Product Overview

Nasdaq PSX BBO is the leading exchange-provided alternative for real-time Best Bid and Offer for all U.S. exchange- listed securities. With Nasdaq PSX BBO, investors access a proprietary data product that provides accuracy, liquidity, instrument coverage and accessibility with significant cost-savings.

Please note that the below specification only includes the QBBO portion.

Chanel	Securities Coverage
1	NYSE Issues
2	Other Regional Issues
3	Nasdaq Issues

Publisher

Nasdaq Investment Intelligence equips investors with the tools to make informed decisions by providing innovative real-time and historical analytic products and intelligent solutions designed to tap new data sets and meet new industry challenges. Nasdaq Data Link eliminates infrastructure and resource obstacles from collecting and storing large data sets, providing tools with industry adopted open standards to ingest and analyze market data and other financial information. To learn more about the company, technology solutions and career opportunities, visit us on LinkedIn, on Twitter @Nasdaq, or at www.nasdaq.com.

Data Types

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

All alphanumeric fields 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 a 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.

Timestamps reflects the Nasdaq system time at which the outbound message was generated. Nasdaq states time as the number of nanoseconds past midnight. The time zone is U.S. Eastern Time.

Delivery

Nasdaq Data Link provides a modern and efficient method of delivery for Realtime exchange data and other financial information. Data is made available through a suite of APIs, allowing for effortless integration of data from disparate sources, and a dramatic reduction in time to market for customer-designed applications. The API is highly scalable, and robust enough to support the delivery of real-time exchange data.

This repository provides an SDK for developing applications to access the Nasdaq Data Link API. While the SDK is open source, connecting to the API does require credentials, which are provided by Nasdaq during an on-boarding process.

For more information, please use the link- https://github.com/Nasdaq/CloudDataService

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System Event Message

Details

The System Event message is used to signal key market or data feed control events. PSX BBO will support the System Event messages.

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	S = System Event
Tracking Number	trackingID	long	Message Tracking number, compound key containing: bytes 0-1 = Nasdaq internal tracking number bytes 2-7 = Timestamp in nanoseconds from midnight

			See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Event Code	event	String	Denotes the type of event for which the message is being generated. See list below for allowable values.

Code	Value
O	*Start of Transmissions*: Denotes that PSX BBO has started its daily transmission schedule
S	*Start of System Hours*: This message indicates that PSX 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 PSX is now closed and will not accept any new orders today.
C	*End of Transmissions*: Denotes that PSX BBO has completed its daily transmission schedule.

Schema

```
{
 "type" : "record",
 "name" : "SeqSystemEventMessage",
 "fields" : [ {
  "name" : "SoupPartition",
  "type" : "int"
 }, {
  "name" : "SoupSequence",
  "type" : "long"
 }, {
  "name" : "msgType",
  "type" : "string"
 }, {
  "name" : "trackingID",
  "type" : "long"
 }, {
  "name" : "event",
  "type" : "string"
 }
}
```

```
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "S",
"trackingID": 7238625218217,
"event": O
}
```

Quotation Message

PSX BBO will broadcast a real-time update every time that the exchange's best bid and offer quote is updated during the trading day. Please note that this message is for non-NextShares messages. NextShares messages will be supported in 5.4 (NextShares Quotation Message).

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	Q = Quotation Message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: bytes 0-1 = Nasdaq internal tracking number bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Symbol	symbol	string	Denotes the PSX market center system issue identifier for which the PSX BBO quotation message is being generated
Security Class	market	string	Indicates the primary listing market for the stock. The allowable values are as follows: <table><tr><td>Code</td><td>Value</td></tr><tr><td>Q</td><td>The Nasdaq Stock Market</td></tr><tr><td>N</td><td>NYSE</td></tr><tr><td>A</td><td>NYSE American</td></tr><tr><td>P</td><td>NYSE Arca</td></tr><tr><td>Z</td><td>BATS</td></tr><tr><td>V</td><td>Investors' Exchange LLC</td></tr></table>
Nasdaq Best Bid Price	bidPrice	int	Denotes the PSX best bid price – the highest price for market buy order(s) in the PSX system.
Nasdaq Best Bid Size	bidQuantity	int	Denotes the aggregated number of shares available for display within the PSX market center system at the PSX best bid price.
Nasdaq Best Offer Price	askPrice	int	Denotes the PSX exchange's best offer price - the lowest price for market sell order(s) in the PSX system.

