Nasdaq Level 2
Version 2.0

1. Overview

Nasdaq Level 2 is a direct data feed product offered by The Nasdaq Stock Market, LLC.

The Nasdaq Level 2℠ product features the following data elements:

- Top-of-File Quotations: For registered Nasdaq® market participants in Nasdaq and CQS issues, Nasdaq calculates and disseminates a top of file position based on attributed orders and quotations entered by the firm.
  - Level 2 will provide only the best bid and ask position for each Nasdaq market participant registered in an issue.
  - For the unattributed orders in the Nasdaq system, Level 2 will reflect only the top buy and sell prices under the MPID of "NSDQ".
  - For bandwidth efficiency reasons, Nasdaq will process bid quotation updates as separate events than ask quote updates on the Level 2 data feed.
- Administrativemessages, such trading actions, symboldirectory, and market participant position messages:
  - Trading action messages are used to inform market participantswhen a security is halted or released for trading.
  - Symbol Directory messages provide basic security data such as the market tier and Financial Status Indicator.
  - Market participantposition message carries the Primary market maker status, Market participant status, and market maker mode fields used by some firms to comply with market regulations.

Note: For greater depth information, please refer to Nasdaq TotalView–Aggregated℠ and/or TotalView–ITCH℠ products.

2. Architecture

The Level 2 feed is 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 Level 2 protocol are typically delivered using a higher level protocol that takes care of sequencingand delivery guarantees.

Nasdaq offers the Level 2 data feed in three protocol options:

Protocol Option	*Numberof Outbound Channels*
SoupBinTCP	Single outbound channel for all securities

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Protocol Option	*Numberof Outbound Channels*
Compressedvia SoupBinTCP	Single outbound channel for all securities
MoldUDP64	Three outbounddata channels using alphabetic split (See Appendix A)

3. Data Types

All integer fields are big-endian (network byte order) binary encoded numbers. Unless otherwise noted, they are unsigned.

All alphanumericfields are ASCII fields which are left justified and padded on the right with spaces.

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 field flagged as Price (4) has an implied 4 decimal digits.

Timestampsare represented as nanosecondssince midnight.

4. Message Formats

Nasdaq Level 2 supports three basic types of messages:

- System Events
- Nasdaq market participant top-of-file bid/ask update
- Administrative Data

Within the system event and administrative types, Nasdaq may support multiple message formats as outlined below.

4.1 System Event Message

The system event message type is used to signal a market or data feed handler event. The format is as follows:

SYSTEMEVENT MESSAGE				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"S"	System Event Message
Tracking Number	1	2	Integer	Nasdaq internaltrackingnumber
Timestamp	3	6	Timestamp	Time at which the system event was generated.
Event Code	9	1	Alphanumeric	Refer to System Event Codes below

Nasdaq supports the following event codes on a daily basis.

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SYSTEM EVENT CODES - DAILY	
Code	***Explanation***
"O"	*Start of Messages.* This is always the first message sent in any tradingday.
"S"	*Start of System Hours.* This message indicates that Nasdaq is open and ready to start accepting orders.
"Q"	*Start of Market Hours.* This message is intended to indicate that Market Hours orders are available for execution.
"M"	*End of Market Hours.* This message is intended to indicate that Market Hours orders are no longer available for execution.
"E"	*End of System Hours.* It indicates that Nasdaq is now closed and will not accept any new orders.
"C"	*End of Messages*. This is always the last message sent in any trading day. For initial implementation of the Nasdaq execution system, this message will be disseminatedbetween 8:00 and 9:00 p.m., ET.

