# NLS Plus

A trade-by-trade data feed with NASDAQ, BX and PSX transactions and consolidated volume information for U.S. exchange-listed equities

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Product offered by
NASDAQ OMX Information, LLC
dataproducts@nasdaqomx.com

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## 1   Product Description:

NLS Plus is a data feed product offered by NASDAQ OMX Information LLC.

The NLS Plus data feed is designed to provide a comprehensive view into the trading activity on the U.S. equity exchanges.

- **Market coverage:**  The NLS Plus data feed reflect all transactions from the NASDAQ OMX – US market systems: The NASDAQ Stock Market, FINRA/NASDAQ Trade Reporting Facility (TRF), NASDAQ OMX BX (BX) and NASDAQ OMX PSX (PSX).   In addition, NLS Plus features total cross-market volume information at the issue level.

- **Security coverage:**  The NLS Plus covers all NASDAQ-, New York Stock Exchange (NYSE)-, NYSE MKT-, NYSE Arca-, BATS- and US regional exchange-listed securities.   Upon SEC approval, NLS Plus will also cover BX-listed securities.

Market data distributors may use the NLS Plus data feed to feed real-time stock tickers, portfolio trackers, trade alert programs, time and sale graphs, and other display systems.

For pricing and administration information, please refer to the NLS Plus product page on the NASDAQ Trader website.

## 2   Data Delivery / Protocol Options

NASDAQ OMX will offer the NLS Plus data feed in two protocol options:

- MoldUDP64
- Compressed via SoupBINTCP

NLS Plus will be delivery via two data channels:

| Channel # | Data Set |
|---|---|
| NLS Plus #1 | NASDAQ OMX trades with real-time consolidated volume for **NASDAQ-listed securities** and, pending SEC approval, BX-listed securities |
| NLS Plus #2 | NASDAQ OMX trades with delayed consolidated volume for **NYSE-, NYSE MKT-, NYSE Arca and BATS-listed securities** |

For network support and ordering information, please refer to the NASDAQ Direct Data Products Specifications Page on the NASDAQ OMX Trader website.

## 3   Architecture

NLS Plus will be made up of a series of sequenced messages. Each message is variable in length based on the message type. The messages that make up the NLS Plus protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

## 4    Data Types

All integer fields are big-endian (network byte order) binary encoded numbers.

Prices are integer fields, supplied with an associated precision.  When converted to a decimal format, prices are in fixed point format , where the precision defines the number of decimal places.  For example, a Price (4) field has an implied 4 decimal places.  The maximum value of a Price (4) in NLS Plus is 200,000.0000 (decimal, 77359400 hex).

Timestamp reflects the NASDAQ OMX system time at which the outbound message was generated. NASDAQ OMX states time as the number of milliseconds past midnight. The time zone is U.S. Eastern Time.

All alphanumeric fields are left-justified, ASCII fields. Padding spaces appear on the right as necessary.

## 5    Message Formats

### 5.1  System Event Message

System Event Messages is used to signal key market or data feed control events.

| System Event Message | | | | |
|---|---|---|---|---|
| **Name** | **Offset** | **Len** | **Value** | **NLS Plus** |
| Time Stamp | 0 | 4 | Integer | Time Stamp |
| Message Type | 4 | 1 | Alphanumeric | S = System Event Message |
| Event Code | 5 | 1 | Alphanumeric | Denotes the NLS Plus type of system event for which the message is being generated. The allowable values are: |

| Code | Value |
|---|---|
| O | Start of Transmissions: Denotes that the NLS Plus system has started its daily transmission schedule. |
| S | Start of System Hours: This message indicates that NASDAQ is open and ready to start accepting orders. |

| System Event Message | | | | | |
|---|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Value* | *NLS Plus* | |
| | | | | Q | Start of Market Hours: Denotes the start of the regular US market session.  Traditionally, only trade transactions reported during the regular market session are considered to be "last sale" eligible. |
| | | | | M | End of Market Hours: Denotes the end of the regular US session. |
| | | | | E | End of System Hours: Indicates that NASDAQ is now closed and will not accept any new orders today. |
| | | | | C | End of Transmissions: Denotes that the NLS Plus system has ended its daily transmission schedule. |

## 5.2  Trade Report

The following message is used to relay NASDAQ execution system and TRF trade transactions that are reported for the current business day.   Please note that NASDAQ only reports one-side of a trade execution on the NASDAQ Last Sale (NLS Plus) feed and other data feed products.   See Appendix B for a description of each sale condition modifier.

| Trade Report Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Time Stamp | 0 | 4 | Integer | Denotes the time stamp of the NASDAQ system that generated the trade transaction.  Please note that the NASDAQ and TRF systems maintain separate time stamps. |
| Message Type | 4 | 1 | Alphanumeric | T = Trade Report |

**Trade Report Message**

| Name | Offset | Len | Type | Value/Description |
|------|--------|-----|------|-------------------|
| Originating Market Center Identifier | 5 | 1 | Alphanumeric | Denotes the NASDAQ OMX market system that generated the trade report message. The allowable values are: |

| Code | Value |
|------|-------|
| Q | The NASDAQ Stock Market |
| L | NASDAQ/FINRA Trade Reporting Facility (TRF) |
| B | NASDAQ OMX BX (BX) |
| X | NASDAQ OMX PSX (PSX) |

| Name | Offset | Len | Type | Value/Description |
|------|--------|-----|------|-------------------|
| Issue Symbol | 6 | 8 | Alphanumeric | Denotes the NASDAQ-assigned issue symbol of the security for which the trade report is being generated. For details on NASDAQ symbology, please refer to Appendix B. |
| Security Class | 14 | 1 | Alphanumeric | Indicates the primary listing market for the issue. Allowable values are: |

| Code | Value |
|------|-------|
| Q | NASDAQ Listed Issue |
| N | NYSE Listed Issue |
| A | NYSE MKT Listed Issue |
| P | NYSE Arca Listed Issue |
| Z | BATS Listed Issue |
| B | BX Listed Issue (Pending SEC approval) |

**Trade Report Message**

| Name | Offset | Len | Type | Value/Description |
|------|--------|-----|------|-------------------|
| Trade Control Number | 15 | 10 | Alphanumeric | Indicates the source's internal control number associated with the given trade transaction.<br><br>Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field. This number is used as a key field for trade cancellations and trade corrections. |
| Trade Price | 25 | 4 | Price (4) | The price associated with the trade transaction being reported. Refer to Data Types for field processing NLS Plus. |
| Trade Size | 29 | 4 | Integer | Indicates the reported number of shares on the trade transaction. |
| Sale Condition Modifier | 33 | 4 | Alphanumeric | Sale condition modifier consists of four levels as defined below. |
| Sale Condition Modifier – Level 1 | *33* | *1* | *Alphanumeric* | Used for Settlement Type information. Allowable values are:<br><br><table><tr><td>Code</td><td>Value</td></tr><tr><td>@</td><td>Regular Settlement</td></tr><tr><td>C</td><td>Cash Settlement</td></tr><tr><td>N</td><td>Next Day Settlement</td></tr><tr><td>R</td><td>Seller Settlement</td></tr></table> |

