NASDAQ Last Sale (NLS)

Direct Data Feed Interface Specification
Version: 1.00
Date Revised: November 11, 2010

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*Note: This version of the NASDAQ Last Sale (NLS) service is designed to support symbols up to six characters only. As noted in [Data Technical News #2010-31](#), this version of the NLS feed will be discontinued at the close of business on **December 31, 2010**. To ensure uninterrupted service, NLS subscribers must convert to the NLS 1.1 or NLS Plus 1.0 data formats before year end 2011.*

1   Product Description:

NASDAQ Last Sale^{SM} (NLS) is a direct data feed product offered by The NASDAQ Stock Market$^{®}$. NLS will cover the full range of issues including NASDAQ-, New York Stock Exchange (NYSE)-, NYSE Amex-, NYSE Arca- and US regional exchange-listed securities.   NLS provides real-time, intra-day trade data from the NASDAQ/FINRA Trade Reporting Facility (TRF) as well as the NASDAQ execution system.

Market data distributors may use the NLS 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 product page](#) on the NASDAQ Trader website.

2   Data Delivery Options

The standard NLS data feed is comprised of trade messages from both the NASDAQ execution and FINRA/NASDAQ TRF for the full range of U.S. exchange-listed issues. As noted above, NLS includes trade data from these two NASDAQ operated systems data for NASDAQ-, NYSE, NYSE Amex and NYSE Arca listed equities.

For firms looking to manage their data traffic flows, NASDAQ OMX will support two FilterView options for the NLS data feed beginning January 2010.   For those firms paying the FilterView fee(s), NASDAQ OMX will provide separate NLS data streams for the NASDAQ execution system and the FINRA/NASDAQ TRF system.

Please refer to Appendix D for additional more information on these NLS delivery options.

3   Network Protocol Options

NASDAQ will offer the NLS data feed in three protocol options:

- o [SoupTCP](#)
- o [Compressed](#) via SoupTCP
- o [MoldUDP](#)

For network support and ordering information, please refer to the [NASDAQ Direct Data Products Specifications Page](#) on the NASDAQ Trader website.

4   Architecture

NLS will be made up of a series of sequenced messages. Each message is variable in length based on the message type and is composed of non-control ASCII bytes. The

messages that make up the NLS protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

5   Data Types

All numeric fields are represented in ASCII digits and are right-justified. Padding spaces appear on the left as necessary.

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.

Timestamp reflects the NASDAQ system time at which the outbound message was generated. NASDAQ 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.

6   Message Formats

6.1 System Event Message

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

System Event Message				
Name	*Offset*	*Len*	*Value*	*Notes*
Time Stamp	0	8	Numeric	Time Stamp
Message Type	8	1	Alphanumeric	S = System Event Message
Event Code	9	1	Alphanumeric	Denotes the NLS 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 system has started its daily transmission schedule.</td></tr><tr><td>Q</td><td>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</td></tr></table>

					sale" eligible.	
				M	End of Market Hours: Denotes the end of the regular US session.	
				C	End of Transmissions: Denotes that the NLS system has ended its daily transmission schedule.	

6.2 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) feed and other data feed products.

Trade Report Message				
Name	**Offset**	**Len**	**Type**	**Value/Description**
Time Stamp	0	8	Numeric	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	8	1	Alphanumeric	T = Trade Report
Market Center Identifier	9	1	Alphabetic	Denotes the NASDAQ market system that generated the trade report message. The allowable values are:
Issue Symbol	10	6	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	16	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are:

Market Center Identifier codes:

Code	Value
Q	NASDAQ execution system
L	NASDAQ/FINRA Trade Reporting Facility (TRF)

Security Class codes:

Code	Value
Q	NASDAQ-Listed Issue
N	NYSE Listed Issue
A	NYSE Amex Issue
P	NYSE Arca

Trade Control Number	17	10	Alphanumeric	Indicates the NASDAQ internal control number associated with the given trade transaction. Please note that the Trade Control Number is specific to the NASDAQ host system reflected in the Market Center ID field. This number is used as a key field for trade cancellations and trade corrections.
Trade Price	27	10	Numeric	Denotes the report price on the trade transaction. Price format is $$$$$$dddd.
Trade Size	37	9	Numeric	Indicates the reported number of shares on the trade transaction.
Sale Condition Modifier	46	4	Alphanumeric	Sale condition modifier consists of four levels as defined below.
Sale Condition Modifier – Level 1	*46*	*1*	*Alphanumeric*	Used for Settlement Type information. Allowable values are: <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>
Sale Condition Modifier – Level 2	*47*	*1*	*Alphanumeric*	Used for SEC Regulation NMS Trade Through Exemption Codes. Allowable values are: <table><tr><td>Code</td><td>Value</td></tr><tr><td>F</td><td>Intermarket Sweep</td></tr><tr><td>O</td><td>Opening Print</td></tr><tr><td>4</td><td>Derivative Priced</td></tr><tr><td>5</td><td>Re-Opening Print</td></tr><tr><td>6</td><td>Closing Print</td></tr><tr><td><space></td><td>Not applicable</td></tr></table>