4.2 Administrative Messages

4.2.1 Stock Directory

At the start of each trading day, Nasdaq disseminates stock directory messages for all active symbols in the Nasdaq execution 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				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"R"	Stock Directory Message
Tracking Number	1	2	Integer	Nasdaq Internal Tracking Number
Timestamp	3	6	Numeric	Time at which the directory message was generated. Refer to Data Types for field processing notes.
Stock	9	8	Alpha	Denotes the security symbol for the issue in the Nasdaq execution system.
Market Category	17	1	Alpha	Indicates Listing market or listing market tier for the issue "Q" = Nasdaq Global Select Market℠ "G" = Nasdaq Global Market℠ "S" = Nasdaq Capital Market® "N" = New York Stock Exchange (NYSE) "A" = NYSE American "P" = NYSE Arca "M" = NYSE Texas "Z" = BATS BZX Exchange "V" = Investors' Exchange, LLC "F" = Texas Exchange <space> = Not Available

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Financial Status Indicator	18	1	Alpha	For Nasdaq-listed issues, this field indicates when a firm is not in compliance with Nasdaq continued listing requirements. “D” = Deficient “E” = Delinquent “Q” = Bankrupt “S” = Suspended “G” = Deficient and Bankrupt “H” = Deficient and Delinquent “J” = Delinquent and Bankrupt “K” = Deficient, Delinquent and Bankrupt “C” = Creations and/or Redemptions Suspended for Exchange Traded Product “N” = Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt <Space> = Company is in compliance, if Nasdaq-listed issue
Round Lot Size	19	4	Integer	Indicates the number of shares that represent a round lot for the issue
Round Lots Only	23	1	Alpha	Indicates if Nasdaq system limits order entry for issue “Y” = only round lots are accepted in this stock “N” = odd/mixed lots are allowed
Issue Classification	24	1	Alpha	Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.
Issue Sub-type	25	2	Alpha	Identifies the security sub-type for the issue as assigned by Nasdaq. See Appendix for allowable values.
Authenticity	27	1	Alpha	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. “P” = Live/Production “T” = Test
Short Sale Threshold Indicator	28	1	Alpha	Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3). “Y” = Issue is restricted under SEC Rule 203(b)(3) “N” = Issue is not restricted “<Space>” = Threshold Indicator not available
IPO Flag	29	1	Alpha	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). *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 “Z” = NASDAQ listed instrument is a non-IPO new listed security *Non-Nasdaq Listed Instruments*

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				“<Space>” = Not available

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LULD Reference Price Tier	30	1	Alpha	Indicates which Limit Up / Limit Down price band calculation parameter is to be used for the instrument. Refer to LULD Rule for details. "1" = Tier 1 NMS Stocks and select ETPs "2" = Tier 2 NMS Stocks "<Space>" = Not Available
ETP Flag	31	1	Alpha	Indicates whether the security is an exchange traded product (ETP): "Y" = Instrument is an ETP "N" = Instrument is not an ETP "<Space>" = Not Available
ETP Leverage Factor	32	4	integer	Tracks the integral 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. Leverage Factor is rounded to the nearest integer below, e.g. leverage factor 1 would represent leverage factors of 1 to 1.99. This field is used for LULD Tier I price band calculation purposes. ETP Leverage Factor currently not supported for Non-Nasdaq listed ETP's.
Inverse Indicator	36	1	Alpha	Indicates the directional relationship between the ETP and underlying index. "Y" = ETP is an Inverse ETP "N" = ETP is not an Inverse ETP Example: An ETP Leverage Factor of 3 and an Inverse value of 'Y' indicates the ETP will decrease by a value of 3.

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4.2.2 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

* 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				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"H"	Stock Trading Action Message
Tracking Number	1	2	Integer	Nasdaq internal

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				tracking number
Timestamp	3	6	Timestamp	Time at which the stock trading action message was generated
Stock	9	8	Alphanumeric	Denotesthe security symbol for the issue in the Nasdaq Single Book.
Current Trading State	17	1	Alphanumeric	Indicates the current trading state for the stock. Allowable values: "H" = Halted across all U.S. equity markets / SROs "P" = Paused across all U.S. equity markets / SROs (Nasdaq-listed securities only) "Q" = Quotation only period for cross-SRO halt or pause "T" = Trading on Nasdaq
Reason	18	4	Alphanumeric	Reflects the Market Ops or Market Watch code for the trading state change. Refer to Appendix C for values.

