

## FREQUENTLY ASKED QUESTIONS: NOM 2.0

- I. Overview
- II. Market Making
- III. Order Entry
- IV. Market Data
- V. Functionality
- VI. Other

### I. OVERVIEW

#### **1. What is NOM 2.0?**

In Q3 2011, NASDAQ OMX® will introduce a technical alignment between the two NASDAQ OMX U.S. options exchanges, The NASDAQ Options Market<sup>SM</sup> (NOM) and NASDAQ OMX PHLX<sup>SM</sup> (PHLX®). Several enhancements will be made to the NOM platform which will benefit NASDAQ OMX and its customers. NASDAQ OMX® will refer to the implementation of the enhancements as **NOM 2.0**. The transition began on **August 26, 2011**.

#### **2. Will any of the NOM 2.0 enhancements require Securities and Exchange Commission Rule approval?**

Yes. NASDAQ OMX has filed all NOM 2.0 related filings needed to begin the rollout on August 26, 2011.

#### **3. How will NOM 2.0 benefit NOM customers?**

The technical alignment of the two NASDAQ OMX U.S. options exchanges will provide customers with common data input and output across the two exchanges along with several functionality enhancements. Common interfaces, data structures and customer reports will allow firms to streamline business across the two exchanges with less development effort.

#### **4. What enhancements will be made for NOM 2.0?**

- **SQF** advanced market making interface will provide a common interface on both NOM and PHLX
- “Rapid Fire and Purge” functionality (same functionality that currently exists on PHLX as the PHLX XL Risk Monitor Mechanism)
- Acceptable Trade Range (ATR) price protection feature
- Order Price Protection (“Fat Finger”) (same functionality that currently exists on PHLX)

#### **5. What will be the common elements between NOM 2.0 and PHLX?**

- SQF
- FIX interfaces between NOM and PHLX
- Customer reports on NOM and PHLX
- Market Data

#### **6. How will trading be transitioned from the current NOM system to NOM 2.0?**

**Effective August 26, 2011**, symbols will be migrated from NOM to NOM 2.0 in selected groups of underlyings. The rollout schedule and list of symbols will be clearly communicated to all customers in Options Trader Alerts throughout the transition.

## **II. MARKET MAKING**

### **7. What interfaces will be available for market makers on NOM 2.0?**

- **SQF** – Proprietary bulk quoting API for market making
- **OTTO** – Proprietary order-by-order API for market making
- **FIX** – Order entry protocol. Market makers should use OTTO or SQF to provide two-sided quotes.

### **8. Will NOM 2.0 SQF be the same as PHLX SQF?**

Yes. NOM 2.0 will use SQF 6.2. PHLX customers will have the opportunity to upgrade to SQF 6.2 after NOM 2.0 is fully rolled out at which point the interfaces will be the same across the two exchanges. .

### **9. Can firms use the same SQF port for both PHLX and NOM?**

No. Firms will need separate SQF ports for each market.

### **10. Will NOM 2.0 support the current version of OTTO?**

Yes. NOM 2.0 will support the current version of OTTO with additional values for certain fields.

NOM 2.0 OTTO will also support optional enhanced functionality.

### **11. What changes will be made to the current version of OTTO for NOM 2.0?**

There will be an additional indication in the Display field on order acknowledgements indicating that an order has been re-priced and displayed at the re-priced price.

The Time-in-Force (“TIF”) field will no longer support TIFs of varying lengths in milliseconds. OTTO will only support DAY and IOC TIFs. TIFs other than DAY or IOC will be treated as IOC.

### **12. Is there a document that highlights the differences between NOM 1.0 and NOM 2.0 for OTTO?**

Please refer to [this overview](#).

### **13. What new functionality will NOM 2.0 OTTO support?**

The enhanced version of OTTO will support the following new optional features:

- Update messages when orders are dynamically re-priced in response to NBBO updates
- Symbol directory messages by full symbol and by system symbol ID
- Opening auction imbalance and indicative price messages

### **14. Why do I have to connect to multiple ports for NOM 2.0 OTTO?**

NOM 2.0 OTTO will operate according to a symbol range. Orders entered over an OTTO port must be for symbols served by the symbol range for that port. Initially, there will be two symbol ranges for OTTO on NOM 2.0. One range will be A – M, the other will be N – Z.