Nasdaq Best Offer Size	askQuantity	int	Denotes the aggregated number of shares available for display within the PSX market center system at the PSX best offer price.

Schema

```
{
"type": "record",
"name": " SeqQuoteMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "market",
"type": "string"
},
{
"name": "bidPrice",
"type": "int"
},
{
"name": "bidQuantity",
"type": "int"
},
{
"name": "askPrice",
"type": "int"
},
{
"name": "askQuantity",
"type": "int"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "Q",
"trackingID": 7238625218217,
"symbol": "ZVZZT",
"market": "Q",
"bidPrice": 100.11,
"bidQuantity": 500,
"askPrice": 100.13,
"askQuantity": 200
}
```

NextShares Quotation Message

This version of the Quotation message format will be used for Exchange Traded Managed Funds (NextShares). For this asset class, Nasdaq will support both Proxy Price and Net Asset Value (NAV) premium/discount amount for the best bid and offer.

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	A = NextShares Quotation Message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: bytes 0-1 = Nasdaq internal tracking number bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
NextShares Symbol	symbol	string	Denotes the NextShares symbol in the PSX execution system.
Security Class	market	string	Indicates the primary listing market for the stock. The allowable values are as follows: <table><tr><td>Code</td><td>Value</td></tr><tr><td>Q</td><td>Nasdaq-listed security</td></tr></table>
Nasdaq Best Bid - Proxy Price	bidPrice	int	Denotes the PSX best bid price for NextShares in proxy price format.
Nasdaq Best Bid Size	bidQuantity	int	Denotes the aggregated number of shares available for display within the PSX market center system at the PSX best bid price.
Nasdaq Best Bid - NAV Premium/Discount Amount	bidNavPremium	int	Denotes premium or discount amount to the NAV reflected in the PSX best bid. **Please note:** This is a signed (+/-) field.

Nasdaq Best Offer - Proxy Price	askPrice	int	Denotes the PSX best offer for the EMTF in proxy price format .
Nasdaq Best Offer Size	askQuantity	int	Denotes the aggregated number of shares available for display within the PSX market center system at the PSX best offer price.
Nasdaq Best Offer – NAV Premium/Discount Amount	askNavPremium	int	Denotes the premium or discount amount to the NAV reflected in the PSX best offer. **Please note:** this is a signed (+/-) field.

Schema

```
{
"type": "record",
"name": "SeqETMFQuoteMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "market",
"type": "string"
},
{
"name": "bidPrice",
"type": "int"
},
{
"name": "bidQuantity",
"type": "int"
},
{
"name": "bidNavPremium",
"type": "int"
},
```

```
{
"name": "askPrice",
"type": "int"
},
{
"name": "askQuantity",
"type": "int"
},
{
"name": "askNavPremium",
"type": "int"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "A",
"trackingID": 7238625218217,
"symbol": "ZVZZT",
"market": "Q",
"bidPrice": 100.11,
"bidQuantity": 500,
"bidNavPremium": 1,
"askPrice": 100.13,
"askQuantity": 200,
"askNavPremium": 2
}
```

Retail Price Interest Indicator (PII)

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	N = Retail Interest message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: bytes 0-1 = Nasdaq internal tracking number bytes 2-7 = Timestamp in nanoseconds from midnight See the ▓▓▓▓▓▓▓▓▓ class in the ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ package within the SDK.
Stock	symbol	string	Denotes the security symbol for the issue in the PSX execution system.

