# Nasdaq Totalview Plus 1.0

## Product Overview

Nasdaq TotalView Plus is a direct data feed product offered by The Nasdaq Stock Market, LLC. This specification covers the software version of the feed. Nasdaq TotalView Plus features the following data elements (in binary number format) for all exchange-listed equities securities traded via the Nasdaq, PSX, and NTX execution systems:

- **Order level data with attribution:** For Nasdaq, PSX, and NTX execution systems, Nasdaq will provide its full order depth using the standard ITCH format. TotalView Plus uses a series of messages to track the life of a customer order. TotalView Plus is an outbound market data feed only. TotalView Plus carries order level data for NYSE, NYSE American, NYSE Arca, and BATS listed securities as well as for Nasdaq listed securities.
- **Trade messages:** To ensure that customers have complete information about Nasdaq order flow, TotalView Plus supports a trade message to reflect a match of a non-displayable order in the Nasdaq system. TotalView Plus also supports a separate trade message to reflect Cross transactions.
- **Net Order Imbalance Data:** In the minutes leading up to the Nasdaq Opening and Closing Crosses as well as the Nasdaq Crosses for IPO or halted/paused securities, Nasdaq disseminates the indicative clearing price and net order imbalance on Nasdaq. Because the calculation includes non-displayable as well as displayable order types, the Net Order Imbalance Indicator (NOII) is the best predictor of the Nasdaq opening and closing prices available to the public.
- **Administrative messages, such as trading actions and symbol directory messages:**
  - **Trading action messages:** Used to inform market participants when a security is halted/paused or released for trading.
  - **Symbol Directory messages:** Provide basic security data such as the market tier and Financial Status Indicator.
  - **Market participant position message:** Carries the Primary Market Maker status, Market Participant status, and Market Maker mode fields used by some firms to comply with market regulations.
- **Event controls:** Includes start of day, end of day, and emergency market halt/resume.

## Publisher

Nasdaq Capital Access Markets 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 Cloud Services 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.

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## Data Types

All integer fields are big endian (network byte order) binary encoded numbers. Unless otherwise noted, they are unsigned. All alpha 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 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 places. The maximum value of price (4) in TotalView Plus is 200,000.0000 (decimal, 77359400 hex). Unless otherwise noted, timestamps are long and Big-endian, 64bit integers represented in nanoseconds since Epoch 1/1/1970, 00:00:00 UTC and unsigned.

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Timestamps are represented as nanoseconds since the start of the unix epoch (January 1, 1970).

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## Delivery

Nasdaq Cloud Data Service (NCDS) 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 NCDS 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

## Delivery

Kafka Topic: TOTALVIEW-PLUS

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## Message Formats

The ITCH feed is composed of a series of messages that describe orders added to, removed from, and executed on Nasdaq, Nasdaq Texas, and Nasdaq PSX, as well as disseminate Cross and Stock Directory information.

## System Event Message

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

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "S" = System Event Message |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |

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<table>
<tr>
<td>Event Code</td>
<td>event</td>
<td>string</td>
<td>Depth feeds support the following event codes on a daily basis on the ITCH data feed.<br><br>
<table>
<tr><th>Code</th><th>Explanation</th></tr>
<tr><td>“O”</td><td>Start of Messages. Outside of time stamp messages, the start of day message is the first message sent in any trading day</td></tr>
<tr><td>“S”</td><td>Start of System hours. This message indicates that the system is open and ready to start accepting orders</td></tr>
<tr><td>“Q”</td><td>Start of Market hours. This message is intended to indicate that Market Hours orders are available for execution</td></tr>
<tr><td>“M”</td><td>End of Market hours. This message is intended to indicate that Market Hours orders are no longer Available for execution</td></tr>
<tr><td>“E”</td><td>End of System hours. It indicates that Nasdaq/Bruce is now closed and will not accept any new orders today.<br><br>It is still possible to receive Broken Trade messages and Order Delete messages after the End of Day</td></tr>
<tr><td>“C”</td><td>End of Messages. This is always the last message sent in any trading day.</td></tr>
</table>
</td>
</tr>
</table>

## Schema


```
{
 "type": "record",
 "name": "SeqSystemEventMessage",
 "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
 "fields": [
  {
   "name": "SoupPartition",
   "type": "int"
  },
  {
   "name": "SoupSequence",
   "type": "long"
  },
  {
   "name": "marketSession",
   "type": "int"
  },
  {
   "name": "msgType",
   "type": "string"
  },
  {
   "name": "symbolLocate",
   "type": "int"
  },
  {
```


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```
      "name": "unixTimestamp",
      "type": "long"
     },
     {
      "name": "event",
      "type": "string"
     }
    ],
    "version": "1"
  }
```

### Sample