**Trade Report Message**

| Name | Offset | Len | Type | Value/Description |
|---|---|---|---|---|
| Sale Condition Modifier – Level 2 | 34 | 1 | Alphanumeric | Used for SEC Regulation NMS Trade Through Exemption Codes. Allowable values are: |

| Code | Value |
|---|---|
| F | Intermarket Sweep |
| O | Opening Print |
| 4 | Derivative Priced |
| 5 | Re-Opening Print |
| 6 | Closing Print |
| <space> | Not applicable |

| Name | Offset | Len | Type | Value/Description |
|---|---|---|---|---|
| Sale Condition Modifier – Level 3 | 35 | 1 | Alphanumeric | Used for Extended Hours or Sold Codes. Allowable values are: |

| Code | Value |
|---|---|
| T | Extended Hours Trade |
| U | Extended Hours Trade – Reported Late or Out of Sequence |
| L | Sold Last – Reported Late But In Sequence |
| Z | Sold – Out of Sequence |
| <space> | Not applicable |

| Trade Report Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Sale Condition Modifier – Level 4 | *36* | *1* | *Alphanumeric* | Used for special sale condition codes. Please note that this field is case sensitive. Allowable values are: |

| Code | Value |
|---|---|
| A | Acquisition |
| B | Bunched |
| D | Distribution |
| H | Price Variation Transaction |
| M | NASDAQ Official Close Price (NOCP) |
| P | Prior Reference Price |
| Q | NASDAQ Official Opening Price (NOOP) |
| S | Split Trade |
| W | Average Price Trade[1] |
| X | Cross Trade |
| o | Odd lot execution |
| x | Odd Lot Cross execution |
| <space> | Not applicable |

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[1] For NLS Plus processing, NASDAQ OMX will use the sale condition modifier of "W" for all Average Price Trades regardless of the listing market center. While the UTP SIP uses the same sale condition modifier code for NASDAQ-listed issues, it should be noted that SIAC / CTA SIP uses a "B" sale condition modifier for Average Price Trades for NYSE-, NYSE MKT- and NYSE Arca-listed securities.

| Trade Report Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Consolidated Volume | 37 | 8 | Integer | Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade message was generated.  See Appendix A for calculation and dissemination information for this data element. |

### 5.3  Trade Cancel/Error

The following message is used in the event that a NASDAQ OMX trade transaction is cancelled on the same business day that it is reported.

| Trade Cancel/Error Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Time Stamp | 0 | 4 | Integer | Denotes the time stamp of the NASDAQ OMX system that generated the trade cancel/error message. |
| Message Type | 4 | 1 | Alphanumeric | X = Trade Cancel/Error |
| Originating Market Center Identifier | 5 | 1 | Alphanumeric | Denotes the NASDAQ OMX market system that generated the trade report and cancel/error message. The allowable values are: <table><tr><td>Code</td><td>Value</td></tr><tr><td>Q</td><td>NASDAQ</td></tr><tr><td>L</td><td>NASDAQ/FINRA TRF</td></tr><tr><td>B</td><td>BX</td></tr><tr><td>X</td><td>PSX</td></tr></table> |
| Issue Symbol | 6 | 8 | Alphanumeric | Denotes the NASDAQ-assigned issue symbol of the security for which the trade report is being generated. For details on NASDAQ symbology, please refer to Appendix B. |

**Trade Cancel/Error Message**

| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
|---|---|---|---|---|
| Security Class | 14 | 1 | Alphanumeric | Indicates the primary listing market for the issue. Allowable values are: |
| Original Trade Control Number | 15 | 10 | Alphanumeric | Indicates the source's internal control number associated with the given trade transaction.<br><br>Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field. |
| Original Trade Price | 25 | 4 | Price (4) | Reported price for the original trade transaction. Refer to Data Types for field processing NLS Plus. |
| Original Trade Size | 29 | 4 | Integer | Reported number of shares for original trade transaction. |
| Original Sale Condition Modifier | 33 | 4 | Alphanumeric | Defines the sale condition modifiers as reported on the original trade transaction. |

Within the Security Class field, the allowable values table:

| Code | Value |
|---|---|
| Q | NASDAQ Listed Issue |
| N | NYSE Listed Issue |
| A | NYSE MKT Listed Issue |
| P | NYSE Arca Listed Issue |
| Z | BATS Listed Issue |
| B | BX Listed Issue (Pending SEC approval) |

| Trade Cancel/Error Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Consolidated Volume | 37 | 8 | Integer | Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element |

### 5.4 Trade Correction

The following message is used in the event that a NASDAQ OMX trade transaction is corrected on the same business day that it is reported.

| Trade Correction Message | | | | | |
|---|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* | |
| Time Stamp | 0 | 4 | Integer | Denotes the time stamp of the NASDAQ system that generated the trade correction message. | |
| Message Type | 4 | 1 | Alphanumeric | C = Trade Correction | |
| Originating Market Center Identifier | 5 | 1 | Alphanumeric | Denotes the NASDAQ OMX market system that generated the trade report and cancel/error message. The allowable values are: | |
| | | | | Code | Value |
| | | | | Q | NASDAQ |
| | | | | L | NASDAQ/FINRA TRF |
| | | | | B | BX |
| | | | | X | PSX |

| Trade Correction Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Issue Symbol | 6 | 8 | Alphanumeric | Denotes the NASDAQ-assigned issue symbol of the security for which the trade correction message is being generated. For details on NASDAQ symbology, please refer to Appendix B. |
| Security Class | 14 | 1 | Alphanumeric | Indicates the primary listing market for the issue. Allowable values are: |
| Original Trade Control Number | 15 | 10 | Alphanumeric | Indicates the source's internal control number associated with the given trade transaction.<br><br>Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field. |
| Original Trade Price | 25 | 4 | Price (4) | Reported price on the original trade transaction. Refer to Data Types for field processing NLS Plus. |
| Original Trade Size | 29 | 4 | Integer | Reported number of shares on the original trade transaction. |

Within the Security Class row:

| Code | Value |
|---|---|
| Q | NASDAQ Listed Issue |
| N | NYSE Listed Issue |
| A | NYSE MKT Listed Issue |
| P | NYSE Arca Listed Issue |
| Z | BATS Listed Issue |
| B | BX Listed Issue (Pending SEC approval) |

| Trade Correction Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Original Sale Condition Modifier | 33 | 4 | Alphanumeric | Indicates sale condition modifiers associated with the original transaction. |
| Corrected Trade Control Number | 37 | 10 | Alphanumeric | Indicates the NASDAQ OMX internal control number associated with the adjusted trade transaction. Please note that the Trade Control Number is specific to the NASDAQ OMX host system reflected in the Originating Market Center ID field. |
| Corrected Trade Price | 47 | 4 | Price (4) | Indicates the price for the corrected trade transaction. Refer to Data Types for field processing NLS Plus. |
| Corrected Trade Size | 51 | 4 | Integer | Indicates the number of shares for the corrected trade transaction. |
| Corrected Sale Condition Modifier | 55 | 4 | Alphanumeric | Denotes the sale condition modifiers associated with the corrected trade transaction. |
| Consolidated Volume | 65 | 8 | Integer | Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade correction message was generated. See Appendix A for calculation and dissemination information for this data element. |

## 5.5 Administrative Messages

To help firms create a full display, NASDAQ OMX supports the following five administrative messages: (1) Trading Action, (2) Symbol Directory, (3) Reg SHO Short Sale Price Test Restricted Indicator, (4) Adjusted Closing Price, (5) End of Day Trade Summary and (6) IPO Information.

### 5.5.1  Stock Trading Action

NASDAQ OMX uses this administrative message to indicate the current trading status of a security to the trading community.   Please note that this message originates from the NASDAQ market center system.

