUTURES to the Sell side of the quote

9 Purge / Reentry Messages

9.1 Issue Purge Message

The Issue Purge message is used to pull all quotes and orders from the market for all products of the specified issue symbol. It contains a Message ID field to provide the firm with a means to uniquely identify the purge.

Issue Purge Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"PU" = Issue Purge Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Message ID	14	8	Binary	Firm defined unique message identifier
Issue Symbol	22	13	Alphanumeric	Denotes the unique issue symbol. If the field is "*" (blank padded on the right), then all issues for this firm will be purged.

Notes:

- 1) Purges require firms to send a Market Reenter message before a new quote will be accepted.
- 2) See the Processing Hints & Tips Section for tips on purge message processing.
- 3) Issue Purge Notification Messages will be sent to all SQF connections configured as Notification Ports. If a wildcard issue purge is submitted (Issue Symbol field with "*" blank padded on the right), an Issue Purge Notification Message for each of the firm's quoted issues will be sent to all Notification Ports.

9.2 Issue Purge Reply Message

The Issue Purge Reply message is used to inform firms of the validity of an issue purge request.

Issue Purge Reply Message				
Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"PR" = Issue Purge Reply Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader that submitted the request
Message ID	14	8	Binary	Firm defined unique message identifier
Purge Status Code	22	1	Alphanumeric	" " = valid purge "A" = invalid firm "B" = invalid symbol "C" = not permitted "P" = not in free trading "R" = market closed "T" = invalid trader id "Y" = invalid block "Z" = system unavailable
Sequence	23	8	Integer	This field has different meanings depending on whether the request was for a specific Issue or for all Issues ("*"). If purging a specific Firm/Issue pair: Relative sequence of the issue purge processed by the matching engine. Quotes/purges with higher sequence number occur after quotes/purges with lower sequence number. This field is zero if the request was invalid. Note that sequencing information for each issue purged is returned in the Issue Purge Notification Messages. Unique across all ports connected to a matching engine. If purging all Issues for a Firm: This field will be 0. As each Firm/Issue pair is purged by the system, there will be an Issue Purge Notification message containing the sequence number for that Firm/Issue pair. (See Issue Purge Notification message for details.)

Notes:

- 1) The Issue Purge Reply message is used to respond to user submitted Issue Purge request.
- 2) As a best practice, for a given port, firms should wait until the purge response is received prior to sending another purge to avoid

- a. confusing responses with sent purges
 - b. unintentionally queuing within the TCP stack
- 3) If firms load balance symbols across multiple connections, the firm is advised to wait for the purge response prior to submitting a Market Reentry and/or a purge for a given symbol down a different connection to avoid timing issues/race conditions.
 - 4) This is an unsequenced message and therefore cannot be replayed upon re-connection.

9.3 Issue Market Reentry Message

Market Issue Reentry message is used to reset risk protection that has previously been triggered by either a system Rapid-Fire, Trading Product or user Purge event. This message provides a larger scope alternative to specifying product reentry requests on individual trading symbols. Once a Reentry request has been successfully handled by the system quotes will be accepted for any trading symbol within the scope of the reentry request.

Issue Market Reentry Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"RU" = Market Issue Reentry Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Message ID	14	8	Binary	Firm defined unique message identifier
Issue Symbol	22	13	Alphanumeric	Denotes the unique issue symbol. If the field is "*" (blank padded on the right), then all issues for this firm will be reset for reentry.

Notes:

- 1) Issue Market Reentry does not restore the quotes that have been removed from the system due to purge or rapid-fire.

9.4 Product Market Reentry Message

Product Market Reentry message is used to reset risk protection that has previously been triggered by a Trading Product Purge event for a particular Product ID + Product Type pair. Once a Reentry request has been successfully handled by the system quotes will be accepted for the trading symbol (i.e. the Product Type + Product ID) specified in the reentry request.

Product Market Reentry Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"RP" = Market Product Reentry Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Message ID	14	8	Binary	Firm defined unique message identifier
Product Type	22	1	Alpha	Product Type: "F" = Future "O" = Option
Product ID	23	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.

Notes:

- 1) Market Reentry does not restore the quotes that have been removed from the system due to purge or rapid-fire.

9.5 Market Reentry Reply Message

This message informs user of the completion and validity of the previously submitted Issue or Product Market Reentry request.