**15. Will NOM 2.0 support “Rapid Fire and Purge Risk Protection”?**

Yes. NOM 2.0 will replace the current NOM risk protection functionality with the PHLX XL Risk Monitor Mechanism (“Rapid Fire”) risk protection that exists on the PHLX trading system.

**16. Will Rapid Fire and Purge apply to all orders and quotes entered over SQF and OTTO?**

Yes. Rapid Fire and Purge will be available for all market making interest entered over SQF and OTTO based on a firm’s participant ID.

**17. Will Rapid Fire apply to orders entered over FIX?**

Yes. Rapid Fire and Purge will be supported for orders entered via FIX.

**18. What are the market maker requirements on NOM 2.0?**

Market Makers should refer to this link for the NOM 2.0 Market Maker requirements:

<http://nasdaq.cchwallstreet.com/NASDAQ/pdf/nasdaq-filings/2011/SR-NASDAQ-2011-036.pdf>

In summary, market makers have several obligations:

- Provide continuous two-sided liquidity for options overlying the securities for which the market maker is registered.
  - Provide a two-sided quote 90% of the time.
  - Provide a two-sided quote in 60% of the series in which a market maker is registered.  
*Except:*
    - Market makers are not required to provide two-sided quotes in options with an expiration that is greater than nine months away, quarterly options, or options with a non-standard contract
  - Maximum quote width of \$5.
- Participate in the NOM 2.0 open
- Ensure that at least 75% of the market maker’s trading activity on NOM is in options in which they are registered as a MM on NOM.
- Registration will be by underlying.

**19. Will NOM 2.0 market makers be allowed to register by series?**

No. NOM 2.0 market makers will be required to register by underlying.

**20. Is the requirement to quote at least 60% of the series in which a Market Maker is registered per underlying or aggregate?**

The requirement is aggregate across all underlyings.

**21. Do Market Makers have a maximum quote width requirement at the open?**

Yes, the \$5 maximum quote width requirement applies at all times. Quotes with a width wider than \$5 are not considered valid quotes and do not satisfy quoting obligations. Market maker quotes that are wider than the \$5 requirement will be considered a violation.

### III. ORDER ENTRY

#### **22. What interfaces will be available for Order Entry Firms on NOM 2.0?**

The FIX interface will be available to firms wishing to enter orders into NOM 2.0. OTTO and SQF will only be available to market makers.

#### **23. What is changing on the FIX interface?**

The current version of FIX on NOM will be maintained for NOM 2.0. Once the migration to NOM 2.0 is complete, firms will need to migrate to a new IP address.

At some point after the migration to NOM 2.0 has been completed, the PHLX and NOM FIX interfaces will be standardized into one FIX specification that covers both exchanges.

#### **24. Is the participant type field (FIX Tag 47 Rule 80A/OrderCapacity) different for NOM 2.0?**

Yes. The participant type field (FIX Tag 47 Rule 80A/OrderCapacity) has been expanded to cover two additional participant types: Broker-Dealer (clearing as customer) and Away Exchange Registered Market Maker. Firms must be sure to populate this field with the proper participant type code. The full list of valid values for this field are as follows:

Code	Description	OCC Clearing
C	Public Customer i.e. Non-professional, non-broker-dealer	Clears as Customer
B	<b>Broker-Dealer Order - new</b>	Clears as Customer
F	Firm – OCC member Broker-Dealer Proprietary	Clears as Customer
M	NOM Registered Market Maker	Clears as Firm
O	<b>Away Exchange Registered Market Maker - new</b>	Clears as Market Maker
P	Professional, non-broker-dealer	Clears as Market Maker

#### **25. Which interfaces will be retired?**

The NOMAD interface into NOM will be retired. Firms using NOMAD will need to migrate to FIX.

#### **26. What will happen to the current NOM drop copy sessions when NOM 2.0 is launched?**

FIX clients will continue to use current NOM FIX drop copy sessions when NOM 2.0 is launched. When the NOM 2.0 roll out is completed, firms will be migrated to NOM 2.0 FIX drop copy sessions.

NOMAD clients may continue to use current NOM NOMAD drop copy sessions when NOM 2.0 is launched. When the NOM 2.0 roll out is completed, firms using NOMAD for order entry and drop copies will be migrated to NOM 2.0 FIX order entry and drop copy sessions.