Prior to the start of system hours, NASDAQ OMX will send out a Trading Action spin.  In the spin, NASDAQ OMX will send out a Stock Trading Action message with the "T" (Trading Resumption) for all NASDAQ- and other exchange-listed securities that are eligible for trading at the start of the system hours.  If a security is absent from the pre-opening Trading Action spin, firms should assume that the security is being treated as halted in the NASDAQ platform at the start of the system hours.  Please note that securities may be halted in the NASDAQ OMX system for regulatory or operational reasons.

After the start of system hours, NASDAQ OMX will use the Trading Action message to relay changes in trading status for an individual security.  Messages will be sent when a stock is:

- Halted
- Paused*
- Released for quotation
- Released for trading

* The paused status will be disseminated for NASDAQ-listed securities only. Trading pauses on non-NASDAQ listed securities will be treated simply as a halt.

| Stock Trading Action Message | | | | |
|------------------|--------|-----|--------------|------------------------------|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Time Stamp | 0 | 4 | Integer | Time Stamp. |
| Message Type | 4 | 1 | Alphanumeric | H = Trading Action |
| Reserved | 5 | 1 | Alphanumeric | This field is reserved for future use.  In the initial release, this field will be space filled. |
| Issue Symbol | 6 | 8 | Alphanumeric | NASDAQ-assigned indicator for issue for which the trading action message is being generated.  For details on NASDAQ symbology, please refer to Appendix B. |
| Security Class | 14 | 1 | Alphanumeric | Indicates the primary listing market for the issue. Allowable values are: |

| Code | Value |
|------|----------------|
| Q | NASDAQ Listed |

**Stock Trading Action Message**

| Name | Offset | Len | Type | Value/Description | |
|------|--------|-----|------|-------------------|---|
| | | | | | Issue |
| | | | | N | NYSE Listed Issue |
| | | | | A | NYSE MKT Listed Issue |
| | | | | P | NYSE Arca Listed Issue |
| | | | | Z | BATS Listed Issue |
| | | | | B | BX Listed Issue (Pending SEC approval) |
| Current Trading State | 15 | 1 | Alphanumeric | Reflects the current trading state for the issue. The allowable values are: | |
| | | | | Code | Value |
| | | | | H | Halt in effect (Cross all U.S. equity exchanges) |
| | | | | P | Paused across all U.S. equity markets / SROs (NASDAQ-listed securities only) |
| | | | | Q | Quote only period in effect (Cross all U.S. equity changes) |
| | | | | T | Trading on NASDAQ OMX market |
| Reason | 16 | 4 | Alphanumeric | Reflects the Market Ops or MarketWatch code for the trading state change. Refer to Appendix C for current code list. | |

### 5.5.2  Stock Directory

At the start of each trading day, NASDAQ OMX disseminates stock directory messages for all active NASDAQ and non-NASDAQ-listed security symbols.

Market data redistributors should process this message to populate the Financial Status Indicator (required display field) and the Market Category (recommended display field) for NASDAQ-listed issues.

| **STOCK DIRECTORY** | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Length* | *Value* | *Notes* |
| Timestamp | 0 | 4 | Integer | Time Stamp |
| Message Type | 4 | 1 | Alphanumeric | R = Stock Directory Message |
| Stock | 5 | 8 | Alphanumeric | Denotes the security symbol for the issue in the NASDAQ execution system. |
| Market Category | 13 | 1 | Alphanumeric | Indicates Listing market or listing market tier for the issue<br><br><table><tr><td>Code</td><td>Definition</td></tr><tr><td colspan=2>NASDAQ-Listed Instruments</td></tr><tr><td>Q</td><td>NASDAQ Global Select Market<sup>SM</sup></td></tr><tr><td>G</td><td>NASDAQ Global Market<sup>SM</sup></td></tr><tr><td>S</td><td>NASDAQ Capital Market<sup>®</sup></td></tr><tr><td colspan=2>Non-NASDAQ-Listed Instruments</td></tr><tr><td>N</td><td>New York Stock Exchange (NYSE)</td></tr><tr><td>A</td><td>NYSE MKT</td></tr><tr><td>P</td><td>NYSE Arca</td></tr><tr><td>Z</td><td>BATS Z Exchange</td></tr><tr><td>&lt;space&gt;</td><td>Not available</td></tr></table> |
| Financial Status Indicator | 14 | 1 | Alphanumeric | For NASDAQ-listed issues, this field indicates when a firm is not in compliance with NASDAQ continued listing requirements.<br><br><table><tr><td>Code</td><td>Definition</td></tr><tr><td colspan=2>NASDAQ-Listed Instruments</td></tr><tr><td>D</td><td>Deficient</td></tr><tr><td>E</td><td>Delinquent</td></tr><tr><td>Q</td><td>Bankrupt</td></tr><tr><td>S</td><td>Suspended</td></tr><tr><td>G</td><td>Deficient and Bankrupt</td></tr><tr><td>H</td><td>Deficient and Delinquent</td></tr><tr><td>J</td><td>Delinquent and Bankrupt</td></tr><tr><td>K</td><td>Deficient, Delinquent and Bankrupt</td></tr></table> |

| | | | | | C | Creations and/or Redemptions Suspended for Exchange Traded Product |
|---|---|---|---|---|---|---|
| | | | | | N | Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt |
| | | | | | *Non-NASDAQ-Listed Instruments* | |
| | | | | | <space> | Not available. Firms should refer to SIAC feeds for code if needed. |
| Round Lot Size | 15 | 4 | Integer | Denotes the number of shares that represent a round lot for the issue | | |
| Round Lots Only | 19 | 1 | Alphanumeric | Indicates if NASDAQ system limits order entry for issue <br><br> **Code / Definition** <br> Y — NASDAQ OMX system only accepts round lots orders for this security. <br> N — NASDAQ OMX system does not have any order size restrictions for this security. Odd and mixed lot orders are allowed. | | |
| Issue Classificatio n | 20 | 1 | Alphanumeric | Identifies the security class for the issue as assigned by NASDAQ. See Appendix for allowable values. | | |
| Issue Sub-Type | 21 | 2 | Alphanumeric | Identifies the security sub-type for the issue as assigned by NASDAQ. See Appendix for allowable values. | | |
| Authenticity | 23 | 1 | Alphanumeric | Denotes if an issue or quoting participant record is set-up in NASDAQ systems in a live/production, test, or demo state. Please note that firms should only show live issues and quoting participants on public quotation displays. <br><br> **Code / Definition** <br> P — Live/Production <br> T — Test | | |
| Short Sale Threshold Indicator | 24 | 1 | Alphanumeric | Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3). | | |

| | | | | Code | Definition |
|---|---|---|---|---|---|
| | | | | Y | Issue is restricted under SEC Rule 203(b)(3) |
| | | | | N | Issue is not restricted |
| | | | | \<space\> | Threshold Indicator not available |
| IPO Flag | 25 | 1 | Alphanumeric | Indicates if the NASDAQ security is set up for IPO release. This field is intended to help NASDAQ market participant firms comply with FINRA Rule 5131(b). | |

| Code | Definition |
|---|---|
| *NASDAQ-Listed Instruments* | |
| Y | NASDAQ listed instrument is set up as a new IPO security |
| N | NASDAQ listed instrument is not set up as a new IPO security |
| *Non-NASDAQ-Listed Instruments* | |
| \<space\> | Not available |

| | | | | | |
|---|---|---|---|---|---|
| LULD Reference Price Tier | 26 | 1 | Alphanumeric | Indicates which Limit Up / Limit Down price band calculation parameter is to be used for the instrument. Refer to LULD Rule for details. | |