Market Reentry Reply Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"RR" = Market Reentry Reply Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Message ID	6	8	Binary	Firm defined unique message identifier
Status Code	14	1	Alphanumeric	" " = valid reentry "A" = invalid firm "B" = invalid symbol "C" = not permitted "R" = market closed "T" = invalid trader id "Y" = invalid block "Z" = system unavailable
Reserved	15	8		Unused

Notes:

- 1) The Market Reentry Reply message is assumed to apply to the last Market Reentry request that has yet to be responded to for a given port. However, it does include the Message ID of the referenced request for convenience.
- 2) When load balancing symbols across multiple connections, the firm is advised to wait for the Market Reentry response prior to submitting new quotes for the related symbols down a different connection to avoid timing issues/race conditions.
- 3) This is an unsequenced message and therefore cannot be replayed upon re-connection.

10 SQF Orders

10.1 SQF Order Functionality

SQF Orders

NOTE: These orders follow the normal semantics of order entry, not the semantics of Sweep orders from other Nasdaq OMX SQF protocols. This means that specifying side = Buy will execute against the Sell side of the book, and specifying side = Sell will execute against the Buy side of the book.

A SQF Order can be submitted during free trading. These orders can execute against any marketable interest (including both orders and quotes) resting on the opposite side of the specified product's book. These orders are implicitly IOC orders. These orders can hit multiple price levels. An Order Accept or Order Reject message indicates that the request was accepted or rejected by the matching engine, respectively. Each execution against one of these orders will generate an Order Execution Notification which includes the execution price and the number of contracts traded. Since these orders are IOCs, the unexecuted balance will be immediately cancelled which will generate an Order Canceled Notification.

The Specialist and Market Maker can specify the number of contracts at the defined price.

Auction Response

Available at a future date.

Considerations

Some things to consider when sending SQF Orders:

- SQF Orders cannot be sent before opening, because the product is not in free trading
- SQF Orders cannot be sent while the product is Halted, because the product is not in free trading

10.1.1 SQF Order Request

The SQF Order Request message is used to submit IOC orders to act as a taker of liquidity from the book. This message utilizes the exchange assigned Product Type/Product ID pair to specify the symbol whose book is being accessed. The valid Product Type/Product ID pairs can be obtained from the Directory messages. The SQF Order Request contains an Order ID field to provide the firm with a means to uniquely identify the order.

SQF Order Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"OO" = SQF Order Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Order ID	14	8	Binary	Firm defined unique message identifier. This id must be unique with respect to any currently open order sent on the SQF port receiving this message.
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops. Format is left-justified, alphanumeric, padded with spaces on the right. This field is required to have at least 1 nonspace, alphanumeric character.
Product Type	32	1	Alpha	Product Type: "F" = Future "O" = Option
Product ID	33	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Price	37	8	Integer	Limit price of the order
Side	45	1	Alphanumeric	"B" = Buy order "S" = Sell order
Contracts	46	4	Integer	Contract volume of the order
Participant Type	50	1	Alpha	Participant Type (See appendix B for values)
OpenClose	51	1	Alpha	"O" = Open "C" = Close

Notes:

- 1) IMPORTANT:** Unlike SQF sweeps available on NASDAQ OMX securities options exchanges, the "side" field in these requests are like normal orders such that if you want to execute against sell liquidity in the book you should send a "Buy" order and vice versa.
- 2) SQF Orders are submitted during free trading and will attempt to execute against contra side of the book. They are implicitly immediate or cancel (IOC) orders.

10.1.2 SQF Order Accept Message

The SQF Order Accept message is used to inform firms that a sweep is valid and accepted.

SQF Order Accept Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"OA" = SQF Order Accept Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Order ID	14	8	Binary	Firm defined unique message identifier.
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's clearing feeds/drops
Product Type	32	1	Alpha	Product Type: "F" = Future "O" = Option
Product ID	33	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Price	37	8	Integer	Limit price of the order
Side	45	1	Alphanumeric	"B" = Buy order "S" = Sell order
Contracts	46	4	Integer	Contract volume of the order
Participant Type	50	1	Alpha	Participant Type (See appendix B for values)

Notes:

- 1) The SQF Order Accept message is used to respond to a SQF Order Request if the request was determined to be valid.
- 2) This is a sequenced message and therefore can be replayed upon re-connection.

10.1.3 SQF Order Reject Message

The SQF Order Reject message is used to inform firms that a submitted order is invalid and therefore rejected.