Firms using OTTO will need to use NOM 2.0 OTTO and OTTO Drop copy sessions for symbols that have been migrated to NOM 2.0.

**27. Will NOM 2.0 support Order Price Protection (“Fat Finger”)?**

Yes. Order Price Protection (“Fat Finger”) will be supported on NOM 2.0. If an order is received and it is priced through the National Best Bid or Offer (NBBO) by a defined percentage, the order will be rejected.

**28. What will be the Order Price Protection settings on NOM 2.0?**

The NOM 2.0 Order Price Protection settings will be identical to the PHLX Order Price Protection settings:

Order Type	NBO Value (for buys) or NBB Value (for sells)	
	≤ \$1.00	> \$1.00
Buy Limit	(100% * NBO) + NBO	(50% * NBO) + NBO
Sell Limit	No Threshold	NBB – (50% * NBB)

**29. What interfaces support Order Price Protection?**

The FIX order entry interface will support Order Price Protection.

**30. How will firms reconcile open Good-Til-Cancelled (GTC) orders on a daily basis on NOM 2.0?**

A daily open order report will be available to firms for reconciliation of open GTC orders. The report will be in the same format as the PHLX Open Order report.

**31. Will NOM 2.0 support All-or-None (AON) orders?**

Yes. NOM 2.0 treats AON orders as IOC regardless of the TIF on the order. However, firms may choose to have NOM 2.0 reject AON orders with TIFs other than IOC rather than being handled as IOC. Please contact [NASDAQ OMX Subscriber Services](#) to request AON order rejection.

**32. Will NOM 2.0 allow a cancel/replace of an order from DAY to GTC?**

Yes. NOM 2.0 will allow firms to cancel/replace Day orders to GTC orders.

**33. Will NOM 2.0 support the Good Til Time (GTT) TIF?**

Orders submitted to NOM 2.0 as GTT will be treated as IOC.

**IV. MARKET DATA**

**34. What market data feeds will be available on NOM 2.0?**

NOM 2.0 will support the [ITCH To Trade Options \(ITTO\)](#) and [Best of NASDAQ Options \(BONO\)](#) data feeds.

**35. What market data feeds will be retired?**

The Depth at Price (DAP) data feed will be retired at the end of the system transition.

### **36. What is changing on the ITTO and BONO market data feeds?**

The current versions of ITTO and BONO will be replaced with binary versions. At some point after the migration to NOM 2.0, the PHLX TOPO data feed will adopt the NOM 2.0 BONO structure so that firms will have common market data across the two exchanges.

### **37. What are the bandwidth recommendations for the new ITTO and BONO data feeds?**

The recommended bandwidth for BONO is 40Mb per multicast group and the recommended bandwidth for ITTO is 120Mb per multicast group. Both feeds are available in uncompressed format only.

### **38. How many multicast groups will be offered?**

NOM will support three multicast groups, also called the 'A feed', "B feed" and "C feed". NOM will provide local redundancy in the New York Metro Area data center ("A feed" and "B feed") while using the Mid- Atlantic Region data center ("C feed") for disaster recovery in the event that order entry is switched from the New York Metro Area.

### **39. Are sample data files available that can be used for development and test purposes?**

Yes, sample data is available and can be accessed on the public FTP directory for [Options](#).

### **40. Is testing available for the market data feeds?**

Testing is currently available in the [Options Test Facility \(OTF\)](#) . [IP address](#) details for testing are available on the NASDAQ OMX Trader® website. Please contact [NTF@nasdaq.com](mailto:NTF@nasdaq.com) or +1 212 231 5180 to begin testing.

### **41. Where can I find the production UDP/IP address information?**

NOM 2.0 production connection address information is available in the [UDP/IP Addresses - U.S. Derivatives Data Feeds](#) section of Market Data on the Trader website.

## **[V. FUNCTIONALITY](#)**

### **42. How will trading halts and halt resumptions function on NOM 2.0?**

When an option is halted on NOM 2.0, all market maker interest (SQF and OTTO) will be purged from the system. All orders entered over FIX will remain on the book. New orders, quotes, cancels and replaces will be accepted during the halt.

NOM 2.0 will use a modified Opening Auction to resume a halted option.