| Code | Definition |
|---|---|
| 1 | Tier 1 NMS Stocks and select ETPs |
| 2 | Tier 2 NMS Stocks |
| \<space\> | Not applicable |

| | | | | | |
|---|---|---|---|---|---|
| ETP Flag | 27 | 1 | Alphanumeric | Indicates whether the security is an exchange traded product (ETP): | |

| Code | Definition |
|---|---|
| Y | Instrument is an ETP |
| N | Instrument is not an ETP |
| \<space\> | Not available |

| | | | | | |
|---|---|---|---|---|---|
| ETP Leverage Factor | 28 | 4 | Integer | Tracks the integeral relationship of the ETP to the underlying index. Example: If the underlying Index increases by a value of 1 and the ETP's Leverage factor is 3, indicates the ETF will increase/decrease (see Inverse) by 3.<br><br>Note: Leverage Factor of 1 indicates the ETP is NOT leveraged. | |

| | | | | This field is used for LULD Tier I price band calculation purposes. |
|---|---|---|---|---|
| Inverse Indicator | 32 | 1 | Alphanumeric | Indicates the directional relationship between the ETP and underlying index. <br><br> Example: An ETP Leverage Factor of 3 and an Inverse value of 'Y' indicates the ETP will decrease by a value of 3. |
| Bloomberg ID | 33 | 12 | Alphanumeric | The composite ID that Bloomberg has assigned to the security. |

Within the Inverse Indicator row:

| Code | Definition |
|---|---|
| Y | ETP is an Inverse ETP |
| N | ETP is not an Inverse ETP |

### 5.5.3 Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) implemented changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to SEC Release Number 34-61595.

In association with the Reg SHO rule change, NASDAQ OMX introduced a Reg SHO Short Sale Price Test Restricted Indicator.

The Reg SHO Short Sale Price Test Restricted Indicator message is disseminated intra-day when a security has a price drop of 10% or more from the adjusted prior day's NASDAQ Official Closing Price (NOCP). Once a message with the "S" indicator is disseminated, all short sale orders entered for the given security will be subject to processing under Rule 201 (Alternative Bid Tick Rule) of Reg SHO for the remainder of the trading day or until a "C" action message is disseminated whichever is sooner.

In addition, NASDAQ OMX supports a pre-opening spin of Reg SHO Short Sale Price Test Restricted Indicator messages for those securities in which Rule 201 will remain in effect for the current trading day.

| Short Sale Restriction Indicator Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Time Stamp | 0 | 4 | Integer | Time Stamp. |
| Message Type | 4 | 1 | Alphanumeric | Y = Short Sale Restriction Indicator |
| Issue Symbol | 5 | 8 | Alphanumeric | NASDAQ-assigned indicator for issue for which the short sale restriction indicator message is being generated. For details on NASDAQ symbology, please refer to |

**Short Sale Restriction Indicator Message**

| Name | Offset | Len | Type | Value/Description |
|------|--------|-----|------|-------------------|
| | | | | Appendix B. |
| Reg SHO Action | 13 | 1 | Alphanumeric | Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination.   Allowable values are:<br><br>"0" = No price test in place<br><br>"1" = Reg SHO Short Sale Price Test Restriction in effect due to an intra-day price drop in security<br><br>"2" = Reg SHO Short Sale Price Test Restriction remains in effect |

### 5.5.4  Adjusted Closing Price

At the start of each trading day, NASDAQ disseminates the adjusted closing price for all active symbols in the NASDAQ system.

For NASDAQ-listed securities the NASDAQ Official Closing Price will be used to calculate the adjusted close. For non-NASDAQ securities, the consolidated close will be used to calculate adjusted close.

| ADJUSTED CLOSING PRICE | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Value* | *Notes* |
| Time Stamp | 0 | 4 | Integer | Time Stamp. |
| Message Type | 4 | 1 | Alphanumeric | G = Adjusted Closing Price |
| Issue Symbol | 5 | 8 | Alphanumeric | NASDAQ-assigned indicator for issue for which the short sale restriction indicator message is being generated.  For details on NASDAQ symbology, please refer to Appendix B. |
| Security Class | 13 | 1 | Alphanumeric | Indicates the primary listing market for the issue.  Allowable values are: <table><tr><td>Code</td><td>Value</td></tr><tr><td>Q</td><td>NASDAQ Listed Issue</td></tr><tr><td>N</td><td>NYSE Listed Issue</td></tr><tr><td>A</td><td>NYSE MKT Issue</td></tr><tr><td>P</td><td>NYSE Arca Issue</td></tr><tr><td>Z</td><td>BATS-Listed Issue</td></tr></table> |
| Adjusted Closing Price | 14 | 4 | Price (4) | The previous trading day's official closing price adjusted for any applicable corporate actions. If there were no corporate actions for a security, the previous day's official close will be disseminated. |

### 5.5.5  End of Day Trade Summary

At the close of each trading day, NASDAQ OMX will disseminate the following end of day trade summary messages for all active NASDAQ- and non-NASDAQ-listed securities.    NASDAQ OMX disseminates this message to ensure that NLS Plus subscribers have the correct daily volume information for all issues.

| Name | Offset | Len | Type | Value/Description |
|------|--------|-----|------|-------------------|
| **End of Day Trade Summary** | | | | |
| Time Stamp | 0 | 4 | Integer | Time Stamp. |
| Message Type | 4 | 1 | Alphanumeric | J = End of Day Trade Summary |
| Issue Symbol | 5 | 8 | Alphanumeric | NASDAQ-assigned indicator for issue for which the directory message is being generated.  For details on NASDAQ symbology, please refer to Appendix B. |
| Market Category | 13 | 1 | Alphanumeric | Denotes the listing market for the issue. The allowable values are: |
| NASDAQ OMX High Price | 14 | 4 | Price (4) | Reflects the highest price reported for a last sale transaction on any NASDAQ OMX venue for the issue symbol during the current trading day. |
| NASDAQ OMX Low Price | 18 | 4 | Price (4) | Reflects the lowest price reported for a last sale transaction on any NASDAQ OMX venue for the issue symbol during the current trading day. |
| NASDAQ OMX Closing Price | 22 | 4 | Price (4) | For NASDAQ-listed securities, this field will reflect the NASDAQ Official Closing Price (NOCP) value if available.<br><br>For non-NASDAQ-listed securities, this field will reflect the final last sale eligible transaction reported by any NASDAQ OMX venue for the issue during normal market hours. |
| Consolidated Volume | 26 | 8 | Integer | Reflects the total volume for the issue reported at the consolidated market level. |

Market Category allowable values:

| Code | Value |
|------|-------|
| Q | NASDAQ Listed Issue |
| N | NYSE Listed Issue |
| A | NYSE MKT Listed Issue |
| P | NYSE Arca Listed Issue |
| Z | BATS Listed Issue |
| B | BX Listed Issue (Pending SEC approval) |

### 5.5.6 IPO Information

NASDAQ OMX will disseminate the following IPO messages from the UTP and CTA Level 1 feeds for Initial Public Offerings for all NASDAQ- and non-NASDAQ-listed securities. Please note that NLS Plus filters the General Administrative Messages from the UTP and CTA feeds for IPO specific text as the General Administrative Messages are free-form text and not used solely for IPO messages only.