```
{
 "SoupPartition": 0,
 "SoupSequence": 1,
 "marketSession": 0,
 "msgType": "S",
 “symbolLocate”: 1234
 "symbolLocate": 0,
 "unixTimestamp": 1793232000000000000,
 "event": "O"
}
```

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## Stock Related Messages

### Stock Directory

At the start of each trading day, Nasdaq/Bruce 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.

Details:

| Field | Name | Type | Value/Description |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "R" = Stock Directory Message |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |

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<table>
<tr><td>Stock</td><td>symbol</td><td>string</td><td>Denotes the security symbol for the issue in the Nasdaq execution system.</td></tr>
<tr><td>Market Category</td><td>marketCategory</td><td>string</td><td>Indicates Listing market or tier for the issue.
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td colspan="2">Nasdaq Listed Instruments</td></tr>
<tr><td>Q</td><td>Nasdaq Global Select Market℠</td></tr>
<tr><td>G</td><td>Nasdaq Global Market℠</td></tr>
<tr><td>S</td><td>Nasdaq Capital Market®</td></tr>
<tr><td colspan="2">Non-Nasdaq Listed Instruments</td></tr>
<tr><td>N</td><td>New York Stock Exchange (NYSE)</td></tr>
<tr><td>A</td><td>NYSE American</td></tr>
<tr><td>P</td><td>NYSE Arca</td></tr>
<tr><td>M</td><td>NYSE Texas</td></tr>
<tr><td>Z</td><td>BATS Z Exchange</td></tr>
<tr><td>V</td><td>Investors’ Exchange, LLC</td></tr>
<tr><td>F</td><td>Texas Exchange</td></tr>
<tr><td><space></td><td>Not available</td></tr>
<tr><td></td><td></td></tr>
</table></td></tr>
</table>

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<table>
<tr><td>Financial Status Indicator</td><td>fsi</td><td>string</td><td>For Nasdaq listed issues, this field indicates when a firm is not in compliance with Nasdaq continued listing requirements.<br><table><tr><th>Code</th><th>Definition</th></tr><tr><td colspan="2">Nasdaq Listed Instruments</td></tr><tr><td>D</td><td>Deficient</td></tr><tr><td>E</td><td>Delinquent</td></tr><tr><td>Q</td><td>Bankrupt</td></tr><tr><td>S</td><td>Suspended</td></tr><tr><td>G</td><td>Deficient and Bankrupt</td></tr><tr><td>H</td><td>Deficient and Delinquent</td></tr><tr><td>J</td><td>Delinquent and Bankrupt</td></tr><tr><td>K</td><td>Deficient, Delinquent and Bankrupt</td></tr><tr><td>C</td><td>Creations and/or Redemptions Suspended for Exchange Traded Product</td></tr><tr><td>N</td><td>Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt</td></tr><tr><td colspan="2">Non-Nasdaq Listed Instruments</td></tr><tr><td><space></td><td>Not available. Firms should refer to SIAC feeds for code if needed</td></tr></table><br>Not available on Bruce.</td></tr>
<tr><td>Round Lot Size</td><td>roundLotSize</td><td>int</td><td>Denotes the number of shares that represent a round lot for the issue.</td></tr>
<tr><td>Round Lots Only</td><td>roundLotOnly</td><td>string</td><td>Indicates if Nasdaq system limits order entry for issue.<br><table><tr><th>Code</th><th>Definition</th></tr><tr><td colspan="2">Nasdaq Listed Instruments</td></tr><tr><td>D</td><td>Deficient</td></tr><tr><td>E</td><td>Delinquent</td></tr><tr><td>Q</td><td>Bankrupt</td></tr><tr><td>S</td><td>Suspended</td></tr><tr><td>G</td><td>Deficient and Bankrupt</td></tr><tr><td>H</td><td>Deficient and Delinquent</td></tr><tr><td>J</td><td>Delinquent and Bankrupt</td></tr><tr><td>K</td><td>Deficient, Delinquent, and Bankrupt</td></tr><tr><td>C</td><td>Creations and/or Redemptions Suspended for Exchange Traded Product</td></tr><tr><td>N</td><td>Normal (Default): Issuer is NOT Deficient, Delinquet, or Bankrupt</td></tr></table></td></tr>
</table>

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<table>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td colspan="2">Non-Nasdaq Listed Instruments</td></tr>
<tr><td><space></td><td>Not available. Forms should refer to SIAC feeds for code if needed</td></tr>
</table>
<br>Not available on Bruce.
</td></tr>
<tr><td>Issue Classification</td><td>issueClassification</td><td>string</td><td>Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.<br>Not available on Bruce.</td></tr>
<tr><td>Issue Sub-•-Type</td><td>issueSubtype</td><td>string</td><td>Identifies the security sub-•-type for the issue as assigned by Nasdaq. See Appendix for allowable values.
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>Y</td><td>Nasdaq system only accepts round lots</td></tr>
<tr><td>N</td><td>Nasdaq system does not have any order size restrictions for this security. Odd and mixed lot orders are allowed.</td></tr>
</table>
Not available on Bruce.</td></tr>
<tr><td>Authenticity</td><td>authenticity</td><td>string</td><td>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.
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>P</td><td>Live/Production</td></tr>
<tr><td>T</td><td>Test</td></tr>
</table>
</td></tr>
<tr><td>Short Sale Threshold Indicator</td><td>shortSaleThreshold</td><td>string</td><td>Indicates if a security is subject to mandatory close-•-out of short sales under SEC Rule 203(b)(3).
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>Y</td><td>Issue is restricted under SEC Rule 203(b)(3)</td></tr>
<tr><td>N</td><td>Issue is not restricted</td></tr>
<tr><td><space></td><td>Threshold Indicator not available</td></tr>
</table>
Not available on Bruce.</td></tr>
</table>

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<table>
<tr>
<td>IPO Flag</td>
<td>ipoFlag</td>
<td>string</td>
<td>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).
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td colspan="2">Nasdaq-Listed Instruments</td></tr>
<tr><td>Y</td><td>Nasdaq listed instrument is set up as a new IPO security</td></tr>
<tr><td>N</td><td>Nasdaq listed instrument is not set up as a new IPO security</td></tr>
<tr><td>Z</td><td>Nasdaq listed instrument is a non-IPO new issue</td></tr>
<tr><td colspan="2">Non-Nasdaq Listed Instruments</td></tr>
<tr><td><space></td><td>Notavailable</td></tr>
</table>
Not available on Bruce.</td>
</tr>
<tr>
<td>LULD Reference Price Tier</td>
<td>luldPriceTier</td>
<td>String</td>
<td>Indicates which Limit Up / Limit Down price band calculation parameter is to be used for the instrument. Refer to LULD Rule for details.
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>1</td><td>Tier 1 NMS Stocks and select ETPs</td></tr>
<tr><td>2</td><td>Tier 2 NMS Stocks</td></tr>
<tr><td><space></td><td>Not available</td></tr>
</table>
Not available on Bruce.</td>
</tr>
<tr>
<td>ETP Flag</td>
<td>etpFlag</td>
<td>String</td>
<td>Indicates whether the security is an exchange traded product (ETP).
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>Y</td><td>Instrument is an ETP</td></tr>
<tr><td>N</td><td>Instrument is not an ETP</td></tr>
<tr><td><space></td><td>Not available</td></tr>
</table>
Not available on Bruce.</td>
</tr>
</table>

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<table>
<tr><td>ETP Leverage Factor</td><td>etpLeverageFactor</td><td>int</td><td>Tracks the integral relationship of the ETP to the underlying index.<br>Example: If the underlying Index increases by a value of 1 and the ETP's Leverage factor is 3, indicates the ETF will increase/decrease (see Inverse) by 3.<br>Leverage Factor is rounded to the nearest integer below, e.g. leverage factor 1 would represent leverage factors of 1 to 1.99.<br>This field is used for LULD Tier I price band calculation purposes.<br><br>ETP Leverage Factor currently not supported for Non-Nasdaq listed ETP's.<br><br>Not available on Bruce.</td></tr>
<tr><td>Inverse Indicator</td><td>inverse</td><td>String</td><td>Indicates the directional relationship between the ETP and Underlying index.<br>Not available on Bruce.
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>Y</td><td>ETP is an inverse ETP</td></tr>
<tr><td>N</td><td>ETP is not an inverse ETP</td></tr>
<tr><td></td><td>Example: An ETP Leverage Factor of 3 and an Inverse value of 'Y' indicates the ETP will decrease by a value of 3.</td></tr>
</table></td></tr>
</table>

## Schema