Sale Condition Modifier – Level 3	48	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

Sale Condition Modifier – Level 4	49	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	Weighted Average Price
X	Cross Trade
o	Odd lot execution
<space>	Not applicable

6.3 Trade Cancel/Error

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

Name	Offset	Len	Type	Value/Description
Trade Cancel/Error Message				
Time Stamp	0	8	Numeric	Denotes the time stamp of the NASDAQ system that generated the trade cancel/error message.
Message Type	8	1	Alphanumeric	X = Trade Cancel/Error
Market Center Identifier	9	1	Alphabetic	Denotes the NASDAQ market system that generated the trade report and cancel/error message. The allowable values are: | Code	Value
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Q	NASDAQ Execution System
L	NASDAQ/FINRA Trade Reporting Facility (TRF)	
Issue Symbol	10	6	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	16	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are: | Code	Value
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Q	NASDAQ Listed Issue
N	NYSE Listed Issue
A	NYSE Amex Issue
P	NYSE Arca Issue	
Original Trade Control Number	17	10	Alphanumeric	Indicates the NASDAQ internal control number associated with the given trade transaction. Please note that the Trade Control Number is specific to the NASDAQ host system reflected in the Market Center ID field.

Original Trade Price	27	10	Numeric	Reported price for the transaction. Price format is $$$$$$dddd.
Original Trade Size	37	9	Numeric	Reported number of shares for transaction.
Original Sale Condition Modifier	46	4	Alphanumeric	Defines the sale condition modifiers as reported on the original trade transaction.

6.4 Trade Correction

The following message is used in the event that a TRF 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	8	Numeric	Denotes the time stamp of the NASDAQ system that generated the trade correction message.
Message Type	8	1	Alphanumeric	C = Trade Correction
Market Center Identifier	9	1	Alphabetic	Denotes the NASDAQ market system that generated the trade report and cancel/error message. The allowable values are:
Issue Symbol	10	6	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	16	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are:

Market Center Identifier values:

Code	Value
Q	NASDAQ Execution System
L	NASDAQ/FINRA Trade Reporting Facility (TRF)

Security Class values:

Code	Value
Q	NASDAQ Listed Issue
N	NYSE Listed Issue
A	NYSE Amex Issue

				P	NYSE Arca Issue
Original Trade Control Number	17	10	Alphanumeric	Indicates the NASDAQ internal control number associated with the given trade transaction. Please note that the Trade Control Number is specific to the NASDAQ host system reflected in the Market Center ID field.	
Original Trade Price	27	10	Numeric	Reported price on the original trade transaction. Price format is $$$$$$dddd.	
Original Trade Size	37	9	Numeric	Reported number of shares on the original trade transaction.	
Original Sale Condition Modifier	46	4	Alphanumeric	Indicates sale condition modifiers associated with the original transaction.	
Corrected Trade Control Number	50	10	Alphanumeric	Indicates the NASDAQ internal control number associated with the adjusted trade transaction. Please note that the Trade Control Number is specific to the NASDAQ host system reflected in the Market Center ID field.	
Corrected Trade Price	60	10	Numeric	Indicates the price for the corrected trade transaction. Price format is $$$$$$dddd.	
Corrected Trade Size	70	9	Numeric	Indicates the number of shares for the corrected trade transaction.	
Corrected Sale Condition Modifier	79	4	Alphanumeric	Denotes the sale condition modifiers associated with the corrected trade transaction.	

6.5 Administrative Messages

To help firms create a full display, NASDAQ supports the following two administrative messages: (1) Trading Action and (2) Symbol Directory.

6.5.1 Stock Trading Action

NASDAQ uses this administrative message to indicate the current trading status of a security to the trading community.

Prior to the start of system hours, NASDAQ will send out a Trading Action spin. In the spin, NASDAQ 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 system for regulatory or operational reasons.

After the start of system hours, NASDAQ 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.