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 **NasdaqTotalView** 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.

4.2.3 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 Number34-61595. In association with the Reg SHO rule change, Nasdaq introduced the following Reg SHO Short Sale Price Test Restricted Indicator message format.

For Nasdaq-listed issues, Nasdaq supports a full pre-opening spin of Reg SHO Short Sale Price Test Restricted Indicator messages indicating the Rule 201 status for all active issues. Nasdaq also sends the Reg SHO Short Sale Price Test Restricted Indicator message in the event of an intraday status change.

Nasdaq processes orders based on the most Reg SHO Restriction status value.

REGSHO RESTRICTION				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"Y"	Stock Directory Message

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Tracking Number	1	2	Integer	Nasdaq internal tracking number
Timestamp	3	6	Timestamp	Time at which the market participant position message was generated
Stock	9	8	Alphanumeric	Stock symbolright padded with spaces.
Reg SHO Action	17	1	Alphanumeric	Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowablevalues are: "0" = No price test in place "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

4.2.4 Market Participant Position

At the start of each trading day, Nasdaq disseminates a spin of market participant position messages. The message provides the Primary Market Maker status, Market Maker mode and Market Participant state for each Nasdaq market participantfirm registered in an issue. Market participant firms may use these fields to comply with certain marketplace rules.

Throughout the day, Nasdaq will send out this message only if Nasdaq Operations changes the status of a market participant firm in an issue.

PARTICIPANT POSITION SUMMARY				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"P"	Market Participant Position Message
Tracking Number	1	2	Integer	Nasdaq internaltrackingnumber
Timestamp	3	6	Timesta mp	Time at which the market participant position message was generated
MPID	9	4	Alphanu meric	Denotesthe market participant identifier for which the position message is being generated
Stock	13	8	Alphanu meric	Denotes the security symbol for which the position is being generated
Primary Market Maker	21	1	Alphanu meric	Indicates if the market participant firm qualifies as a Primary Market Maker in accordance with Nasdaq marketplace rules "Y" = primary market maker "N" = non-primary market maker
Market Maker Mode	22	1	Alphanu meric	Indicates the quotingparticipant's registration status in relation to SEC Rules 101 and 104 of Regulation M "N" = normal

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				"P" = passive "S" = syndicate "R" = pre-syndicate "L" = penalty
Market Participant State	23	1	Alphanumeric	Indicates the market participant's current registration status in the issue "A" = Active "E" = Excused/Withdrawn "W" = Withdrawn "S" = Suspended "D" = Deleted

4.2.5 Operational Halt

The Exchange uses this message to indicate the current Operational Status of a security to the trading community. An Operational Halt means that there has been an interruption of service on the identified security impacting only the designated Market Center. These Halts differ from the "Stock Trading Action" message types since an Operational Halt is specific to the exchange for which it is declared, and does not interrupt the ability of the trading community to trade the identified instrument on any other market place.

Nasdaq uses this administrative message to indicate the current trading status of the three market centers operated by Nasdaq.

Operational Halt				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"h"	Operational Halt
Tracking Number	1	2	Integer	Nasdaq internal tracking number
Timestamp	3	6	Integer	Time at which the Operational Halt message was generated. Refer to Data Types for the field processing notes.
Stock	9	8	Alpha	Denotes the security symbol for the issue in the Nasdaq execution system.
Market Code	17	1	Alpha	Code: Value Q: Nasdaq B: Nasdaq Texas X: PSX
Operational Halt Action	18	1	Alpha	Code: Value H: Operationally Halted on the identified Market T: Operational Halt has been lifted and Trading resumed

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4.3 Market Participant Top-of-File Bid/Ask Updates

For each registered Nasdaq market participant, Nasdaq calculates a top-of-file position based on the firm's attributed order and quotation data. The top-of-file position reflects the market participant's highest bid price and lowest ask price.