### **43. What is Acceptable Trade Range (ATR)?**

Acceptable Trade Range (ATR) places a limit on the range of prices at which an order can execute. When an ATR is reached, the order will be posted at the ATR price for a limited period of time. Once that time has passed, the order will execute further to the next ATR level. Firms have the option of having their orders cancelled after an order has reached an ATR limit.

*\*Pending Securities and Exchange Commission (SEC) approval.*

#### **44. What routing strategies will NOM 2.0 offer?**

NOM 2.0 will offer the same strategies as NOM offers today:

- SRCH – the SRCH strategy seeks to access liquidity whenever and wherever it is available.
- SEEK– the SEEK strategy accesses liquidity on NOM and away markets if it is marketable upon entry. Once the order is posted at its limit price on the NOM book, it does not re-route.
- DNR – Do Not Route

#### **45. Will there be a closing auction on NOM 2.0?**

No. NOM retired the closing auction on December 6<sup>th</sup>, 2010.

#### **46. Will NOM 2.0 support a complex order book?**

No. NOM 2.0 will not support a complex order book.

#### **47. Will NOM 2.0 support price improvement?**

Yes. NOM 2.0 will continue to support price improving orders as NOM does today.

Price Improving Orders are orders entered into the system which are priced within the displayable quote spread. These orders are placed on the NOM book at their actual price and represented to the Options Price Reporting Agency (OPRA) and in NOM proprietary feeds at the allowable quote increment. Incoming orders receive the price of the resting Price Improving Order when executed. There are no special instructions needed to enter a Price Improving Order — firms simply need to price their orders in pennies.

Example:

- OPRA display: Bid: 1.00 Offer:1.05; Size: 10x10
- An order to buy 10 contracts at 1.03 is received by NASDAQ.
- NASDAQ places order on the book at 1.03 and displays it at 1.00.
- New OPRA display: Bid: 1.00 Offer: 1.05; Size:20x10
- An order to sell 10 contracts at 1.00 is received.
- NASDAQ executes the sell order against the Price Improving Order at 1.03.

The seller receives price improvement immediately and automatically.

#### **48. Will NOM 2.0 support a separate price improvement auction like PIXL on PHLX?**

No. NOM 2.0 will not support PIXL.

#### **49. Where will NOM 2.0 be located?**

NOM 2.0 will be located in the NASDAQ OMX production data center, which also houses PHLX, The NASDAQ Stock Market, NASDAQ OMX BX, NASDAQ OMX PSX and The NASDAQ OMX Futures Exchange (NFX).

## **VI. OTHER**

#### **50. How should my firm prepare?**

Firms should review these FAQ's and contact their sales representative with questions. Firms should also review the updated interface and market data specifications which are now available on the [www.nasdaqomxtrader.com/nom](http://www.nasdaqomxtrader.com/nom) website. Lastly, please check for recent customer notifications (Options Trader, Options Technical, Options Regulatory Alerts or Data Technical News) at [http://www.nasdaqtrader.com/Micro.aspx?id=MicroArchiveHeadlines&cat\\_id=11](http://www.nasdaqtrader.com/Micro.aspx?id=MicroArchiveHeadlines&cat_id=11)

Firms should contact [membership@nasdaqomx.com](mailto:membership@nasdaqomx.com) to set up exchange account numbers as explained in [ORA 2011-7](#) and provide NSCC numbers for direct debiting of exchange fees as explained in [ORA 2011-6](#).

#### **51. Will firms be billed for NOM 2.0 ports during the transition?**

No. During the transition to NOM 2.0, firms will only be billed for their current NOM ports. Once the transition is complete, the NOM ports will be turned off and firms will be billed only for their new NOM 2.0 ports. Please refer to [OTA #2011-39](#).

#### **52. What testing opportunities are available?**

Testing is currently available in the Options Test Facility (OTF). NOM will also offer Saturday testing of the production system on the following dates:

- Saturday August 6, 2011
- Saturday August 13, 2011
- Saturday August 20, 2011

Firms may also connect to the production environment prior to the August 26 launch to perform further testing. Please contact NASDAQ OMX Trading Services for more information.

#### **53. Where can I find more information?**

Refer to the [technical specifications](#) on the NASDAQ OMX Trader website. For additional information about the transition, please contact NASDAQ OMX Transaction Services, U.S. at +1 800 846 0477 or [sales@nasdaqomx.com](mailto:sales@nasdaqomx.com).