```
{
  "type": "record",
  "name": "SeqSymbolDirectoryMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
```

```
    },
    {
      "name": "marketCategory",
      "type": "string"
    },
    {
      "name": "fsi",
      "type": "string"
    },
    {
      "name": "roundLotSize",
      "type": "int"
    },
    {
      "name": "roundLotOnly",
      "type": "string"
    },
    {
      "name": "issueClassification",
      "type": "string"
    },
    {
      "name": "issueSubtype",
      "type": "string"
    },
    {
      "name": "authenticity",
      "type": "string"
    },
    {
      "name": "shortSaleThreshold",
      "type": "string"
    },
    {
      "name": "ipoFlag",
      "type": "string"
    },
    {
      "name": "luldPriceTier",
      "type": "string"
    },
    {
      "name": "etpFlag",
      "type": "string"
    },
    {
      "name": "etpLeverageFactor",
      "type": "int"
    },
    {
      "name": "inverse",
      "type": "string"
    }
  ],
  "version": "1"
}
```


### Sample


```
{
  "SoupPartition": 0,
  "SoupSequence": 1,
  "marketSession": 1,
 “msgType”: R,
“symbolLocate”: 1234,
 “unixTimestamp”: 1793232000000000000,
"symbol": "ZVZZT",
"marketCategory": "Q",
"fsi": "N",
"roundLotSize": 100,
```


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"roundLotOnly": "N",
"issueClass": "L",
"issueSubtype": "MF",
"authenticity": "T",
"shortThreshold": "N",
"ipoFlag": "N",
"luldPriceTier": "1",
"etpFlag": "Y",
"etfLeverageFactor
": 2,
"inverse: "N",
}

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## 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 ofsystem hours, Nasdaq willuse the Trading Actionmessage to relay changes in trading status for an individualsecurity. 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.

**Bruce will only display values "H" or "T".**

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "H" = Stock Trading Action Message. |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| Stock | symbol | string | Stock symbol, right padded with spaces |

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| | | | |
|---|---|---|---|
| Trading State | tradingState | string | Indicates the current trading state for the stock. Allowable values:<br>"H" = Halted across all U.S. equity markets / SROs<br>"P" = Paused across all U.S. equity markets / SROs (Nasdaq---listed securities only)<br>"Q" = Quotation only period for cross-•-SRO halt or pause<br>"T" = Trading on Nasdaq |
| Reserved | reserved | string | Reserved.<br>**Not available on Bruce.** |
| Reason | reason | string | Trading Action reason.<br>**Not available on Bruce.** |

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## Schema


```
{
  "type": "record",
  "name": "SeqTradingActionMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "tradingState",
      "type": "string"
    },
    {
      "name": "reserved",
      "type": "string"
    },
    {
      "name": "reason",
      "type": "string"
    }
  ],
  "version": "1"
}
```


## Sample


{
“SoupPartition”: 0,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "H",
“symbolLocate”: 1234
“unixtimestamp”:
1793232000000000000,
"symbol": "ZVZZT",
"tradingState": "T",
“reserved”: “ “,
"reason": "M1"
}


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## Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) implemented changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to SEC Release Number 34-61595. In association with the Reg SHO rule change, Nasdaq will introduce 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 and Bruce process orders based on the most Reg SHO Restriction status value.

Details:

| Field | Name | Value | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartiton | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "Y" = Reg SHO Short Sale Price Test Restricted Indicator |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Reg SHO Action | state | string | Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination.<br>Allowable values are:<br>"0" = No price test in place<br>"1" = Reg SHO Short Sale Price Test Restriction in effect due to an intra-•-day price drop in security<br>"2" = Reg SHO Short Sale Price Test Restriction remains in effect |

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## Schema