For bandwidth efficiency reasons, Nasdaq will treat the market participant's bid and ask updates as separate events. Upon receipt of a Level 2 update, the data feed recipient firm should adjust the quotation price for the market side indicated in the message. If the size field within the message is zero, the data feed recipient should remove the market participant's price level from its quotation montage.

MARKET PARTICIPANT BID/ASK UPDATE				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"U"	Participant Price Level Update Message
Tracking Number	1	2	Integer	Nasdaq internaltracking number
Timestamp	3	6	Timestamp	Time at which the price level update was generated
Market Side	9	1	Alphanumeric	Denotes the side of the market associated with the price level update "B" = bid update "S" = offer/ask update
Participant Shares	10	4	Integer	Reflects the current number of shares displayed by this participant at this price level
Stock	14	8	Alphanumeric	Denotes the security symbol for which the price level is being generated
Price	22	4	Price (4)	Reflects the price associated with the update. Refer to Data Types for field processingnotes.
MPID	26	4	Alphanumeric	Denotesthe market participant identifier associated with the price level update

4.4 Retail Price Interest Indicator (RPII)

Identifies a retail interest indication of the Bid, Ask or both the Bid and Ask for Nasdaq-listed securities.

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Retail Interest Message				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"N"	Retail Interest message
Tracking Number	1	2	Integer	Nasdaq internaltrackingnumber
Timestamp	3	6	Timestamp	Time at which the price level update was generated
Stock	9	8	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system. Refer to Appendix B for stock symbol conventioninformation.
Interest Flag	17	1	Alphanumeric	"B" = RPI orders available on the buy side "S" = RPI orders available on the sell side "A" = RPI orders available on both sides (buy and sell) "N" = No RPI orders available

4.5 Market-Wide Circuit Breaker (MWCB) Messages

4.5.1 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***
Message Type	0	1	"V"	Market-Wide Circuit Breaker Decline Level Message.
Tracking Number	1	2	Integer	Nasdaq internal tracking number
Timestamp	3	6	Timestamp	Time at which the MWCB Decline Level message was generated
Level 1	9	8	Price (8)	Denotes the MWCB Level 1 Value.
Level 2	17	8	Price (8)	Denotes the MWCB Level 2 Value.
Level 3	25	8	Price (8)	Denotes the MWCB Level 3 Value.

4.5.2 MWCB Status Message

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

MWCB Status Message				
Name	***Offset***	***Length***	***Value***	***Notes***
Message Type	0	1	"W"	Market-Wide Circuit Breaker Status message
Tracking Number	1	2	Integer	Nasdaq internal tracking number

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Timestamp	3	6	Timestamp	Time at which the MWCB Status message was generated
Breached Level	9	1	Alphanumer ic	Denotes the MWCB Level that was breached. "1" = Level 1 "2" = Level 2 "3" = Level 3

4.6 IPO Quoting Period Update

Indicates the anticipated IPO quotation release time of a security.

Message Type	0	1	"K"	IPO Release Message
Tracking Number	1	2	Integer	Nasdaq internal trackingnumber
Timestamp	3	6	Timestamp	Time at which the NOII message was generated
Stock	9	8	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system.
IPO Quotation Release Time	17	4	Integer	Denotes the IPO release time, in seconds since midnight, for quotation to the nearest second. NOTE: If the quotation period is being canceled/postponed, we should state that 1. IPO Quotation Time will be set to 0 2. IPO Price will be set to 0
IPO Quotation Release Qualifier	21	1	Alphanumeric	**Code** / **Description** A — **Anticipated quotation releasetime** *This value would be used when Nasdaq Market Operations initially enters the IPO instrument for release.* C — **IPO release canceled/postponed** *This value would be used when Nasdaq Market Operationscancelsor postponesthe release of the IPO instrument.*
IPO Price	22	10	Price (4)	Denotes the IPO price to be used for intraday net changecalculations. Prices are given in decimal format with

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				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 appearinside the price field.