Trading Action Message				
Name	*Offset*	*Len*	*Type*	*Value/Description*
Time Stamp	0	8	Numeric	Time Stamp.
Message Type	8	1	Alphanumeric	H = Trading Action
Issue Symbol	9	6	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	15	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 Amex Issue P / NYSE Arca Issue
Current Trading State	16	1	Alphabetic	Reflects the current trading state for the issue. The allowable values are: **Code** / **Value** H / Halted or paused on

					NASDAQ and all UTP participants
				V	Halted or paused on NASDAQ OMX
				Q	Quotation only period for cross-SRO halt or pause
				R	Quotation only period for NASDAQ OMX only halt or pause
				T	Trading on NASDAQ
Reason	17	4	Alphanumeric		Reflects the Market Ops or MarketWatch code for the trading state change. Refer to Appendix C for current code list.

Note: For NASDAQ-listed securities, NASDAQ conducts a cross when it releases an IPO security or when it re-opens a seasoned security after a trading halt or trading pause. To facilitate price transparency for its crosses, NASDAQ disseminates a Net Order Imbalance Indicator (NOII) message via the **NASDAQ TotalView** product suite at 5-second intervals during the quotation only period of the Trading Action release.   The NOII data is especially valuable because it includes all order types (displayable and non-displayable) in its calculation.

6.5.2 Stock Directory

At the start of each trading day, NASDAQ disseminates stock directory messages for all active symbols in the NASDAQ system.

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	8	Numeric	Time Stamp.
Message Type	8	1	Alphanumeric	R = Stock Directory
Issue Symbol	9	6	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	15	1	Alphanumeric	Denotes the listing market for the issue. The allowable values are:

Code	Value
N	NYSE Listed Issue
A	NYSE Amex Issue
P	NYSE Arca Issue
Q	NASDAQ Global Select Market
G	NASDAQ Global Market
S	NASDAQ Capital Market
<Space>	Not available

Financial Status Indicator	16	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
D	Deficient
E	Delinquent
Q	Bankrupt
G	Deficient and Bankrupt
H	Deficient and Delinquent
J	Delinquent and Bankrupt
K	Deficient, Delinquent, and Bankrupt
<space>	Company is in compliance with NASDAQ listing standards OR Issue is listed on NYSE, NYSE Amex, NYSE Arca or regional exchange (not NASDAQ)

7   Contact Information

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

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

Appendix A – Last Sale Processing

SEC Vendor Display Rule

The Securities and Exchange Commission (SEC) has established certain display standards for market data vendors. For more information, please contact the SEC directly.

NLS carries only trade transactions from NASDAQ systems. Since NLS is <u>not</u> a consolidated trade data feed, it should not be used to feed market data displays that are subject to the SEC Vendor Display Rule.

Issue Statistic Calculations

NLS only provides raw trade data for the NASDAQ execution and TRF systems. If needed, firms should create their own algorithms for issue- and market center-level statistics. To help in the process, NASDAQ offers the following guidelines.

a) Last Sale and Volume 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 consolidated NASDAQ and TRF 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 includes the sale condition modifier for both NASDAQ execution system and TRF transactions. 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	Volume
@	Regular Settlement	Yes, if other levels do not overrule	Yes, if other levels do not overrule	Yes, if other levels do not overrule
C	Cash Settlement	No	No	Yes
N	Next Day Settlement	No	No	Yes
R	Seller Settlement	No	No	Yes

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

Code	Value	High/Low	Last Sale	Volume
F	Intermarket Sweep	Yes	Yes	Yes
O	Opening Print	Yes	Yes	Yes
4	Derivative Priced	Yes	No (except if first regular market trade of day)	Yes
5	Re-Opening Print	Yes	Yes	Yes
6	Closing Print	Yes	Yes	Yes
<space>	Not applicable	See other levels	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" code is 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	Volume
T	Extended Hours Trade	No	No	Yes
U	Extended Hours Trade – Reported Late or Out of Sequence	No	No	Yes
L	Sold Last – Reported Late But In Sequence	Yes	Yes	Yes
Z	Sold – Out of Sequence	Yes	No (except if first regular market trade of day)	Yes
<space>	Not applicable	See other levels	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 <u>not</u> 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), Weighted Average Price (W), and Odd Lot Execution (o) codes.

Code	Value	High/Low	Last Sale	Volume
A	Acquisition	Yes	Yes	Yes
B	Bunched	Yes	Yes	Yes
D	Distribution	Yes	Yes	Yes
H	Price Variation Trade	No	No	Yes
M	NASDAQ Official Close Price (NOCP)	Yes for NASDAQ market center only or NASDAQ system-wide displays No for NASDAQ/ FINRA TRF only displays	Yes (for NASDAQ market center only or NASDAQ system-wide displays only)	No
o	Odd lot execution	No	No	Yes[*]

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[*] 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 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.