Interest Flag	interest	string		
			Code	Value
			B	PI orders available on the buy side
			S	PI orders available on the sell side
			A	PI orders available on both sides (buy and sell)
			N	No PI orders available

Schema

```
{
"type": "record",
"name": "SeqRetailInterestMessage",

"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "interest",
"type": "string"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "N",
```

"trackingID": 7238625218217,
"symbol": "ZVZZT",
"market": "Q",
"interest": "A"
}

IPO Quoting Period Update

Indicates the anticipated IPO quotation release time of a security.

Details

Field	Name	Type	Description		
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.		
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.		
Message Type	msgType	string	K = IPO Quoting Period Update Message		
Tracking Number	trackingID	long	Message Tracking number, compound key containing: - bytes 0-1 = Nasdaq internal tracking number - bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.		
Stock	symbol	string	Denotes the security symbol for the issue in the PSX execution system.		
IPO Quotation Release Time	releaseTime	int	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 IPO Price will be set to 0		
IPO Quotation Release Qualifier	releaseQualifier	string	**Code**	**Description**	
			A	**Anticipated quotation release time** *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 Operations cancels or postpones the release of the IPO instrument.*	

IPO Price	ipoPrice	int	Denotes the IPO price to be used for intraday net change calculations.

Schema

```
{
"type": "record",
"name": " SeqIPOQuotePeriodMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "releaseTime",
"type": "int"
},
{
"name": "releaseQualifier",
"type": "string"
},
{
"name": "ipoPrice",
"type": "int"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "K",
```

"trackingID": 7238625218217,
"symbol": "ZVZZT",
"releaseTime": 34509843560,
"releaseQualifier": "A",
"ipoPrice": 15.00
}

Administrative Messages
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.

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	H = Trading Action
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Issue Symbol	symbol	string	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	market	string	Indicates the primary listing market for the issue. Allowable values are:

Code	Value
Q	Nasdaq
N	NYSE
A	NYSE American
P	NYSE Arca
Z	BATS
Z	Investors' Exchange, LLC

Current Trading State	tradingState	string	Reflects the current trading state for the issue. The allowable values are:

Code	Value
H	Halt in effect (Cross all U.S. equity exchanges)
P	Paused across all U.S. Equity markets / SROs (Nasdaq-listed securities only)
Q	Quote only period in effect (Cross all U.S. equity changes)
T	Trading on Nasdaq Market

Reason	reason	string	Reflects the Market Ops or Market Watch code for the trading state change. Refer to Appendix C for current code list.

Schema

```
{
"type": "record",
"name": "SeqTradingStateMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
```

```
"name": "symbol",
"type": "string"
},
{
"name": "market",
"type": "string"
},
{
"name": "tradingState",
"type": "string"
},
{
"name": "reason",
"type": "string"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "H",
"trackingID": 7238625218217,
"symbol": "ZVZZT",
"market": "Q",
"tradingState": "T",
"reason": "M1"
}
```

Stock Directory

At the start of each trading day, Nasdaq disseminates stock directory messages for all active symbols in its market center system.

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

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	R = Stock Directory Message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-7 = Timestamp in nanoseconds from midnight

			See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Stock	symbol	string	Denotes the security symbol for the issue in the PSX execution system.
Market Category	marketCategory	string	Indicates Listing market or listing market tier for the issue:
Financial Status Indicator	fsi	string	For Nasdaq-listed issues, this field indicates when a firm is not in compliance with Nasdaq continued listing requirements.
Round Lot Size	roundLotSize	int	Denotes the number of shares that represent a round lot for the issue
Round Lots Only	roundLotOnly	string	Indicates if Nasdaq system limits order entry for issue:

Market Category table:

Code	Definition
Nasdaq-Listed Instruments	
Q	Nasdaq Global Select Market^{SM}
G	Nasdaq Global Market^{SM}
S	Nasdaq Capital Market®
Non-Nasdaq-Listed Instruments	
N	New York Stock Exchange (NYSE)
A	NYSE American
P	NYSE Arca
Z	BATS Z Exchange
V	Investors' Exchange, LLC
<space>	Not available

Financial Status Indicator table:

Code	Definition
Nasdaq-Listed Instruments	
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 Lots Only table:

Code	Definition

| | | | | Y | Nasdaq system only accepts round lots orders for this security. |
| | | | | N | Nasdaq system does not have any order size restrictions for this security. Odd and mixed lot orders are allowed. |

Issue Classification	issueClass	string	Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.
Issue Sub-Type	issueSubtype	string	Identifies the security sub-type for the issue as assigned by Nasdaq. See Appendix for allowable values.
Authenticity	authenticity	string	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.

Code	Definition
P	Live/Production
T	Test

Short Sale Threshold Indicator	shortThreshold	string	Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3).

Code	Definition
Y	Issue is restricted under SEC Rule 203(b)(3)
N	Issue is not restricted
<space>	Threshold Indicator not available

IPO Flag	ipo	string	Indicates if the Nasdaq security is set up for IPO release. This field is intended to help Nasdaq market participant firms comply with FINRA Rule 5131(b).

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

LULD Reference Price Tier	luldTier	string	Indicates which Limit Up / Limit Down price band calculation parameter is to be used for the instrument. Refer to LULD Rule for details.

Code	Definition

			1	Tier 1 NMS Stocks and select ETPs
			2	Tier 2 NMS Stocks
			<space>	Not applicable
ETP Flag	etf	string	Indicates whether the security is an exchange traded product (ETP):	
			Code	Definition
			Y	Instrument is an ETP
			N	Instrument is not an ETP
			<space>	Not available
ETP Leverage Factor	etfFactor	int	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	inverseETF	string	Indicates the directional relationship between the ETP and underlying index.	
			Code	Definition
			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.	

Schema

{
"type": "record",
"name": "SeqDirectoryMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},

```
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "marketClass",
"type": "string"
},
{
"name": "fsi",
"type": "string"
},
{
"name": "roundLotSize",
"type": [
"null",
"int"
]
},
{
"name": "roundLotOnly",
"type": [
"null", "string"
]
},
{
"name": "issueClass",
"type": [
"null",
"string"
]
},
{
"name": "issueSubtype",
"type": [
"null",
"string"
]
},
{
"name": "authenticity",
```

```
      "type": [
      "null",
      "string"
      ]
      },
      {
      "name": "shortThreshold",
      "type": [
      "null",
      "string"
      ]
      },
      {
      "name": "ipo",
      "type": [
      "null",
      "string"
      ]
      },
      {
      "name": "luldTier",
      "type": [
      "null",
      "string"
      ]
      },
      {
      "name": "etf",
      "type": [
      "null",
      "string"
      ]
      },
      {
      "name": "etfFactor",
      "type": [
      "null",
      "int"
      ]
      },
      {
      "name": "inverseETF",
      "type": [
      "null",
      "string"
      ]
      }
      ]
      }
```

Sample

{

"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "R",
"trackingID": 7238625218217,
"symbol": "ZVZZT",
"marketClass": "Q",
"fsi": "N", "roundLotSize": 250,
"roundLotOnly": "N",
"issueClass": "L",
"issueSubtype": "MF",
"authenticity": "T",
"shortThreshold": "N",
"ipo": "N",
"luldTier": "1",
"etf": "Y",
"etfFactor": 2,
"inverseETF": "N",
}

Regulation SHO Short Sale Price Test Restricted Indicator

In November 2010, the Securities and Exchange Commission (SEC) implemented changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to SEC Release Number 34-61595. In association with the Reg SHO rule change, Nasdaq 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.

For other exchange-listed issues, Nasdaq relays the Reg SHO Short Sale Price Test Restricted Indicator message when it receives an update from the primary listing exchange.