5. Support

For general product support for Nasdaq data feeds, please contact clientsuccess@nasdaq.com.

For technical support for Nasdaq data feeds, please contact Nasdaq Global SoftwareDevelopmentat devsupport@nasdaq.com.

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Appendix A - Data Channel Assignment – MoldUDP Version Only

For initial implementation of the Level 2 data feed, Nasdaq will disseminate the outbound messages via three logical channels.

Market participant bid/ask updates and administrativemessages will be split based on the initial letter of the stock symbol within the message. Each data channel will contain both CQS- and Nasdaq-listed security data. The symbol assignment will be:

Data Feed Channel	Symbol Alphabetic Range
Nasdaq Level 2–Channel #1	A to E
Nasdaq Level 2–Channel #2	F to N
Nasdaq Level 2–Channel #3	O to Z

System event messages, however, will be disseminated across all data channels.

For the MoldUDP protocol, the packet sequencingschema will be unique to each data channel.

For the addressing information, please refer to the MoldUDP Data Feed Addressing Information page of the Nasdaq Trader website.

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Appendix B - Stock Symbol Convention

For Nasdaq-listed issues, Nasdaq currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, Nasdaq, PSX and Nasdaq Texas 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 Nasdaq Texas 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 Trader website.

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

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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 TRADINGHALT ACTIONS	
Code	**Value**
T1	Halt News Pending
T2	Halt News Disseminated
T5	Single Security Trading Pause In Affect
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
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
O1	Operations Halt; Contact Market Operations
IPO1	IPO Issue Not Yet Trading
M1	Corporate Action
M2	Quotation Not Available
Space	Reason Not Available

REASONCODESFOR QUOTATION/TRADING RESUMPTIONACTIONS	
Code	**Value**
T3	News and Resumption Times
T7	Single Security 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

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IPOQ	IPO Security Released for Quotation (Nasdaq Securities Only)
IPOE	IPO Security — Positioning Window Extension (Nasdaq Securities Only)
Space	Reason Not Available

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Appendix D – 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

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Appendix E – Issue Sub Type Values

CODES FOR ISSUE CLASSIFICATION VALUES	
Code	**Value**
A	Preferred Trust Securities
AI	Alpha Index ETNs
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
CO	Collateralized Mortgage Obligation
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
EM	Exchange Traded Managed Funds*
EN	Exchange Traded Notes
EU	Equity Units
F	HOLDRS
FI	ETN-Fixed Income-Linked Securities
FL	ETN-Futures-Linked Securities
G	Global Shares
I	ETF-Index Fund Shares
IR	Interest Rate
IW	Index Warrant
IX	Index-Linked Exchangeable Notes
J	Corporate Backed Trust Security
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
MT	Managed Trust Securities
N	NY Registry Shares
O	Open Ended Mutual Fund
P	Privately Held Security
PP	Poison Pill
PU	Partnership Units
Q	Closed-End Funds
R	Reg-S
RC	Commodity-Redeemable Commodity-Linked Securities

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RF	ETN-Redeemable Futures-Linked Securities
RT	REIT
RU	Commodity-Redeemable Currency-Linked Securities
S	SEED
SC	Spot Rate Closing
SI	Spot Rate Intraday
T	Tracking Stock
TC	Trust Certificates
TU	Trust Units
U	Portal
V	Contingent Value Right
W	Trust Issued Receipts
WC	World Currency Option
X	Trust
Y	Other
Z	Not Applicable

* Nasdaq is planning to introduce Exchange Traded Managed Funds (ETMFs) in 2015. EMTF prices will be stated in proxy price on this feed. Nasdaq is expected to issue vendor display requirements for this new asset class.