```
{
  "type": "record",
  "name": "SeqRegSHOStateMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "state",
      "type": "string"
    }
  ],
  "version": "1"
}
```


## Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "Y",
“symbolLocate”: 1234
“unixTimestamp”:1793232000000000
000,
"symbol": " ZVZZT",
"state": "1"
}


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## 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 marketparticipantfirmregistered in an issue. Market participant firms may use these fields to comply with certain marketplacerules.

Throughout the day, Nasdaq willsend out this message only if Nasdaq Operationschanges the status of a market participant firm in an issue.

**The Market Participant Position is not available on Bruce.**

Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartiton | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |

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| | | | |
|---|---|---|---|
| Message Type | msgType | string | “L” = Market Participant Position message |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| MPID | mpid | string | Denotes the market participant identifier for which the position message is being generated |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Primary Market Maker | pmm | string | Indicates if the market participant firm qualifies as a Primary Market Maker in accordance with Nasdaq marketplace rules:<br>“Y” = primary market maker “N” =<br>non-•-primary market maker |
| Market Maker Mode | mmm | string | Indicates the quoting participant’s registration status in relation to SEC Rules 101 and 104 of Regulation M<br>“N” = normal<br>“P” = passive<br>“S” = syndicate<br>“R” = pre-•-syndicate<br>“L” = penalty |
| Market Participant State | mps | string | Indicates the marketparticipant’s current registration status inthe issue<br>“A” = Active<br>“W” = Withdrawn<br>“S” = Suspended<br>“D” = Deleted |

## Schema

```
{
  "type": "record",
  "name": "SeqFirmPermissionsMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
```

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```
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "mpid",
      "type": "string"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "pmm",
      "type": "string"
    },
    {
      "name": "mmm",
      "type": "string"
    },
    {
      "name": "mps",
      "type": "string"
    }
  ],
  "version": "1"
}
```


### Sample


{
“SoupPartition”: 1
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "L",
“symbolLocate”:1234,
“unixTimestamp”: 1793232000000000000,
“mpid”: NDAQ
"symbol": " ZVZZT",
"pmm": "Y"
"mmm": "N"
"mps": "A"
}


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

### MWCB Decline Level Message

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

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**The MWCB Decline Message is not available on Bruce.**

Details:

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| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Center | marketCenter | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "V" = Market wide circuit breaker Decline Level Message. |
| Symbol Locate | symbolLocate | int | Locate Code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Level 1 | level1 | double | Denotes the MWCB Level 1 Value. |
| Level 2 | level2 | double | Denotes the MWCB Level 2 Value. |
| Level 3 | level3 | double | Denotes the MWCB Level 3 Value. |

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## Schema

```
{
  "type": "record",
  "name": "SeqMwcbLevelsMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "level1",
      "type": "long"
    },
    {
      "name": "level2",
      "type": "long"
    },
    {
      "name": "level3",
      "type": "long"
    }
  ],
  "version": "1"
}
```

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### Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "V",
“symbolLocate”:1234,
“unixTimestamp”: 1793232000000000000,
"level1": 356735673,
"level2": 599877474873,
"level3": 42256736573
}


## MWCB Status Message

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

**MWCB Status is not available on Bruce.**

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | “W” = Market-•-Wide Circuit Breaker Status message |
| SymbolLocate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Breached Level | breachedLevel | string | Denotes the MWCB Level that was breached.<br>“1” = Level 1 “2” = Level 2 “3” = Level 3 |

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### Schema


```
{
  "type": "record",
  "name": "SeqMwcbStatusMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "breachedLevel",
      "type": "string"
    }
  ],
  "version": "1"
}
```


### Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "W",
“symbolLocate”:1234,
“unixTimestamp”: 1793232000000000000,
“breachedLevel”: “1”
}


## IPO Quoting Period Update

Indicates the anticipated IPO quotation release time of a security.

**The IPO quoting period message is not available on Bruce.**

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | int | "K" = IPO Quoting Period Update Message |
| SymbolLocate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| IPO Quotation Release Time | quoteReleaseTime | int | Denotes the IPO release time, in seconds since Epoch 1/1/1970 00:00:00 UTC, for quotation to the nearest second.<br>NOTE: If the quotation period is being canceled/postponed, we should state that:<br>1. IPO Quotation Time will be set to 0<br>2. 2. IPO Price will be set to 0 |
| IPO Quotation Release Qualifier | quoteReleaseQuant | string | "A" = Anticipated Quotation Release Time:<br>This value would be used when Nasdaq Market Operations initially enters the IPO instrument for release<br>"C" = IPO Release Canceled/Postponed:<br>This value would be sued when Nasdaq Market Operations cancels or postpones the release of the new IPO instrument |
| IPO Price | ipoPrice | Int | Denotes the IPO Price to be used for intraday net change calculations<br>Prices are given in decimal format with 6 whole number places followed by 4 decimal digits. The whole number portion is padded on the left with spaces; the decimal portion is padded on the right with zeroes. The decimal point is implied by position, it does not appear inside the price field |

## Schema

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```
{
  "type": "record",
  "name": "SeqIpoQuotingPeriodMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "quoteReleaseTime",
      "type": "int"
    },
    {
      "name": "quoteReleaseQuant",
      "type": "string"
    },
    {
      "name": "ipoPrice",
      "type": "int"
    }
  ],
  "version": "1"
}
```

## Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "K",
"symbolLocate”: 1234,
“unixtimestamp”:1793232000000000
000,
 "symbol": "ZVZZT",
"quoteReleaseTime": 34509843560,
"quoteReleaseQuant": "A",
"ipoPrice": 15.00
}
```

## Limit Up – Limit Down (LULD) Auction Collar

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Indicates the auction collar thresholds within which a paused security can reopen following a LULD Trading Pause.

