NLS Plus

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

Version 1.1
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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.

All alpha fields are left justified and padded on the right with spaces.
Prices are integer fields. When converted to a decimal format, prices are in fixed point format with 6 whole number places followed by 4 decimal digits. The maximum price 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 alpha fields are left-justified. 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: <table><tr><td>Code</td><td>Value</td></tr><tr><td>O</td><td>Start of Transmissions: Denotes that the NLS Plus system has started its daily transmission schedule.</td></tr><tr><td>S</td><td>Start of System Hours: This message indicates that NASDAQ is open and ready to start accepting orders.</td></tr></table>

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	Alphabetic	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	Alphabetic	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)

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. 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 Report Message				
Name	*Offset*	*Len*	*Type*	*Value/Description*
Trade Price	25	4	Binary	The price associated with the trade transaction being reported. Refer to Data Types for field processing NLS Plus.
Trade Size	29	4	Binary	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:
Sale Condition Modifier – Level 2	*34*	*1*	*Alphanumeric*	Used for SEC Regulation NMS Trade Through Exemption Codes. Allowable values are:

Sale Condition Modifier – Level 1:

Code	Value
@	Regular Settlement
C	Cash Settlement
N	Next Day Settlement
R	Seller Settlement

Sale Condition Modifier – Level 2:

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

Trade Report Message

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

Name	Offset	Len	Type	Value/Description
Sale Condition Modifier – Level 4	36	1	Alphanumeric	Used for special sale condition codes. 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
<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	Alphabetic	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.
Security Class	14	1	Alphabetic	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 Listed Issue</td></tr><tr><td>P</td><td>NYSE Arca Listed Issue</td></tr><tr><td>Z</td><td>BATS Listed Issue</td></tr><tr><td>B</td><td>BX Listed Issue (Pending SEC approval)</td></tr></table>

Trade Cancel/Error Message

Name	Offset	Len	Type	Value/Description
Original Trade Control Number	15	10	Alphanumeric	Indicates the source's internal control number associated with the given trade transaction. 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	Integer	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.
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

Trade Correction Message

Name	Offset	Len	Type	Value/Description
Originating Market Center Identifier	5	1	Alphabetic	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 correction message is being generated. For details on NASDAQ symbology, please refer to Appendix B.
Security Class	14	1	Alphabetic	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 Listed Issue</td></tr><tr><td>P</td><td>NYSE Arca Listed Issue</td></tr><tr><td>Z</td><td>BATS Listed Issue</td></tr><tr><td>B</td><td>BX Listed Issue (Pending SEC approval)</td></tr></table>
Original Trade Control Number	15	10	Alphanumeric	Indicates the source's internal control number associated with the given trade transaction. 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	Integer	Reported price on the original trade transaction. Refer to Data Types for field processing NLS Plus.

Trade Correction Message

Name	Offset	Len	Type	Value/Description
Original Trade Size	29	4	Integer	Reported number of shares on the original trade transaction.
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	Integer	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	Alphabetic	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 Listed Issue</td></tr><tr><td>P</td><td>NYSE Arca Listed Issue</td></tr><tr><td>Z</td><td>BATS Listed Issue</td></tr><tr><td>B</td><td>BX Listed Issue (Pending SEC approval)</td></tr></table>

Stock Trading Action Message

Name	Offset	Len	Type	Value/Description
Current Trading State	15	1	Alphabetic	Reflects the current trading state for the issue. The allowable values are: | Code	Value
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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 Message

Name	Offset	Len	Type	Value/Description
Time Stamp	0	4	Integer	Time Stamp.
Message Type	4	1	Alphanumeric	R = Stock Directory
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 tier for NASDAQ-listed issues or the listing market

Stock Directory Message

Name	Offset	Len	Type	Value/Description
Market Tier				for non-NASDAQ-listed issues. The allowable values are:

Code	Value
N	NYSE Listed Issue
A	NYSE MKT Listed Issue
P	NYSE Arca Listed Issue
Q	NASDAQ Global Select Market
G	NASDAQ Global Market
S	NASDAQ Capital Market
Z	BATS Listed Issue
B	BX Listed Issue (Pending SEC approval)
<Space>	Not available

Name	Offset	Len	Type	Value/Description
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. The allowable values are:

Code	Value
N	Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt.
D	Deficient
E	Delinquent
Q	Bankrupt
G	Deficient and Bankrupt
H	Deficient and Delinquent
J	Delinquent and Bankrupt
K	Deficient, Delinquent, and Bankrupt
S	Suspended
<space>	Company is in compliance

Stock Directory Message				
Name	**Offset**	**Len**	**Type**	**Value/Description**
				with NASDAQ listing standards OR Issue is not listed NASDAQ

5.5.3 Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) will implement 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 will introduce a Reg SHO Short Sale Price Test Restricted Indicator.

The Reg SHO Short Sale Price Test Restricted Indicator message will be 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 will support 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 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: "0" = No price test in place

Short Sale Restriction Indicator Message				
Name	*Offset*	*Len*	*Type*	*Value/Description*
				"1" = Reg SHO Short Sale Price Test Restriction in effect due to an intra-day price drop in security "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: | Code	Value
---	---
Q	NASDAQ Listed Issue
N	NYSE Listed Issue
A	NYSE MKT Issue
P	NYSE Arca Issue
Z	BATS-Listed Issue	
Adjusted Closing Price	14	4	Binary	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.

End of Day Trade Summary				
Name	*Offset*	*Len*	*Type*	*Value/Description*
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: <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 Listed Issue</td></tr><tr><td>P</td><td>NYSE Arca Listed Issue</td></tr><tr><td>Z</td><td>BATS Listed Issue</td></tr><tr><td>B</td><td>BX Listed Issue (Pending SEC approval)</td></tr></table>
NASDAQ OMX High Price	14	4	Integer	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	Integer	Reflects the lowest price reported for a last sale transaction on any NASDAQ OMX venue for the issue symbol during the current trading day.

End of Day Trade Summary

Name	Offset	Len	Type	Value/Description
NASDAQ OMX Closing Price	22	4	Integer	For NASDAQ-listed securities, this field will reflect the NASDAQ Official Closing Price (NOCP) value if available. 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.

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	Alphabetic	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	

IPO Message

Name	Offset	Len	Type	Value/Description	
				Z	BATS Listed Issue
				B	BX Listed Issue (Pending SEC approval)
Reference For Net Change	14	1	Alphabetic	Reflects the current trading state for the issue. The allowable values are:	

Code	Value
F	First Trade Price
W	Underwriter Price

Name	Offset	Len	Type	Value/Description
Reference Price	15	4	Binary	Reference Price

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 No for BX, PSX or NASDAQ/ FINRA TRF only displays	Yes for NASDAQ market center only or NASDAQ OMX system-wide displays 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 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)
\<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 <u>not</u> 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.

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.

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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.

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: • When routed to a trading center, the limit order is identified as an intermarket sweep order; and • 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. 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 – 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 specification was updated to reflect the addition of the Adjusted Closing Price Message.

NLS Plus Version 1.00   **November 1, 2013**

The NLS specification was updated to support details of expanded symbology (Appendix C).