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Appendix F – Documentation Revision Control Log

June 11, 2026: Nasdaq Level 2 Version 2.0

Included additional listing market value "F" (Texas Exchange).

February 19, 2026: Nasdaq Level 2 Version 2.0

Added value "Z" to IPO flag in Stock Directory message for Non-IPO New Issues

February 13, 2026: Nasdaq Level 2 Version 2.0

Updated specification with Nasdaq BX name change to Nasdaq Texas.

June 23, 2025: Nasdaq Level 2 Version 2.0
Included additional listing market value "M".

July 14, 2022: Nasdaq Level 2 Version 2.0
Due to the launch of non-integer leverage factors, updated ETP Leverage Factor from section 4.2.1 page 5.

May 3, 2018: Nasdaq Level 2 Version 2.0

Nasdaq made the decision to fall back to the previous version number to avoid customer confusion related to different sequencing between the version number of the product specifications and the version number of the actual product code.

March 3, 2018: Nasdaq Level 2 Version 2.1

Released a new version of Nasdaq Level 2 documentation to add a new Operational Halt message (Section 4.2.5) to indicate the current Operational Status of a security to the trading community.

September 12, 2017: Nasdaq Level 2 Version 2.00

Nasdaq added a new Market Category code in the Symbol Directory messages for the Investors' Exchange, LLC to distinguish IEX--listed issues. New market category code is "V".

March 6, 2015: Nasdaq Level 2 Version 2.00

The Level 2 Specification was updated to include new Issue Sub-Type Code "EM" for Exchange Traded Managed Funds.

January 2, 2015: Nasdaq Level 2 Version 2.00

Nasdaq RPI program ceased on 12/31/14 ETA #2014-94

December 5, 2014: Nasdaq Level 2 Version 2.00
The Level 2 Specification was updated to include missing Issue Sub-Type Codes (Appendix E):

- AI – Alpha Indexes ETNs
- CO – Collateralized Mortgage Obligation
- EU – Equity Units
- F – HOLDRS
- IR – Interest Rate
- IW – Index Warrant
- J – Corporate Backed Trust Security
- PP – Poison Pill
- Q – Closed -End Funds
- RT – REIT
- SC – Spot Rate Closing
- SI – Spot Rate Intraday
- WC – World Currency Option
- Added the internal tracking number to the Market Participant Top-of-File Bid/Ask

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- X – Trust
- Y – Other
- Z – N/A

October 1, 2013: Nasdaq Level 2 Version 2.00
Released a new version of the Level 2 documentation to support the following changes:

- Conversion to binary

August 2, 2013: Nasdaq Level 2 Version 2.00
Released a new version of the Level 2 documentation to support the following changes:

- Inclusion of the Appendices for Issue Classification and Issue Sub-Type
- Added IPO Quotation Release Message

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Updates

- Updated offsets in the Symbol Directory Message
- Renamed the Compliance ID field to TrackingID
- Updated the offsets for the Reg SHO Short Sale Price Test Restricted Indicator
- Updated offsets and lengths in the MWCB Decline Level Message

July 10, 2013: Nasdaq Level 2 Version 2.00

Released a new version of the Level 2 documentationto support the following changes to take effect October 2013:

- Added Enhanced Symbol Directory
- Added Market-Wide Circuit Breaker (MWCB) Messaging
  - MWCB Decline Level Message
  - MWCB Status Message
- Addition of an internal tracking number to the Stock Trading Action Message
- Addition of 'C' to the Financial Status Indicator field in the Symbol Directory message

March 9, 2013: Nasdaq Level 2 Version 1.10

Released a new version of the Level 2 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

January 9, 2013: Nasdaq Level 2 Version 1.10

Released a new version of the Level 2 documentation to support the following changes:

- Nasdaq 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.

January 8, 2013: Nasdaq Level 2 Version 1.10

Released a new version of the Level 2 documentationto support the following changes:

- Modified the Retail Price Interest Indicator Message. Changed the message type from "G" to "N".