**The LULD Auction Collar message is not available on Bruce.**

## Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "J" = LULD Auction Collar |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | Long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Auction Collar Reference Price | refPrice | double | Reference price used to set the Auction Collars |
| Upper Auction Collar Price | upperPrice | double | Indicates the price of the Upper Auction Collar Threshold |
| Lower Auction Collar Price | lowerPrice | double | Indicates the price of the Lower Auction Collar Threshold |
| Auction Collar Extension | extensions | int | Indicates the number of the extensions to the Reopening Auction |

## Schema

```
{
  "type": "record",
  "name": "SeqLULDReopenMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
```

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```
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "refPrice",
      "type": "int"
    },
    {
      "name": "upperPrice",
      "type": "int"
    },
    {
      "name": "lowerPrice",
      "type": "int"
    },
    {
      "name": "extensions",
      "type": "int"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
"SoupSequence": 123,
“SoupPartition”: 1,
“marketSession”: 1,
"msgType": "J", “
"symbolLocate": 1234,
“unixTimestamp”:1793232000000000
000,
 "symbol": "ZVZZT",
"refPrice": 15.00,
"upperPrice": 15.00,
"lowerPrice": 15.00,
"extensions": "2",
}
```

## 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 message is not available on Bruce.**

Details:

| Field | Name | Type | Value/Description |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "h" = Operational Halt |

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| | | | |
|---|---|---|---|
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Stock | symbol | string | Denotes the security symbol for the issue in Nasdaq execution system |
| Market Code | marketCenter | string | “Q”: Nasdaq<br>“B”: Nasdaq<br>Texas<br>“X”: PSX |
| Operational Halt Action | action | string | “H”: Operationally Halted on the identified Market<br>“T”: Operational Halt has been lifted and Trading resumed |

## Schema


```
{
  "type": "record",
  "name": "SeqMarketCenterActionMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "marketCenter",
```


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```
      "type": "string"
    },
    {
      "name": "action",
      "type": "string"
    }
  ],
  "version": "1"
}
```

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## Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "h",
"symbolLocate": 1234,
“unixTimestamp”:
1793232000000000000,
"symbol": "ZVZZT",
"marketcenter": "Q",
"action": "H"
}


## Add Order Message

An Add Order Message indicates that a new order has been accepted by the Nasdaq system and was added to the displayable book. The message includes a day-•-unique Order Reference Number used by Nasdaq to track the order.

Nasdaq will support two variations of the Add Order message format.

## Add Order – No MPID Attribution

This message will be generated for unattributed orders accepted by the Nasdaq system. (Note: If a firm wants to display a MPID for unattributed orders, Nasdaq recommends that it use the MPID of “NSDQ”.)

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | “A” = Add Order – No MPID Attribution Message. |

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| | | | |
|---|---|---|---|
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | Timestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| Order Reference Number | orderId | long | The unique reference number assigned to the new order at the time of receipt. |
| Buy/Sell Indicator | side | string | The type of order being added. “B” =Buy Order. “S” = Sell Order. |
| Shares | quantity | int | The total number of shares associated with the order being added to the book. |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Price | price | double | The display price of the new order. Refer to Data Types for field processing notes. |

## Schema


```
{
  "type": "record",
  "name": "SeqAddOrderMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "side",
```


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```
      "type": "string"
    },
    {
      "name": "quantity",
      "type": "int"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "price",
      "type": "int"
    }
  ],
  "version": "1"
}
```

## Sample

```
{
```

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“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "A",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"side": "B",
"quantity": 120
"symbol": "ZVZZT",
"price": 120.11,
}

## Add Order with MPID Attribution

This message will be generated for attributed orders and quotations accepted by the Nasdaq system.

**The Add Order with MPID Attribution is not available on Bruce.**

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | “F” = Add Order –With MPID Attribution Message. |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Order Reference Number | orderId | long | The unique reference number assigned to the new order at the time of receipt. |

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| | | | |
|---|---|---|---|
| Buy/Sell Indicator | side | string | The type of order being added.<br>“B” = buy order. “S” = sell order |
| Shares | quantity | int | The total number of shares associated with the order being added to thebook |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Price | price | double | The display price of the new order. Refer to Data Types for field processing notes. |
| Attribution | mpid | string | Nasdaq Market participant identifier associated with the entered order |

## Schema