| IPO Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* |
| Time Stamp | 0 | 4 | Integer | Time Stamp. |
| Message Type | 4 | 1 | Alphanumeric | I = IPO Message |
| Issue Symbol | 5 | 8 | Alphanumeric | NASDAQ-assigned indicator for issue for which the trading action message is being generated. For details on NASDAQ symbology, please refer to Appendix B. |
| Security Class | 13 | 1 | Alphanumeric | Indicates the primary listing market for the issue. Allowable values are:<br><br>| Code | Value |<br>| --- | --- |<br>| Q | NASDAQ Listed Issue |<br>| N | NYSE Listed Issue |<br>| A | NYSE MKT Listed Issue |<br>| P | NYSE Arca Listed Issue |<br>| Z | BATS Listed Issue |<br>| B | BX Listed Issue (Pending SEC approval) | |
| Reference For Net Change | 14 | 1 | Alphanumeric | Reflects the current trading state for the issue. The allowable values are:<br><br>| Code | Value | |

| IPO Message | | | | | | |
|---|---|---|---|---|---|---|
| *Name* | *Offset* | *Len* | *Type* | *Value/Description* | | |
| | | | | | F | First Trade Price |
| | | | | | W | Underwriter Price |
| Reference Price | 15 | 4 | Price (4) | Reference Price | | |

### 5.5.7  Market-Wide Circuit Breaker (MWCB) Messaging

*5.5.7.1 MWCB Decline Level Message*

Informs data recipients what the daily MWCB breach points are set to for the current trading day.

| MWCB Decline Level Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Length* | *Value* | *Notes* |
| Timestamp | 0 | 4 | Integer | Time at which the MWCB Decline Level message was generated |
| Message Type | 4 | 1 | Alphanumeric | V =Market wide circuit breaker Decline Level Message. |
| Level 1 | 5 | 8 | Price (8) | Denotes the MWCB Level 1 Value. |
| Level 2 | 13 | 8 | Price (8) | Denotes the MWCB Level 2 Value. |
| Level 3 | 21 | 8 | Price (8) | Denotes the MWCB Level 3 Value. |

*5.5.7.2 MWCB Status Message*

Informs data recipients when a MWCB has breached one of the established levels

| MWCB Breach Message | | | | |
|---|---|---|---|---|
| *Name* | *Offset* | *Length* | *Value* | *Notes* |
| Timestamp | 0 | 4 | Integer | Time at which the MWCB Breaker Status message was generated |
| Message Type | 4 | 1 | Alphanumeric | W = Market-Wide Circuit Breaker Status message |
| Breached Level | 5 | 1 | Alphanumeric | Denotes the MWCB Level that was breached.<br><br>"1" = Level 1<br>"2" = Level 2<br>"3" = Level 3 |

### 5.5.8  IPO Quoting Period Update

Indicates the anticipated IPO quotation release time of a security.

| IPO Quoting Period Update | | | | |
|---|---|---|---|---|
| **Name** | **Offset** | **Length** | **Value** | **Notes** |
| Timestamp | 0 | 4 | Integer | Time at which the IPQ Quoting Period Update message was generated |
| Message Type | 4 | 1 | Alphanumeric | K = IPO Quoting Period Update Message |
| Stock | 5 | 8 | Alphanumeric | Denotes the security symbol for the issue in the NASDAQ execution system. |
| IPO Quotation Release Time | 13 | 4 | Integer | Denotes the IPO release time, in seconds since midnight, for quotation to the nearest second.<br><br>NOTE: If the quotation period is being canceled/postponed, we should state that<br>1. IPO Quotation Time will be set to 0<br>2. IPO Price will be set to 0 |
| IPO Quotation Release Qualifier | 17 | 1 | Alphanumeric | **Code** / **Description**<br><br>**A** — **Anticipated quotation release time** *This value would be used when NASDAQ Market Operations initially enters the IPO instrument for release.*<br><br>**C** — **IPO release canceled/postponed** *This value would be used when NASDAQ Market Operations cancels or postpones the release of the IPO instrument.* |
| IPO Price | 18 | 4 | Price (4) | Denotes the IPO price to be used for intraday net change calculations.<br><br>Prices are given in decimal format with 6 whole number places followed by 4 decimal digits. The whole number portion is padded on the left with spaces; the decimal portion is padded on the right with zeros. The decimal point is implied by position; it does not appear inside the price field. |

## 6    Contact Information

Questions about the NLS Plus entitlement, display guidelines may be directed to NASDAQ OMX Global Data products at +1 301 978 5307 or dataproducts@nasdaqomx.com.

Questions about NLS Plus transmissions may be directed to NASDAQ OMX Development Support Team at devsupport@nasdaqomx.com.

**Appendix A – Last Sale Processing**

*Issue Price-Level Statistics*

For messaging efficiencies, NLS Plus provides raw trade data for the NASDAQ OMX trading venues.  If needed, firms may create their own algorithms for issue- and market center-level price statistics.  To help in the process, NASDAQ offers the following guidelines.

*a)  Last Sale Calculation*

Within the market data industry, the term "last sale" has been widely used in conjunction with the SEC Vendor Display Rule.  "Last Sale" is typically used to denote the most recent round or mixed lot trade transaction reported by a market center with an eligible sale condition code for the regular U.S. market session.   For NASDAQ OMX cross-market displays, firms should use the time stamp field from the Trade Report message to determine the proper trade sequence order for last sale calculations as well as time and sales displays.

To facilitate a "Last Sale" calculation, NLS Plus includes the sale condition modifier.  The Sale Condition Modifier field consists of four levels.  A trade should only be applied to the high, low, last sale, and volume calculations if all four sales condition modifiers so allow.

**Sale Condition – Level 1** Denotes the settlement type of the transaction.  If a transaction has a special settlement code, firms should not include transaction in high, low, or last sale price calculations.  If the transaction has a regular settlement type, firms should process the next levels to determine proper processing.

| Code | Value | High/Low | Last Sale |
|------|-------|----------|-----------|
| @ | Regular Settlement | Yes, if other levels do not overrule | Yes, if other levels do not overrule |
| C | Cash Settlement | No | No |
| N | Next Day Settlement | No | No |
| R | Seller Settlement | No | No |

**Sale Condition – Level 2** indicates if a transaction was trade through exempt.

| Code | Value | High/Low | Last Sale |
|------|-------|----------|-----------|
| F | Intermarket Sweep | Yes | Yes |
| O | Opening Print | Yes | Yes |
| 4 | Derivative Priced | Yes | No (except if first regular market trade of day) |
| 5 | Re-Opening Print | Yes | Yes |
| 6 | Closing Print | Yes | Yes |
| <space> | Not applicable | See other levels | See other levels |

**Sale Condition – Level 3** indicates if the transaction was reported during regular market hours with a "sold" code or during the extended trading hours session.  For the TRF system, the "sold" codes are used to indicate that a trade occurred during normal market hours but was reported more than 90 seconds after execution.  Historically, only trades that occur during normal market hours and in proper sequence are included in the "last sale" calculation.

| Code | Value | High/Low | Last Sale |
|------|-------|----------|-----------|
| T | Extended Hours Trade | No | No |
| U | Extended Hours Trade – Reported Late or Out of Sequence | No | No |
| L | Sold Last – Reported Late But In Sequence | Yes | Yes |
| Z | Sold – Out of Sequence | Yes | No (except if first regular market trade of day) |
| <space> | Not applicable | See other levels | See other levels |

**Sale Condition – Level 4** indicates special trading situations.

For the NASDAQ execution system, this sale condition level is used to denote when a trade record contains the NASDAQ Official Opening Price (NOOP) or NASDAQ Official Closing Price (NOCP) values.  Since NASDAQ also reports the underlying cross execution transaction to the tape, the NOOP and NOCP report volume should not be included in the daily volume calculation.