November 6, 2012: Nasdaq Level 2 Version 1.10

Released a new version of the Level 2 documentationto 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.
- Added Retail Price Interest Indicator Message

November 1, 2011: Nasdaq Level 2 Version 1.10

Nasdaq updated the Market Category message to include the code "Z" for BATS- listed securities.

April 6, 2011: Nasdaq Level 2 Version 1.10

Nasdaq added two new Trading Action – Reason codes to Appendix C for the Nasdaq Volatility Guard pilot program. New Reason codes were V1 and V2.

November 11, 2010: Nasdaq Level 2 Version 1.10

Nasdaq also fixed an error in the Stock Trading Action message format introduced to the document in July 2010.

November 4, 2010: Nasdaq Level 2 Version 1.10

Nasdaq updated the Regulation SHO message definition to reflect the new SEC

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implementation date.

July 14, 2010: Nasdaq Level 2 Version 1.10
Nasdaq added a new Regulation SHO Short Sale Price Test Restricted Indicator message format to be

introduced in the fourth quarter of 2010.

July 2, 2010: Nasdaq Level 2 Version 1.10
Nasdaq added new Action Trading code(s) to the Stock Trading Action message for the Nasdaq Volatility Guard trading pause.

May 25, 2010: Nasdaq Level 2 Version 1.10
Nasdaq added two new Trading Action Reason code values (T5 and T7) for single security trading pause situations.

January 26, 2010: Nasdaq Level 2 - Version 1.10
Released a new version of the Nasdaq Level 2 documentation to support the following changes:

- Increased length of the symbol field from 6 characters to 8 characters in multiple message formats in support of the equity symbology initiative.
- Modified the values for the Market Catetgory field in Symbol Directory messages to delineate among NYSE-, NYSE Amex- and NYSE Arca-listed issues.
- Added note to Appendix B to reflect that Nasdaq is reviewing its stock symbol conventions to determine if changes are needed.

June 10, 2008: Nasdaq Level 2 - Version 1.00

Nasdaq modified the Level 2 specifications document to add new codes for emergency market condition (EMC) situations.:

- Section 4.2 – System Event Message. Added the following three codes for EMC situations.
  - A = Emergency market condition – halt
  - R = Emergency market condition – quote only period
  - B = Emergency market condition – resumption

May 1, 2008: Nasdaq Level 2 - Version 1.00

Nasdaq modified the Level 2 specifications document to reflect the following changes:

- 4.3 – Market Participant Top-of-File Bid/Ask Updates. Updated document to clarify that how firms should handle zero size updates on the Level 2 product.
- 5.0 – Support: Updated the email addresses to reflect the new "nasdaqomx.com" web server name.
- Appendix B: Removed reference to phase 2 of the Nasdaq symbology initiative.

April 3, 2007: Nasdaq Level 2 - Version 1.00

Nasdaq modified the Level 2 specifications document to reflect the following changes:

- 2.0 – Architecture and Appendix A - Data Channel Assignment. Updated document to clarify that only the MoldUDP data feed option is available in a split alphabet format.

February 15, 2007: Nasdaq Level 2 - Version 1.00

Nasdaq modified the Level 2 specifications document to reflect the following changes:

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- 4.2.2 – Stock Trading Action. Updated document to reflect actual system processing rules for pre-opening trading action spin.
- Appendix B – Stock Symbol Convention. Updated document to reflect the most current URL links to

Nasdaq symbology matrices.

February 9, 2007: Nasdaq Level 2 - Version 1.00

Nasdaq modified the Level 2 specifications document to reflect the following changes:

- 4.2.3 - Market Participant Position. Corrected MPID field size and offsets in the Market Participant (MP) Position message format.

October 18, 2006: Nasdaq Level 2 - Version 1.00

Nasdaq released the initial Level 2 data feed specification document to the public.

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