

# Nasdaq Opening Cross Process

## Increasing Transparency and Flexibility at the Open

### What Are We Introducing?

- Improved transparency: Nasdaq will disseminate auction imbalance information beginning at 9:25 a.m. ET
- Improved flexibility: Nasdaq will allow for MOO & LOO Orders to be entered after the initial auction imbalance dissemination has been published
- Maintain integrity: Cancellation of On-Open Orders will not be permitted after the imbalance information has been published (9:25 a.m. ET) ensuring the auction preserves its integrity

### Why Are We Making These Changes?

- Improve the transparency and flexibility for participating in the price discovery process for the opening auction
- Increase participation for a wider variety of liquidity providers earlier in the trading day
- Disseminating early Order Imbalance information is an accepted practice in market center auctions

### New Opening Cross Functionality Timeline:

- 9:25-9:28 a.m. ET: Early Auction Imbalance Information is published; new MOO & LOO orders accepted; modifications and cancellations are not permitted.
- 9:28-9:29:30 a.m. ET: Full Auction Imbalance Information is published; new MOO orders are rejected; Late LOO\* orders are accepted; modifications and cancellations are not permitted.
- 9:29:30-9:30 a.m. ET: New non-IOC LOO orders are treated as Imbalance Only Orders; new IOC LOO orders are rejected; Imbalance Only Orders may be entered until 9:30 a.m. ET

\*Late LOO orders entered after 9:28 a.m. ET will be accepted at their limit price, unless its limit price is more aggressive than both the 9:28 a.m. ET Reference Price or the security's previous day's official Closing Price, in which case the Late LOO order will be re-priced to the more aggressive of the two prices (depending on the customer's instructions). Utilizing both the 9:28 a.m. ET Reference Price and the previous day's official Closing Price will promote price stability as well as add flexibility to offset auction imbalances and enhance the opening auction price discovery process.

### Late LOO Pricing Example:

**PREVIOUS DAY'S OFFICIAL CLOSING PRICE = 10.00**

**9:25 A.M. ET -- EARLY NOII BEGINS NASDAQ BBO 9.99 X 10.01**

**100K BUY IMBALANCE REFERENCE PRICE = 10.01**

- 9:26 a.m. ET  
Ord#1 B 50K MOO received NOII = 150k Buy Imbalance BBO 10.15 x 10.20 Reference Price = 10.20
- 9:27 a.m. ET  
Ord#2 B 50k MOO received NOII 200k Buy Imbalance BBO 10.25 x 10.30 Reference Price = 10.30

- 9:27:30 a.m. ET  
Ord#3 S 200k LOO 10.40 received NOII 200k Buy Imbalance BBO 10.25 x 10.30 Reference Price = 10.30
- 9:28 a.m. ET  
NOII 200k Buy Imbalance BBO 10.25 x 10.30 Ref = 10.30 Near Price = 10.40 Far Price = 10.40  
- Late Sell LOO Orders will be accepted at prices as aggressive as 10.00 and Late LOO Buy orders will be accepted at prices no more aggressive than 10.30.

**PREVIOUS DAY'S OFFICIAL CLOSING PRICE = 10.00**

**9:25 A.M. ET -- EARLY NOII BEGINS NASDAQ BBO 9.99 X 10.01**

**100K BUY IMBALANCE REFERENCE PRICE = 10.01**

- 9:26 a.m. ET  
Ord#1 B 50K MOO received NOII 150k Buy Imbalance BBO 10.15 x 10.20 Reference Price = 10.20
- 9:27 a.m. ET  
Ord#2 S 250k MOO received NOII 150k paired 100k Sell Imbalance BBO 10.20 x 10.25 Reference Price = 10.20
- 9:27:30 a.m. ET  
Ord#3 B 100k LOO received 9.70 NOII 150k paired 100k Sell Imbalance BBO 9.80 x 9.85 Reference Price = 9.80
- 9:28 a.m. ET  
NOII 150k paired 100k Sell Imbalance BBO 9.75 x 9.80 Reference Price = 9.75 Near Price = 9.70 Far Price = 9.70  
- Late Buy LOO Orders will be accepted at prices as aggressive as 10.00 and Late LOO Sell orders will be accepted at prices no more aggressive than 9.75.

**Late LOO pricing rules will allow orders that offset imbalances to be more aggressively priced and restrict those orders that are on the same side of the imbalance from creating a larger imbalance. These rules will promote price stability and enhance price discovery in the opening auction.**