SQF Order Reject Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"OR" = SQF Order Reject Message
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	6	8	Alphanumeric	ID of trader submitting this request
Order ID	14	8	Binary	Firm defined unique message identifier.
clientAccount	22	10	Alphanumeric	Firm account passed on to clearing authority and client's

				clearing feeds/drops
Order Reject Code	32	1	Alphanumeric	"A" = invalid firm "B" = invalid symbol "C" = not permitted "D" = invalid side "E" = invalid size "F" = invalid price "K" = pretrade risk preemptive reject "L" = pretrade risk cutoff reject "M" = Invalid open/close "P" = not in free trading "R" = market closed "T" = invalid trader id "U" = Bad account "Z" = system unavailable

Notes:

- 1) The SQF Order Reject message is used to respond to an SQF Order Request if the request was determined to be invalid.
- 2) This is a sequenced message and therefore can be replayed upon re-connection.

10.1.4 SQF Order Execution Message

The SQF Order Execution message is used to inform firms that an SQF Order has partially or fully executed.

SQF Order Execution Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"OE" = SQF Order Execution Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	14	8	Alphanumeric	ID of trader submitting this quote block
Product Type	22	1	Alpha	"F" = Future "O" = Option
Product ID	23	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Order ID	27	8	Binary	Firm defined unique Order ID reported on clearing executions. Message ID from original order message.
Price	35	8	Integer	Execution Price.

Side	43	1	Alphanumeric	"B" = Bought "S" = Sold NOTE: This value will match the "side" specified in the original order.
Contracts	44	4	Integer	Number of contracts traded
Liquidity Indicator	48	1	Alphanumeric	Indicates if this side of the trade added or removed liquidity. Possible values are: "A" = Added liquidity "R" = Removed liquidity
Cross Id	49	4	Integer	Identifies the execution. This can be matched with the Cross Id in the exchange Clearing Trade Interface (CTI) messages.
Match Id	53	4	Integer	Identifies the component of an execution.
Pair Id	57	4	Integer	Identifies the unique pair id shared by the two sides (buyer and seller) of the execution.

Notes:

- 1) This is a sequenced message and therefore can be replayed upon re-connection.
- 2) It is possible for an SQF order to have more than one execution for a given Cross Id. The Cross Id and Match Id combination uniquely identifies the Execution.

10.1.5 SQF Order Canceled Message

The SQF Order Canceled message is used to inform firms that the remaining open shares of their SQF Order have been canceled.

SQF Order Canceled Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"OC" = SQF Order Canceled Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	14	8	Alphanumeric	ID of trader submitting this quote block
Product Type	22	1	Alpha	"F" = Future "O" = Option
Product ID	23	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Order ID	27	8	Binary	Order ID from original order message.

Contracts	35	4	Integer	Number of contracts canceled
-----------	----	---	---------	------------------------------

Notes:

- 1) This is a sequenced message and therefore can be replayed upon re-connection.
- 2) The firm will receive exactly zero or one SQF Order Canceled message for a given SQF order.
- 3) If the order was filled, then this message will not be sent.
- 4) If the order was not executed at all or could only be partially filled, then this message will be sent to cancel any remaining opening shares after any required execution notifications are sent.

Notifications

10.2 Purge Notifications

10.2.1 Trading Product Purge Notification Message

The Trading Product Purge Notification message is used to inform firms that their quote and/or orders for a given trading symbol have been purged/removed from the market. This message utilizes the exchange assigned Product Type + Product ID to specify the symbol that has been purged. The Product Type/IDs for all trading symbols can be obtained from the Directory messages.

Trading Symbol Purge Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NP" = Option Symbol Purge Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Product Type	14	1	Alpha	"F" = Future "O" = Option
Product ID	15	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Purge Reason Code	19	1	Alphanumeric	"U" = user requested "S" = system initiated "Q" = Self-match prevention "R" = Pre-trade risk management cutoff
Message ID	20	8	Binary	Firm defined unique message identifier. This field is padded with blanks for system initiated purges.
Sequence	28	8	Integer	Relative sequence of the purge processed by the matching engine. Quotes/purges with higher sequence number occur after quotes/purges with lower sequence number. This field is zero if the request was invalid. Unique across all ports connected to a matching engine.

Notes:

- 1) The Trading Product Purge Notification Message is used to notify the firms that their quote and/or orders for a given symbol have been purged/removed from the market.
- 2) This is an unsequenced message and therefore cannot be replayed upon re-connection.

- 3) A Trading Product Purge Notification Message is generated upon any unsolicited system generated purge as well as for user requested purges.
- 4) A manual symbol purge requested by firm and performed by exchange personnel has Purge Reason Code set to "S".