For the Cross Trade (X) modifiers, firms should defer to the Level 2 and Level 3 sale condition codes to determine whether to include the trade in the high, low, and last sale calculation statistics.

As outlined in the table below, NASDAQ also observes special processing rules for the Prior Reference Price (P), Average Price (W), and Odd Lot Execution (o) codes.

| Code | Value | High/Low | Last Sale |
|------|-------|----------|-----------|
| A | Acquisition | Yes | Yes |
| B | Bunched | Yes | Yes |
| D | Distribution | Yes | Yes |
| H | Price Variation Trade | No | No |
| M | NASDAQ Official Close Price (NOCP) | Yes for NASDAQ market center only or NASDAQ OMX system-wide displays<br><br>No for BX, PSX or NASDAQ/ FINRA TRF only displays | Yes for NASDAQ market center only or NASDAQ OMX system-wide displays<br><br>No for BX, PSX or NASDAQ/ FINRA TRF only displays |
| o | Odd lot execution[2] | No | No |
| P | Prior Reference Price | Yes | No (except if first regular market trade of day) |
| Q | NASDAQ Official Opening Price (NOOP) | Yes for NASDAQ market center only or NASDAQ OMX system-wide displays<br><br>No for BX, PSX or NASDAQ/ FINRA TRF only displays | No |
| S | Split Trade | Yes | Yes |

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[2] Please note that the consolidated trade feeds offered by the NASDAQ Security Information Processor (SIP) and the Securities Information Automation Corporation (SIAC) do not include odd lot execution data at this time.  While NASDAQ OMX believes that odd lot executions should be included in volume statistics, a firm may choose to omit odd lot executions from the calculation if it needs volume numbers to match across multiple system platforms.

| W | Average Price Trade[3] | No | No |
|---|---|---|---|
| X | Cross Trade | Yes (if sent with an eligible Level 2 modifier) | Yes (if sent with an eligible Level 2 modifier) |
| x | Odd Lot Cross Trade | No | No |
| <space> | Not applicable | See other levels | See other levels |

### b) Last Trade Calculation

The term "Last Trade" is more widely applied within the market data industry. Many firms use the term "last trade" to refer to the most recent trade transaction reported in sequence. In addition to the "last sale" codes, many firms include odd lots and extended trading hour executions in the "last trade" price calculations.

### c) Net Change Calculation

NLS Plus does not include a net change indicator field. Data feed recipient must perform their own calculation for last sale eligible and last trade eligible transactions. The formula should be as follows:

*Net Change for Issue Symbol = Current Trade Price - Adjusted Previous Close Price*

To obtain the Adjusted Previous Close, firms will need to apply dividends to the previous day's closing price value. For NASDAQ-listed securities, firms may obtain dividend information via the Dividend Daily List web-based product. For ordering information, please refer to the [Daily List product page](#) on the NASDAQ Trader website..

For NYSE-, NYSE MKT-, NYSE Arca and BATS-listed securities, firms should contact the listing exchange directly to inquire about corporate action data delivery options.

Dividend adjustments are typically applied to the closing price on the day prior to ex-date and reflected on the ex-date, the next business day. Cash dividends of $0.01 or greater should be subtracted from the closing price. For stock dividends, the closing price should be divided by the dividend amount.

### d) Consolidated Volume

As a reference point, NASDAQ OMX includes the volume for the Issue Symbol as reported on the consolidated market data feed on the individual NLS Plus trade messages. The volume reflects the consolidated volume at the time that the NLS Plus trade message is generated.

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[3] For NLS Plus processing, NASDAQ OMX will use the sale condition modifier of "W" for all Average Price Trades regardless of the listing market center. While the UTP SIP uses the same sale condition modifier code for NASDAQ-listed issues, it should be noted that SIAC / CTA SIP uses a "B" sale condition modifier for Average Price Trades for NYSE-, NYSE MKT- and NYSE Arca-listed securities.

For NASDAQ-listed issues, the consolidated volume is based on the real-time trades reported via NLS Plus and UTP Trade Data Feed (UTDF) for the issue symbol. NASDAQ OMX calculates the real-time issue volume for its trading venues based on the NLS Plus trade messages.   It then adds the real-time trading volume for the other (non-NASDAQ OMX) trading venues as reported via the UTDF data feed.

For non-NASDAQ-listed issues, the consolidated volume is based on trades reported via NLS Plus and SIAC's Consolidated Tape System (CTS) for the issue symbol. NASDAQ OMX calculates the real-time issue volume for its trading venues based on the NLS Plus trade messages.   It then adds the 15-minute delayed trading volume for the other (non-NASDAQ OMX) trading venues as reported via the CTS data feed.

Note:  Because NASDAQ OMX processes consolidated trade data to generate the issue volume statistics, NLS Plus data feed subscribers must execute UTP and CTA agreements.   For NASDAQ-listed issues, NLS Plus subscribers would be subject to the UTP annual administration fee.   For non-NASDAQ-listed issues, NLS Plus subscribers would pay the monthly distributor fees associated with delayed CTA data.

## Appendix B – Sale Condition Modifier Definitions

The following definitions are included for informational purposes only.

| Sale Condition Modifier | Description |
| --- | --- |
| Acquisition (A) | A transaction made on the Exchange as a result of an acquisition. |
| Average Price Trade (W) | A trade where the price reported is based upon an average of the prices for transactions in a security during all or any portion of the trading day. |
| | Please note that the NASDAQ market center also uses this value to report stopped stock situations. |
| | For NLS Plus processing, NASDAQ OMX will use the sale condition modifier of "W" for all Average Price Trades regardless of the listing market center.    While the UTP SIP uses the same sale condition modifier code for NASDAQ-listed issues, it should be noted that SIAC / CTA SIP uses a "B" sale condition modifier for Average Price Trades for NYSE-, NYSE MKT-, NYSE Arca and BATS-listed securities. |
| Bunched Trade (B) | A trade representing an aggregate of two or more regular trades in a security occurring at the same price either simultaneously or within the same 60-second period, with no individual trade exceeding 10,000 shares. |
| Bunched Sold Trades (G) | A bunched trade that is reported late. |
| Cash Sale (C) | A transaction that calls for the delivery of securities and payment on the same day the trade took place. |
| Cross Trade (X) | A Cross Trade a trade transaction resulting from a market center's crossing session. |
| Dot-T or Form-T (T) | A trade executed before or after the regular US market hours.  Please note that the Dot-T modifier should be appended to all transactions that occur during the pre- and post-market sessions.  The volume of Form-T trades will be included in the calculation of consolidated and market center volume. The price information in Dot-T trades will not be used to update high, low and last sale data for individual securities or indices since they occur outside of normal trade reporting hours. |
| Distribution (D) | Sale of a large block of stock in such a manner that the price is not adversely affected. |
| Extended Trading Hours - Sold Out of Sequence (U) | Trade reports used to identify extended trading hours trades that are reported more than 30 seconds after execution.  Currently, the extended trading hours are comprised of pre-market trading from 7 a.m. to 9:30 a.m., Eastern Time (ET), and post-market trading from 4 p.m. to 8:00 p.m., ET. |
| | This sale condition would be similar to the existing "T" sale condition in that trades executed outside of market hours will not impact market center or consolidated high, low, or last sale prices for an issue. The transactions would, however, count toward issue and market volume. |