```
{
  "type": "record",
  "name": "SeqAddAttributedOrderMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "side",
      "type": "string"
    },
    {
      "name": "quantity",
      "type": "int"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "price",
      "type": "int"
    },
    {
      "name": "mpid",
      "type": "string"
    }
  ],
  "version": "1"
```

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}

### Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "F",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"side": "B",
"quantity": 120
"symbol": "ZVZZT",


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"price": 120.11,
"mpid": "NDAQ",
}

## Modify Order Messages

Modify Order messages always include the Order Reference Number of the Add Order to which the updateapplies. To determine the current display shares for an order, ITCH subscribers must deduct the numberof shares stated in the Modify message from the originalnumberof shares stated in the Add Order message with the same reference number. Nasdaq may send multiple Modify Order messages for the same order reference number and the effects are cumulative. When the number of display shares for an order reaches zero, the order is dead and should be removed from the book.

### Order Executed Message

This messageis sent whenever an orderon the book is executed in whole or in part. It is possible to receive several Order Executed Messages for the same order reference number if that order is executed in several parts. The multiple Order Executed Messages on the same order are cumulative.

By combining the executions from both types of Order Executed Messages and the Trade Message, it is possible to build a complete view of all non-•-cross executions that happen on Nasdaq. Cross execution information is available in one bulk print per symbol via the Cross Trade Message.

Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | “E” = Order Executed Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |

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| | | | |
|---|---|---|---|
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Order Reference Number | orderId | long | The unique reference number assigned to the new order at the time of receipt |
| Executed Shares | quantity | int | The number of shares executed |
| Match Number | matchId | long | The Nasdaq generated day unique Match Number of this execution. The Match Number is also referenced in the Trade Break Message |

## Schema


```
{
  "type": "record",
  "name": "SeqOrderExecutedMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "quantity",
      "type": "int"
    },
    {
      "name": "matchId",
      "type": "long"
    }
  ],
  "version": "1"
}
```


## Sample


```
{
```

“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "E",
“symbol”: “ZZTZ”,
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"quantity": 120
"matchID": 12345678,
}

## Order Executed With Price Message

This message is sent whenever an order on the book is executed in whole or in part at a price different from the initial display price. Since the execution price is different than the display price of the original Add Order, Nasdaq includes a price field within this execution message.

It is possible to receivemultiple Order Executed and Order Executed With Pricemessages for the same orderif that order is executed in severalparts. The multiple Order Executed messages on the same order

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are cumulative.

These executions may be marked as non-•-printable. If the execution is marked as non-•-printed, it means that the shares will be included into a later bulk print (e.g., in the case of cross executions). If a firm is looking to use the data in time-•-and-•-sales displays or volume calculations, Nasdaq recommends that firms ignore messages marked as non--- printable to prevent double counting.

**The Order Executed with Price message is not available on Bruce.**

Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "C" = Order Executed with Price Message |
| Symbol | symbol | String | Stock symbol, padded with right spaces |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Order Reference Number | orderId | long | The unique reference number assigned to the new order at the time of receipt |
| Executed Shares | quantity | int | The number of shares executed |
| Match Number | matchId | long | The Nasdaq generated day unique Match Number of this execution. The Match Number is also referenced in the Trade Break Message |

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| | | | |
|---|---|---|---|
| Printable | printable | string | Indicates if the execution should be reflected on time and sales displays and volume calculations<br>“N” = Non-Printable<br>“Y” = Printable |
| Execution Price | price | double | The Price at which the order execution occurred. Refer to Data Types for field processing notes |

## Schema

```
{
  "type": "record",
  "name": "SeqOrderExecutedWithPriceMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "quantity",
      "type": "int"
    },
    {
      "name": "matchId",
      "type": "long"
    },
    {
      "name": "printable",
      "type": "string"
    },
    {
      "name": "price",
      "type": "int"
    }
  ],
  "version": "1"
}
```

## Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,


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"msgType": "C",
“symbolLocate: 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"quantity": 120,
“matchId”: 12345,
"printable": "Y",
"price": 100.13,
}

## Order Cancel Message

This message is sent whenever an order on the book is modified as a result of a partial cancellation.

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | int | “X” = Order Cancel Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| Order Reference Number | orderId | long | The reference number of the order being canceled |
| Cancelled Shares | quantity | int | The number of shares being removed from the display size of the order as a result of a cancellation |

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### Schema


```
{
  "type": "record",
  "name": "SeqOrderCancelMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "quantity",
      "type": "int"
    }
  ],
  "version": "1"
}
```


### Sample


{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "X",
“symbolLocate”: 1234
"trackingID": 0,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"quantity": 120
}


## Order Delete Message

Thismessage is sent whenever an order on the book is being cancelled. All remaining shares are no longer accessible so the order must be removed from the book.

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "D" = Order Delete Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, |
| Order Reference Number | orderId | long | The reference number of the order being canceled |

## Schema

```
{
  "type": "record",
  "name": "SeqOrderDeleteMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
```

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```
    },
    {
      "name": "orderId",
      "type": "long"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
“SoupPartition” 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "D",
"symbolLocate”: 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
}
```

## Order Replace Message

This message is sent whenever an order on the book has been cancel-•-replaced. All remaining shares from the original order are no longer accessible, and must be removed. The new order details are provided for the replacement, along with a new orderreferencenumber which will be used henceforth. Since the side, stocksymbol and attribution (if any) cannot be changed by an Order Replaceevent, these fields are not included in the message. Firms should retain the side, stock symbol and MPID from the original Add Order message.

### Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | “U” = Order Replace Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |

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| | | | |
|---|---|---|---|
| Original Order Reference Number | orderId | long | The original order reference number of the order being replaced |
| New Order Reference Number | newOrderId | long | The new reference number for this order at time of replacement<br>Please note that the Nasdaq system will use this new order reference number for all subsequent updates |
| Shares | quantity | int | The new total displayed quantity |
| Price | price | double | The new display price for the order<br>Please refer to Data Types for field processing notes |

## Schema


```
"type": "record",
"name": "SeqReplaceOrderMessage",
"namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
"fields": [
  {
    "name": "SoupPartition",
    "type": "int"
  },
  {
    "name": "SoupSequence",
    "type": "long"
  },
  {
    "name": "marketSession",
    "type": "int"
  },
  {
    "name": "msgType",
    "type": "string"
  },
  {
    "name": "symbolLocate",
    "type": "int"
  },
  {
    "name": "unixTimestamp",
    "type": "long"
  },
  {
    "name": "orderId",
    "type": "long"
  },
  {
    "name": "newOrderId",
    "type": "long"
  },
  {
    "name": "quantity",
    "type": "int"
  },
  {
    "name": "price",
    "type": "int"
  }
 ],
 "version": "1"
}
```


## Sample

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{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "U",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"newOrderId": 5678912,
"quantity": 120
“price”: 100.13
}

## Trade Messages

### Trade Message (Non---Cross)

The Trade Message is designed to provide execution details for normal match events involving non-displayable order types. (Note: There is a separate message for Nasdaq cross events.)

Since no Add Order Message is generated when a non-•-displayed order is initially received, Nasdaq cannot use the Order Executed messages for all matches. Therefore this message indicates when a match occurs between non---displayable order types. A Trade Message is transmitted each time a non-•-displayable order is executed in whole or in part. It is possible to receive multiple Trade Messages for the same order if that order is executed in several parts. Trade Messages for the same order are cumulative.

Trade Messages should be included in Nasdaq time-•-and-•-sales displays as well as volume and other market statistics. Since Trade Messages do not affect the book, however, they may be ignored by firms just looking to build and track the Nasdaq execution system display.

Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | int | “P” = Trade Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |

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| | | | |
|---|---|---|---|
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |

| | | | |
|---|---|---|---|
| Order Reference Number | orderID | long | The unique reference number assigned to the order on the book being executed.<br>Effective December 6, 2010, Nasdaq will populate the Order Reference Number field within the Trade (Non--- Cross) message as zero. For the binary versions of the TotalView---ITCH data feeds, the field will be null---filled bytes (which encodes sequence of zero) |
| Buy/Sell Indicator | side | string | The type of non-display order on the book being matched<br>"B" = Buy Order<br>"S" = Sell Order<br>Effective 07/14/2014, this field will always be "B" regardless of the resting side |
| Shares | quantity | int | The number of shares being matched in this execution |
| Stock | symbol | string | Stock Symbol, right padded with spaces |
| Price | price | double | The match price of the order<br>Please refer to Data Types for field processing notes |
| Match Number | matchId | long | The Nasdaq generated session unique Match Number for this trade<br>The Match Number is referenced in the Trade Break Message |

## Schema


```
{
  "type": "record",
  "name": "SeqTradeMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
```


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```
    },
    {
      "name": "orderId",
      "type": "long"
    },
    {
      "name": "side",
      "type": "string"
    },
    {
      "name": "quantity",
      "type": "int"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "price",
      "type": "int"
    },
    {
      "name": "matchId",
      "type": "long"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "P",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"orderId": 1234567,
"side": "S"
"quantity": 120
"symbol": "ZVZZT",
"price": 120
"matchId": 123456
}
```

## Cross Trade Message

Cross Trademessage indicatesthat Nasdaq has completed its crossprocess for a specific security. Nasdaq sends out a Cross Trade message for all active issues in the system following the Opening, Closing and EMC cross events. Firms may use the Cross Trademessage to determine when the cross for each security has been completed. (Note: For the halted / paused securities, firms should use the Trading Action message to determine when an issue has been released for trading.)

For most issues, the Cross Trade message will indicate the bulkvolume associated with the cross event. If the order interest is insufficient to conduct a cross in a particular issue, however, the Cross Trade message may show the shares aszero.

To avoid double counting of cross volume, firms should not include transactions marked as non-•-printable in time---and-•-sales displays or market statistic calculations.

**The Cross Trade Message is not available on Bruce.**

### Details:

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| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "Q" = Cross Trade Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC) |
| Shares | quantity | long | The number of shares matched in the Nasdaq Cross. |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Cross Price | price | double | The price at which the cross occurred. Refer to Data Types for field processing notes. |
| Match Number | matchId | long | The Nasdaq generated day-•-unique Match Number of this execution. |
| Cross Type | crossType | string | The Nasdaq cross session for which the message is being generated. |

## Schema

```
{
  "type": "record",
  "name": "SeqCrossTradeMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
```

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```
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "quantity",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "price",
      "type": "int"
    },
    {
      "name": "matchId",
      "type": "long"
    },
    {
      "name": "crossType",
      "type": "string"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "Q",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"quantity": "120"
"symbol": "ZVZZT",
"price": "120",
“matchId”: 12345,
"crossType": "O"
}
```

## Broken Trade / Order Execution Message

The Broken Trade Message is sent whenever an execution on Nasdaq is broken. An execution may be broken if it is found to be “clearly erroneous” pursuant to Nasdaq’s Clearly Erroneous Policy. A trade break is final; once a tradeis broken, it cannot be reinstated.

Firms that use the ITCH feed to create time---and---sales displays or calculate market statistics should be prepared to process the broken trade message. If a firm is only using the ITCH feed to build a book, however, it may ignore these messages as they have no impact on the current book.