Code	Value	High/Low	Last Sale	Volume
P	Prior Reference Price	Yes	No (except if first regular market trade of day)	Yes
Q	NASDAQ Official Opening Price (NOOP)	Yes for NASDAQ market center only or NASDAQ system-wide displays No for NASDAQ/ FINRA TRF only displays	No	No
S	Split Trade	Yes	Yes	Yes
W	Average Price Trade†	No	No	Yes
X	Cross Trade	Yes (if sent with an eligible Level 2 modifier)	Yes (if sent with an eligible Level 2 modifier)	Yes
\<space\>	Not applicable	See other levels	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.

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† For NLS 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 Amex- and NYSE Arca-listed securities.

c) Net Change Calculation

NLS 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 Amex- and NYSE Arca-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.

Appendix B - Stock Symbol Convention

For bandwidth efficiency reasons, NASDAQ will support a 6-byte symbol field on its NLS data feed product.

For most classes of securities, this field length is sufficient to support the exchange-assigned symbol. For select NYSE-, NYSE Amex-, and NYSE Arca-listed securities with subordinate issue types, however, NASDAQ must modify the trading symbol to fit the allotted field size on the data feeds. For the current symbol convention matrix, please refer to the Ticker Symbol Conversion for CQS Securities page on the NASDAQ Trader website.

For NASDAQ-listed issues, NASDAQ currently restricts its symbol length to a maximum of 5 characters. For common stock issuances, NASDAQ will assign a symbol of 1 to 4 characters in length. For subordinate securities, NASDAQ 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 character symbol suffixes, please refer to Current List of Fifth Character Symbol Suffixes for NASDAQ-listed Issues on the NASDAQ OMX Trader website.

Appendix C – 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.

For CQS issues, NASDAQ abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For both issue types, 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
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
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

For the current list of regulatory halts, please refer to the Trading Halts page on the NASDAQ Trader website.

Appendix D – NLS FilterView Data Feed Option

As outlined in section 3, NASDAQ OMX will offer three data feed delivery options for the NASDAQ Last Sale data feed.   Below is a description of the data content for each NLS option.

Data Delivery Option	NASDAQ Last Sale (NLS) – Standard Option
Trading Systems Coverage	• NASDAQ execution system • FINRA/NASDAQ Trade Reporting Facility (TRF)
Security Coverage	• NASDAQ-listed issues • NYSE-listed issues • NYSE Amex-listed issues • NYSE Arca-listed and other U.S. regional issues
Protocol Options	• SoupTCP • Compressed via SoupTCP • MoldUDP
NLS Message Formats In Delivery Option	• All System Event messages (Type S) • All Trade-Related messages (Types T, X and C) for both the NASDAQ execution system (Market Center Originator ID "Q") and FINRA/NASDAQ TRF (Market Center Originator ID of "L"> • Stock Directory messages (Type R) • Trading Action messages (Type H)
Notes	All NASDAQ and TRF trades are disseminated via a single outbound data stream. Firms may refer to Market Center Identifier field within the trade report to determine the NASDAQ trading system associated with the message. Firms may also refer to the Security Class field within the trade report to determine the listing market for the security.

Data Delivery Option	NASDAQ Trades FilterView
Trading System Coverage	• NASDAQ execution system
Security Coverage	• NASDAQ-listed issues • NYSE-listed issues • NYSE Amex-listed issues • NYSE Arca-listed and other U.S. regional issues

Protocol Options	• SoupTCP • Compressed via SoupTCP • MoldUDP
NLS Message Formats in Delivery Option	• All System Event messages (Type S) • All Trade-Related messages (Types T, X and C) for the NASDAQ execution system only (Market Center Originator ID of Q) • Stock Directory messages (Type R) • Trading Action messages (Type H)
Notes	Only NASDAQ execution system trades would be included in this FilterView option. For this NLS option, the system event timing would mimic the full NLS feed. Please note that firms must pay the FilterView fee of $500 per month for this data delivery option **in addition to** the NLS distributor and usage fees.