| Sale Condition Modifier | Description |
|---|---|
| Intermarket Sweep (F) | Intermarket sweep order means a limit order for an NMS stock that meets the following requirements:<br><br>• When routed to a trading center, the limit order is identified as an intermarket sweep order; and<br>• Simultaneously with the routing of the limit order identified as an intermarket sweep order, one or more additional limit orders, as necessary, are routed to execute against the full displayed size of any protected bid, in the case of a limit order to sell, or the full displayed size of any protected offer, in the case of a limit order to buy, for the NMS stock with a price that is superior to the limit price of the limit order identified as an intermarket sweep order. These additional routed orders also must be marked as intermarket sweep orders. |
| Market Center Close Price (M) | Indicates the "Official" closing value as determined by a Market Center. This transaction report will contain the market center generated closing price. The "M" (Market Center Close Price) sale condition modifier shall only affect the Market Center Closing/Last Sale value and will not affect the consolidated market value. |
| Market Center Open Price (Q) | Indicates the "Official" opening value as determined by a Market Center. This transaction report will contain the market center generated opening price. The "Q" (Market Center Open Price) sale condition modifier shall only affect the Market Center Opening value and will not affect the consolidated market value. Direct data recipients that maintain individual market center open values should use this value as the official market center opening value and populate data displays accordingly |
| Next Day (N) | A transaction that calls for the delivery of securities between one and four days (to be agreed by both parties to the trade – the number of days are not noted with the transaction) after the trade date. |
| Odd Lot Transaction (o) | The Odd Lot sale condition modifier indicates that the execution size for a transaction was less than one round lot for the security.<br><br>Please note that the consolidated trade feeds offered by the UTP Security Information Processor (UTP SIP) and the Securities Information Automation Corporation (SIAC) do not include odd lot execution data at this time. |
| Opening Prints (O) | The transaction or group of transactions reported as a result of a single-priced opening event by the Market Center. |
| Price Variation Trade (H) | The Price Variation Trade sale condition code is used to denote a regular market session trade transaction that carries a price that is significantly away from the prevailing consolidated or primary market value at the time of the transaction. |
| Prior Reference Price (P) | An executed trade that relates to an obligation to trade at an earlier point in the trading day or that refers to a prior referenced price. This may be the result of an order that was lost or misplaced or was not executed on a timely basis. |
| Seller (R) | A Seller's option transaction is a special transaction that gives the seller the right to deliver the stock at any time within a specific period, ranging from not less than four calendar days to not more than sixty calendar days. |

| Sale Condition Modifier | Description |
|---|---|
| Sold Out of Sequence (Z) | Sold Out of Sequence is used when a trade is printed (reported) out of sequence and at a time different from the actual transaction time. |
| Sold Last (L) | Sold Last sale condition modifier is used when a trade prints in sequence but is reported late.  A Sold Last transaction should only impact the consolidated last sale price for an issue if the market center reporting the sold last transaction also reported the transaction setting the current last sale price. |
| Split Trade (S) | An execution in two markets when the specialist or Market Maker in the market first receiving the order agrees to execute a portion of it at whatever price is realized in another market to which the balance of the order is forwarded for execution. |
| Derivatively Priced (4) | A transaction that constituted the trade-through was the execution of an order at a price that was not based, directly or indirectly, on the quoted price of the NMS stock at the time of execution and for which the material terms were not reasonably determinable at the time the commitment to execute the order was made. |
| Re-Opening Prints (5) | The transaction or group of transactions reported as a result of a single-priced re-opening event by the Market Center. |
| Closing Prints (6) | The transaction or group of transactions reported as a result of a single-priced closing event by the Market Center. |

**Appendix C - Stock Symbol Convention**

For NASDAQ-listed issues, NASDAQ OMX currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, NASDAQ, PSX and BX will only assign root symbols of 1 to 4 characters in length with possible fifth and or sixth character denoting a suffix. In certain instances, a dot "." delimiter may be applied to symbols after the root and between the suffix eg., XXXX.A.  For subordinate securities, NASDAQ and BX will assign a 5 character symbol for which the last character relays information about the issue class or issue type. For the current list of fifth and or six character symbol suffixes, please refer to Ticker Symbol Convention page on the NASDAQ OMX Trader website.

For NYSE-, NYSE MKT- and NYSE Arca-listed securities with subordinate issue types, please refer to Ticker Symbol Convention page on the NASDAQ OMX Trader website.

**Appendix D – Trading Action Reason Codes**

For NASDAQ-listed issues, NASDAQ acts as the primary market and has the authority to institute a trading halt or trading pause in an issue due to news dissemination or regulatory reasons.  NASDAQ may also halt trading for operational reasons.  NASDAQ will send out a trading action message to inform its market participants when the trading status of an issue changes.  For informational purposes, NASDAQ also attempts to provide the reason for each trading action update.  For bandwidth efficiency reasons, NASDAQ uses a 4-byte code for the reason on its outbound data feeds.

| REASON CODES FOR TRADING HALT ACTIONS | |
|---|---|
| Code | Value |
| T1 | Halt News Pending |
| T2 | Halt News Disseminated |
| T5 | Single Stock Trading Pause In Effect |
| T6 | Regulatory Halt — Extraordinary Market Activity |
| T8 | Halt ETF |
| T12 | Trading Halted; For Information Requested by Listing Market |
| H4 | Halt Non-Compliance |
| H9 | Halt Filings Not Current |
| H10 | Halt SEC Trading Suspension |
| H11 | Halt Regulatory Concern |
| O1 | Operations Halt; Contact Market Operations |
| LUDP | Volatility Trading Pause |
| LUDS | Volatility Trading Pause – Straddle Condition |
| MWC1 | Market Wide Circuit Breaker Halt – Level 1 |
| MWC2 | Market Wide Circuit Breaker Halt – Level 2 |
| MWC3 | Market Wide Circuit Breaker Halt – Level 3 |
| MWC0 | Market Wide Circuit Breaker Halt – Carry over from previous day |
| IPO1 | IPO Issue Not Yet Trading |
| M1 | Corporate Action |
| M2 | Quotation Not Available |
| <space> | Reason Not Available |

| REASON CODES FOR QUOTATION/TRADING RESUMPTION ACTIONS | |
|---|---|
| Code | Value |
| T3 | News and Resumption Times |
| T7 | Single Stock Trading Pause / Quotation Only Period |
| R4 | Qualifications Issues Reviewed/Resolved; Quotations/Trading to Resume |
| R9 | Filing Requirements Satisfied/Resolved; Quotations/Trading To Resume |
| C3 | Issuer News Not Forthcoming; Quotations/Trading To Resume |
| C4 | Qualifications Halt ended; Maintenance Requirements Met; Resume |
| C9 | Qualifications Halt Concluded; Filings Met; Quotes/Trades To Resume |
| C11 | Trade Halt Concluded By Other Regulatory Auth.; Quotes/Trades Resume |
| MWCQ | Market Wide Circuit Breaker Resumption |
| R1 | New Issue Available |
| R2 | Issue Available |
| IPOQ | IPO Security Released for Quotation (NASDAQ Securities Only) |
| IPOE | IPO Security — Positioning Window Extension (NASDAQ Securities Only) |
| <space> | Reason Not Available |

Upon SEC approval of proposed marketplace rules, NASDAQ OMX BX plans to support security listings. Once live, BX will use similar trading action dissemination logic as defined above for NASDAQ-listed issues.

For non-NASDAQ-listed issues, NASDAQ OMX abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate. While NASDAQ OMX does support Trading Action messages for these securities, it is unable to support the full range of Reason Code values.

For the current list of regulatory halts for both NASDAQ- and non-NASDAQ-listed securities, please refer to the Trading Halts page on the NASDAQ Trader website.