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

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	Y = Short Sale Restriction Indicator
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.

Issue Symbol	symbol	string	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	regSHOAction	string	Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are:

Code	Definition
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

Schema

```
{
"type": "record",
"name": " SeqRegSHORestrictionMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "regSHOAction",
"type": "string"
}
]
}
```

Sample

```
{
```

"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "Y",
"trackingID": 7238625218217,
"symbol": " ZVZZT",
"regSHOAction": "1"
}

Market-Wide Circuit Breaker (MWCB) Message – Decline Level

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

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	V = Market wide circuit breaker Decline Level Message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Level 1	level1	long	Denotes the MWCB Level 1 Value.
Level 2	level2	long	Denotes the MWCB Level 2 Value.
Level 3	level3	long	Denotes the MWCB Level 3 Value.

Schema

{
"type": "record",
"name": " SeqMWCBDeclineMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
}

},
{
"name": "trackingID",
"type": "long"
},
{
"name": "level1",
"type": "long"
},
{
"name": "level2",
"type": "long"
},
{
"name": "level3",
"type": "long"
}
]
}

Sample

{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "V",
"trackingID": 7238625218217,
"level1": 356735673,
"level2": 599877474873,
"level3": 42256736573
}

Market-Wide Circuit Breaker (MWCB) Message – Status

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

Details

Field	Name	Type	Description
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Message Type	msgType	string	W = Market-Wide Circuit Breaker Status message
Tracking Number	trackingID	long	Message Tracking number, compound key containing: - bytes 0-1 = Nasdaq internal tracking number - bytes 2-7 = Timestamp in nanoseconds from midnight

			See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Breached Level	breachLevel	string	Denotes the MWCB Level that was breached. "1" = Level 1 "2" = Level 2 "3" = Level 3

Schema

```
{
"type": "record",
"name": " SeqMWCBStatusMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "level",
"type": "string"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType":  "W",
"trackingID": 7238625218217,
"level": "1"
}
```

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.

Details

Field	Name	Type	Description	
SOUP Partition	SoupPartition	int	Message partition identifier. Ignore.	
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.	
Message Type	msgType		h = Operational Halt	
Tracking Number	trackingID	long	Message Tracking number, compound key containing: - bytes 0-1 = Nasdaq internal tracking number - bytes 2-7 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.	
Stock	symbol		Denotes the security symbol for the issue in the Nasdaq execution system	
Market Code	marketCenter		**Code**	**Value**
			Q	Nasdaq
			B	BX
			X	PSX
Operational Halt Action	action		**Code**	**Value**
			H	Operationally Halted on the identified Market
			T	Operational Halt has been lifted and Trading resumed

Schema

```
{
"type": "record",
"name": "SeqMarketCenterActionMessage",
"fields": [
{
"name": "SoupPartition",
"type": "int"
},
{
"name": "SoupSequence",
"type": "long"
},
{
"name": "msgType",
"type": "string"
```

```
},
{
"name": "trackingID",
"type": "long"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "market",
"type": "string"
},
{
"name": "action",
"type": "string"
}
]
}
```

Sample

```
{
"SoupPartition": 0,
"SoupSequence": 123,
"msgType": "h",
"trackingID": 7238625218217,
"symbol": "ZVZZT",
"market": "Q",
"action": "H"
}
```

Appendix A – Stock Symbol Convention

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

Appendix B – 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, BX and PSX abide by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For all issue types, Nasdaq, BX and/or PSX may also halt trading for operational reasons. Nasdaq, BX and/or PSX will send out a trading action message to inform its market participants when the trading status of an issue changes. For informational purposes, Nasdaq, BX, and PSX also attempt to provide the reason for each trading action update. For bandwidth efficiency reasons, Nasdaq, BX and PSX use 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 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
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 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

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 C - Issue Classification Values

Identifies the security class for the issue as assigned by Nasdaq

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

Appendix D - 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
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