10.2.2 Issue Purge Notification Message

The Issue Purge Notification message is used to inform firms that their quotes and/or orders for all Trading Products associated with the given issue symbol have been purged/removed from the market.

Issue Purge Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NU" = Issue Purge Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Issue Symbol	14	13	Alphanumeric	Denotes the unique issue symbol.
Purge Reason Code	27	1	Alphanumeric	"U" = user requested "S" = system initiated "R" = Pre-trade risk management cutoff
Message ID	28	8	Binary	Firm defined unique message identifier. This field is filled with blanks for system initiated purges.
Sequence	36	8	Integer	Relative sequence of the issue purge processed by the matching engine. Quotes/purges with higher sequence number occur after quotes/purges with lower sequence number. This field is zero if the request was invalid. Unique across all ports connected to a matching engine.

Notes:

- 1) The Issue Purge Notification Messages is used to notify the firms that their quotes and/or orders for all trading products associated with a given issue have been purged/removed from the market.
- 2) This is an unsequenced message and therefore cannot be replayed upon re-connection.
- 3) An Issue Purge Notification Message is generated upon any unsolicited system generated purge as well as for user requested purges.
- 4) A manual issue purge requested by firm and performed by exchange personnel has Purge Reason Code set to "S".

10.3 Market Reentry Notifications

The Market Reentry Notification message informs that risk protection has been reset for the specified scope.

10.3.1 Issue Market Reentry Notification Message

The Issue Market Reentry Notification message informs that risk protection triggered by rapid fire /purge has been reset for the Issue in the message.

Issue Market Reentry Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NR" = Market Issue Reentry Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	10	4	Alphanumeric	Exchange assigned Firm or Badge
Issue Symbol	14	13	Alphanumeric	Denotes the unique issue stock symbol.
Message ID	27	8	Binary	Firm defined unique message identifier of the initiating Reentry request.
Reserved	35	8		Reserved - unused

Notes:

- 1) This is an unsequenced message and therefore cannot be replayed upon re-connection.

10.3.2 Product Market Reentry Notification Message

The Product Market Reentry Notification message informs that risk protection triggered for a given symbol (Product Type+Product ID pair) has been reset.

Product Market Reentry Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NS" = Market Product Reentry Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Product Type	10	1	Alpha	"F" = Future "O" = Option
Product ID	14	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Message ID	28	8	Binary	Firm defined unique message identifier of the initiating Reentry request.

Notes:

- 2) This is an unsequenced message and therefore cannot be replayed upon re-connection.

10.4 Execution and Cancel Notifications

10.4.1 Quote Execution Notification Message

The Quote Execution Notification message is used to inform firms that their quote for a given Trading Product has been executed in the market.

Quote Execution Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NE" = Quote Execution Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Firm	2	4	Alphanumeric	Exchange assigned Firm or Badge
Trader ID	14	8	Alphanumeric	ID of trader that submitted the quote
Product Type	22	1	Alpha	"F" = Future "O" = Option
Product ID	23	4	Integer	Exchange assigned Product ID. Unique only when combined with product type.
Quote ID	27	8	Binary	Firm defined unique Quote ID. Message ID from Quote Block Message or Quote ID.
Auction ID	35	4	Integer	<reserved>
Price	39	8	Integer	Execution Price
Side	47	1	Alphanumeric	"B" = Bought "S" = Sold
Contracts	48	4	Integer	Number of contracts traded
Liquidity Indicator	52	1	Alphanumeric	Indicates if this side of the trade added or removed liquidity. Possible values are: "A" = Added liquidity "R" = Removed liquidity
Cross Id	53	4	Integer	Identifies the execution. This can be matched with the Cross Id in the exchange Clearing Trade Interface (CTI) messages
Match Id	57	4	Integer	Identifies the component of an execution
Pair Id	61	4	Integer	Identifies the unique pair id shared by the two sides (buyer and seller) of the execution.

Notes:

- 1) This is a sequenced message and therefore can be replayed upon re-connection.
- 2) This notification is only sent if the firm is subscribed to receive these messages.
- 3) The firm may receive more than one Quote Execution Notification message with the same cross ID, however the Cross Id and Match Id combination uniquely identifies the Quote Execution.

10.5 Pre Trade Risk Notification

The Pre Trade Risk Notification message is used to inform firms that one of their pre trade risk monitors has changed state. The state change could be a warning, a cutoff or a reset.