**Appendix E - Issue Classification Values**

Identifies the security class for the issue as assigned by NASDAQ

| CODES FOR ISSUE CLASSIFICATION VALUES | |
|---|---|
| **Code** | **Value** |
| A | American Depositary Share |
| B | Bond |
| C | Common Stock |
| F | Depository Receipt |
| I | 144A |
| L | Limited Partnership |
| N | Notes |
| O | Ordinary Share |
| P | Preferred Stock |
| Q | Other Securities |
| R | Right |
| S | Shares of Beneficial Interest |
| T | Convertible Debenture |
| U | Unit |
| V | Units/Benif Int |
| W | Warrant |

## Appendix F - Issue Sub-Type Values

| CODES FOR ISSUE CLASSIFICATION VALUES | |
|---|---|
| **Code** | **Value** |
| A | Preferred Trust Securities |
| B | Index Based Derivative |
| C | Common Shares |
| CB | Commodity Based Trust Shares |
| CF | Commodity Futures Trust Shares |
| CL | Commodity-Linked Securities |
| CM | Commodity Index Trust Shares |
| CT | Currency Trust Shares |
| CU | Commodity-Currency-Linked Securities |
| CW | Currency Warrants |
| D | Global Depositary Shares |
| E | ETF-Portfolio Depositary Receipt |
| EG | Equity Gold Shares |
| EI | ETN-Equity Index-Linked Securities |
| EN | Exchange Traded Notes |
| FI | ETN-Fixed Income-Linked Securities |
| FL | ETN-Futures-Linked Securities |
| G | Global Shares |
| H | Debt-Based Derivative |
| I | ETF-Index Fund Shares |
| IX | Index-Linked Exchangeable Notes |
| K | Callable Common Stock |
| L | Contingent Litigation Right |
| LL | Identifies securities of companies that are set up as a Limited Liability Company (LLC) |
| M | Equity-Based Derivative |
| MF | Managed Fund Shares |
| ML | ETN-Multi-Factor Index-Linked Securities |
| MP | Master Limited Partnership |
| MT | Managed Trust Securities |
| N | NY Registry Shares |
| O | Open Ended Mutual Fund |
| P | Privately Held Security |
| PU | Partnership Units |
| R | Reg-S |
| RC | Commodity-Redeemable Commodity-Linked Securities |
| RF | ETN-Redeemable Futures-Linked Securities |
| RU | Commodity-Redeemable Currency-Linked Securities |
| S | SEED |
| T | Tracking Stock |
| TC | Trust Certificates |
| TU | Trust Units |
| U | Portal |
| V | Contingent Value Right |
| W | Trust Issued Receipts |

**Appendix G – Documentation Version Control Log**

**NLS Plus Version 1.00**            **July 26, 2010**

NLS Plus specification document released to public.


**NLS Plus Version 1.00**            **September 23, 2010**

NLS Plus specification updated to reflect availability of compressed TCP/IP protocol option.

NLS Plus specification document updated to include BX listing market codes to be introduced upon SEC approval for the new NASDAQ OMX listing rules.


**NLS Plus Version 1.00**            **October 12, 2010**

NLS Plus specification updated to reflect correct type code ("J") for End of Day Trade Summary messages.


**NLS Plus Version 1.00**            **November 4, 2010**

NASDAQ OMX updated the Reg SHO message description to reflect the new SEC implementation date.


**NLS Plus Version 1.00**            **November 11, 2010**

NASDAQ OMX added a note to the sale condition matrixes about its standardization of the Average Price Trade code.    Please note that NASDAQ OMX uses the "W" sale condition code for all exchange-listed issues.

NASDAQ OMX also added Appendix B – Sale Condition Modifier Definitions for reference purposes.


**NLS Plus Version 1.00**            **April 6, 2011**

NASDAQ OMX added two Trading Action – Reason codes to Appendix D for the NASDAQ Volatility Guard pilot program.   New Reason codes were V1 and V2.

**NLS Plus Version 1.00**            **June 23, 2011**

NASDAQ OMX added a new Administrative Message – IPO Messages.

**NLS Plus Version 1.00**            **September 20, 2011**

NASDAQ OMX added two new values to the Financial Status Indicator.  New values were N and S.

**NLS Plus Version 1.00**            **November 1, 2011**

NASDAQ OMX added a new Market Center code, "Z", for BATS-listed securities to the Market Category and Security Class fields.

**NLS Plus Version 1.00**                    **November 6, 2012**

Released a new version of the NLS Plus documentation to support the following changes:

- Added the "P" value to the Trading State in the Stock Trading Message.
- Modified the values for the Trading Action Reason Codes. Added the following codes:
    - LUDP - Volatility Trading Pause
    - MWC1 - Market Wide Circuit Breaker Halt – Level 1
    - MWC2 - Market Wide Circuit Breaker Halt – Level 2
    - MWC3 - Market Wide Circuit Breaker Halt – Level 3
    - MWCQ - Market Wide Circuit Breaker Resumption
- Removed the Trading Action values related to the Volatility Guard Program. Removed Trading State, "V". Eliminated Trading Action Reason Codes, V1 and V2.

**NLS Plus Version 1.00**                    **January 8, 2013**

Corrected the System Event message to include the "S" and "E" event codes.

**NLS Plus Version 1.00**                    **January 9, 2013**

Released a new version of the NLS Plus documentation to support the following changes:

- Added the following Trading Action Reason Code:
    - MWC0 - Market Wide Circuit Breaker Halt – Carry over from previous day
- Removed the Trading State, "R", from the Stock Trading Action message.

**NLS Plus Version 1.00**                    **March 11, 2013**

Released a new version of the NLS Plus documentation to support the following changes:
- Added the following Trading Action Reason Code for LULD to reflect when the National Best Bid is below the lower price band and/or the National Best Offer is above than the upper price band and the NMS Stock is not in a Limit State.
    - LUDS - Volatility Trading Pause – Straddle Condition

**NLS Plus Version 1.00**                    **April 12, 2013**

The NLS Plus specification was updated to reflect the following documentation changes:

- Changed all references from NYSE Amex to NYSE MKT.

**NLS Plus Version 1.00**                    **May 29, 2013**

The NLS Plus specification was updated to reflect the addition of the Adjusted Closing Price Message.

**NLS Plus Version 2.00**                    **July 10, 2013**

The NLS Plus Specification was updated to reflect the following changes:

- Added Enhanced Symbol Directory
- Added IPO Quotation Release Message
- Added Market-Wide Circuit Breaker (MWCB) Messaging
    - MWCB Decline Level Message
    - MWCB Status Message
- Addition of an internal tracking number to multiple messages

- Addition of 'C' to the Financial Status Indicator field in the Symbol Directory Message
- Addition of 'x' to Sale Condition - Level 4

**NLS Plus Version 2.00**                              **August 2, 2013**

The NLS Plus Specification was updated to reflect the following changes:

- Removed internal tracking number from multiple messages
- Inclusion of the Appendices for Issue Classification and Issue Sub-Type
- Updated offsets and lengths in the MWCB Decline Level Message
- Changed the IPO Quotation Release Message Type to "K"
- Updated offsets in the IPO Quotation Release Message


**NLS Plus Version 2.00**                              **October 1, 2013**

The NLS Plus Specification was updated to reflect the following changes:

- Clarified interpretation of the levels in the MWCB Decline Level Message
- Updated multiple data fields to Alphanumeric from Alphabetic
- Changed the data type for multiple price fields to Price (4) and Price (8)
- Added Bloomberg ID to the Symbol Directory message