Data Delivery Option	TRF Trades FilterView
Trading System Coverage	• FINRA/NASDAQ Trade Reporting Facility (TRF)
Security Coverage	• NASDAQ-listed issues • NYSE-listed issues • NYSE Amex-listed issues • NYSE Arca-listed and other U.S. regional issues
Protocol Options	• SoupTCP • Compressed via SoupTCP • MoldUDP

NLS Message Formats in Delivery Option	• Select System Event messages (Type S)
	
	    o System Open (Event code "O")
	
	    o System Close (Event code "C")
	
	• All Trade-Related messages (Types T, X and C) for the FINRA/NASDAQ TRF only (Market Center Originator ID of L)

Notes	Only FINRA/NASDAQ Trade Reporting Facility trades would be included in this FilterView option. For this NLS option, the System Event message timing would be slightly different than the full NLS feed with the

| | System Open event going out at 8 a.m., ET. |
| | Please note that firms must pay the FilterView fee of $500 per month for this data delivery option **in addition to** the NLS distributor and usage fees. |

Appendix E – Documentation Version Control Log

NLS Version 1.00   **February 22, 2007**

NLS specification document released to public. For ordering information, please refer to NASDAQ Vendor Alert #2007-011.

NLS Version 1.00   **April 30, 2007**

The following sections of the NLS were updated for clarity reasons:

Section 5 – Data Type field was updated for all formats to delineate between alphabetic and alphanumeric fields.

Section 5.5.1 – Within the Stock Trading Action message, NASDAQ corrected the Data Type field to alphabetic for Current Trading Status field.

Section 5.5.2 – Within the Issue Directory message format, NASDAQ updated the code list for the Market Category field to denote that space is an allowable value. The Market Category field may be space filled if the security symbol is associated with a test issue OR if NASDAQ Operations adds a production issue to its online systems intra-day.

NLS Version 1.00   **June 7, 2007**

The following sections of the NLS were updated for clarity reasons:

Section 5.4 – Modified Trade Control message to add a Corrected Trade Control Number field to the message.

NLS Version 1.00   **July 2, 2007**

The following sections of the NLS were updated to reflect upcoming product changes:

Section 5.2 and Appendix A – Added new sale condition codes for Cross Trade transactions. For details on the new cross trade modifiers, please refer to NASDAQ Vendor Alert #2007-047.

NLS Version 1.00   **August 22, 2007**

The following sections of the NLS were updated to reflect upcoming product changes:

- Section 1.0 and Section 5 – Updated references to the Trade Reporting Facility (TRF) to reflect the fact the National Association of Securities Dealers (NASD) changed its name to Financial Industry Regulatory Authority (FINRA).
- Section 5.2 and Appendix A – Added note to clearly state that the NASDAQ and TRF systems maintain separate time stamps.
- Appendix A – Modified Level 4 sale condition matrix to clarify processing rules for NASDAQ Official Opening Price (NOOP) and NASDAQ Official Closing Price (NOCP) prints. Firms should include NOOP and NOCP values in NASDAQ market center system (Market Center = "Q" only) or NASDAQ system-wide (Market Centers = "Q" **+** "L") statistics. Firms should not, however, use the NOOP and NOCP values to set NASDAQ/FINRA TRF system (Market Center = "L" only) statistics.

NLS Version 1.00   **October 24, 2008**

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

- Hyperlinks to NASDAQ Trader website pages were corrected and email addresses were updated.

NLS Version 1.00   **October 30, 2008**

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

- Updated document to ensure that the value of "H" (Price Variation) properly reflected in all references to the Level 4 Sale Condition Modifier.

NLS Version 1.00   **December 4, 2009**

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

- Updated document to reflect that Sale Condition Level 2 now supports for Intermarket Sweep Order (ISO) values.

NLS Version 1.00   **December 17, 2009**

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

- Changed the Security Class field values to differentiate between NYSE and NYSE Amex listed issues.
- Changed the Sale Condition Modifier - Level 4 code for Odd Lot transactions to lower case "o".
- Added Delivery Option sections to highlight FilterView options for NASDAQ Last Sale (NLS).

NLS Version 1.00   **January 7, 2010**

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

- Changed the Security Class field values to differentiate between NYSE, NYSE Amex and NYSE Arca listed issues.

NLS Version 1.00   **May 25, 2010**

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

- Added two new Trading Action – Reason Codes (T5 and T7) in support of Single Stock Trading Pauses.

NLS Version 1.00   **July 2, 2010**

NASDAQ OMX added new Action Trading code(s) to the Stock Trading Action message for the NASDAQ Volatility Guard trading pause.

NLS 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.   As of November 2010, NASDAQ OMX will use the "W" sale condition code for all exchange-listed issues.

NASDAQ OMX also fixed a documentation error related to the field layout for the the Stock Trading Action message.   (Error was introduced in July of 2010.)