Pre Trade Risk Notification Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"NM" = Pre Trade Risk Notification Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of the timestamp
Monitor Type	10	1	Alpha	Type of Pre Trade Risk Monitor "F" – Monitor for a single firm. "T" – Monitor for a single trader "f" – Predefined group of firms "t" – Predefined group of traders
Monitor ID	11	8	Alphanumeric	ID of Pre Trade Risk Monitor whose status is being updated. Left justified, padded with spaces to the right. Value depends on Monitor Type: Type "F" – 4 byte firm mnemonic Type "T" – 8 byte Trader ID Type "f" or "t" – 8 byte Group ID
Status	19	1	Alpha	Status " " – Reset (not alerted) "7" – 70% limit warning "8" – 80% limit warning "9" – 90% limit warning "X" – Cutoff limit reached. Quotes are purged, orders are canceled and no new orders/quotes will be accepted.
Rule	20	1	Alpha	Rule " " – N/A (if status is Reset) "A" – Open Exposure Value "B" – Open Total Value "C" – Exec Exposure Value "D" – Exec Total Value
Trigger Value	21	8	Binary	The value that caused the status change. Note this will be 0 on a

				Reset.
--	--	--	--	--------

Notes:

- 1) This is a sequenced message and therefore can be replayed upon re-connection.
- 2) This notification is only sent if the port is subscribed to receive these messages, and the firm, trader, firm group or trader group is permissioned for the given port.

11 Support

Department	Contact	Phone	Email
Market Operations	System Support	+1 215 496 1571	phlxsystemsupport@nasdaqomx.com
NOC	NOC	+1 212 231 5049	nocgroup@nasdaqomx.com
Subscriber Services	Subscriber Services	+1 212 231 5180	subscriber@nasdaqomx.com

For technical questions please contact devsupport@nasdaqomx.com

12 Appendix A – SQF Client To Host Messages

The following table summarizes which host to client messages are sequenced or unsequenced.

Message	Notes
System Event Message	Sequenced
Future Directory Message	Sequenced
Option Directory Message	Sequenced
Security Trading Action Message	Sequenced
Rapid Fire Admin Message	Sequenced
Rapid Fire Control Reply Message	Unsequenced
Quote Reply Message	Unsequenced
Issue Purge Reply Message	Unsequenced
SQF Order Accept Message	Sequenced
SQF Order Reject Message	Sequenced
SQF Order Execution Message	Sequenced
SQF Order Canceled Message	Sequenced
Trading Product Purge Notification Message	Unsequenced
Issue Purge Notification Message	Unsequenced
Market Issue Reentry Notification Message	Unsequenced
Market Product Reentry Notification Message	Unsequenced
Quote Execution Notification Message	Sequenced

13 Appendix B – Participant Types

Firms sending messages requiring Participant Type will submit one of the Participant Types below. Each Participant Type value corresponds to a specific combination of Customer Type Identifier (CTI) code, Origin Code, and OCC Account Type Code.

Participant type	Corresponding combination			Description
	SQF value	CTI Code	Origin Code	
A	1	1	M	Transactions initiated and executed by an individual Member for his own account, for an account he controls or for an account in which he has ownership or financial interest; Segregated Funds
B	1	2	M	Transactions initiated and executed by an individual Member for his own account, for an account he controls or for an account in which he has ownership or financial interest; Non-Segregated Funds
C	2	1	M	Transactions executed for the proprietary account of a NASDAQ OMX FUTURES Member; Segregated Funds
D	2	2	M	Transactions executed for the proprietary account of a NASDAQ OMX FUTURES Member; Non-Segregated Funds
E	2	1	F	Transactions executed for the proprietary account of a NASDAQ OMX FUTURES Member Firm; Segregated Funds
F	2	2	F	Transactions executed for the proprietary account of a NASDAQ OMX FUTURES Member Firm; Non-Segregated Funds
G	3	1	M	Transactions where an individual Member executes for the personal account of another individual Member, for an account the other individual Member controls or for an account in which the other individual Member has ownership or financial interest; Segregated Funds
H	3	2	M	Transactions where an individual Member executes for the personal account of another individual Member, for an account the other individual Member controls or for an account in which the other individual Member has ownership or financial interest; Non-Segregated Funds
I	4	1	C	Transactions not meeting the definition of CTI 1, 2 or 3. (These should be non-Member customer transactions.) Segregated Funds

14 Appendix C – Revision Control Log

Documentation Revision Control Log

July 19, 2013: Specialized Quote Interface- Version 1.1

- Added ClientAccount field to various messages

March 13, 2013: Specialized Quote Interface- Version 1.0

- Alpha version