### Details:

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| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "B" = Broken Trade Message. |

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| | | | |
|---|---|---|---|
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| Match Number | matchID | long | The Nasdaq Match Number of the execution that was broken. This refers to a Match Number from a previously transmitted Order Executed Message, Order Executed With Price Message, or Trade Message. |

## Schema

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```
{
  "type": "record",
  "name": "SeqBrokenTradeMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "matchId",
      "type": "long"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "B",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"matchId": 123456
}
```

## Net Order Imbalance Indicator (NOII) Message

- Nasdaq begins disseminating Net Order Imbalance Indicators (NOII) at 9:25 a.m. for the Opening Cross and 3:50 p.m. for the Closing Cross.
- Between 9:25 and 9:28 a.m. and 3:50 and 3:55 p.m., Nasdaq disseminates the NOII information every 10 seconds.
- Between 9:28 and 9:30 a.m. and 3:55 and 4:00 p.m., Nasdaq disseminates the NOII information every second.
- For Nasdaq Halt, IPO and Pauses, NOII messages will be disseminated at 1 second intervals starting 1 second after quoting period starts/trading action is released.
- For more information, please see the FAQ on Opening and Closing Crosses.
- Nasdaq will also disseminate an Extended Trading Close (ETC) message from 4:00 p.m. to 4:05 p.m. at five second intervals.
- For more information, please see the FAQ on Extended Trading Close.

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**The NOII message is not available on Bruce.**

Details:

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | "I" = NOII Message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |
| Paired Shares | quantity | long | The total number of shares that are eligible to be matched at the Current Reference Price. |
| Imbalance Shares | imbalance | long | The number of shares not paired at the Current Reference Price. |
| Imbalance Direction | imbalanceDir | string | The market side of the order imbalance.<br>"B" = buy imbalance<br>"S" = sell imbalance<br>"N" = no imbalance<br>"O" = Insufficient orders to calculate<br>"P" = Paused |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Far Price | farPrice | double | A hypothetical auction---clearing price for cross orders only. Refer to Data Types for field processing notes. |

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| | | | |
|---|---|---|---|
| Near Price | nearPrice | double | A hypothetical auction-•-clearing price for cross orders as well as continuous orders. Refer to Data Types for field. |
| Current Reference Price | refPrice | double | The price at which the NOII shares are being calculated. Refer to Data Types for field processing notes. |
| Cross Type | crossType | string | The type of Nasdaq cross for which the NOII message is being generated<br>"O" = Nasdaq Opening Cross<br>"C" = Nasdaq Closing Cross<br>"H" = Cross for IPO and halted / paused securities<br>"A" = Extended Trading Close |
| Price Variation Indicator | priceVarianceInd | string | This field indicates the absolute value of the percentage of deviation of the Near Indicative Clearing Price to the nearest Current Reference Price.<br><br>"L" = Less than 1%<br>"1" = 1 to 1.99%<br>"2" = 2 to 2.99%<br>"3" = 3 to 3.99%<br>"4" = 4 to 4.99%<br>"5" = 5 to 5.99%<br>"6" = 6 to 6.99%<br>"7" = 7 to 7.99%<br>"8" = 8 to 8.99%<br>"9" = 9 to 9.99%<br>"A" = 10 to 19.99%<br>"B" = 20 to 29.99%<br>"C" = 30% or greater<br><Space> = Cannot be calculated |

## Schema

```
{
  "type": "record",
  "name": "SeqNOIIMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
```

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```
    },
    {
      "name": "quantity",
      "type": "long"
    },
    {
      "name": "imbalance",
      "type": "long"
    },
    {
      "name": "imbalanceDir",
      "type": "string"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "farPrice",
      "type": "int"
    },
    {
      "name": "nearPrice",
      "type": "int"
    },
    {
      "name": "refPrice",
      "type": "int"
    },
    {
      "name": "crossType",
      "type": "string"
    },
    {
      "name": "priceVarianceInd",
      "type": "string"
    }
  ],
  "version": "1"
}
```

## Sample

{
“SoupPartition”: 1,
"SoupSequence": 123,

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```
"msgType": "I",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
"quantity": 120,
"imbalance": 60,
"imbalanceDir": "B"
"symbol": "ZVZZT",
"farPrice": 120.00,
"nearPrice": 121.00,
"refPrice": 119.00,
"crossType": "O"
"priceVarianceInd": "L"
}
```


## Retail Price Improvement Indicator (RPII)

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

### Retail Interest Message:

**The RPII message is not available on Bruce.**

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Message Type | msgType | string | Retail Interest message |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | unixTimestamp | long | Timestamp in nanoseconds since Epoch (January 1, 1970 00:00:00 UTC). |

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| | | | |
|---|---|---|---|
| | | | See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK. |
| Stock | symbol | string | Stock symbol, right padded with spaces |
| Interest Flag | interest | string | “B” = RPI orders available on the buy side<br>“S” = RPI orders available on the sell side<br>“A” = RPI orders available on both sides (buy and sell)<br>“N” = No RPI orders available. |

### Schema

```
{
  "type": "record",
  "name": "SeqRetailInterestMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "interest",
      "type": "string"
    }
  ],
  "version": "1"
}
```

### Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession”: 1,
"msgType": "V",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,
“symbol”: “ZZTV”,
"interest": "B"
```

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}

## Direct Listing with Capital Raise Price Discovery Message

The following message is disseminated only for Direct Listing with Capital Raise (DLCR) securities. Nasdaq begins disseminating messages once per second as soon as the DLCR volatility test has successfully passed.

**The DLCR message is not available on Bruce.**

| Field | Name | Type | Notes |
|---|---|---|---|
| SOUP Partition | SoupPartition | int | Identifies the SOUP partition from which the message was received. |
| SOUP Sequence | SoupSequence | long | Auto-incrementing message sequence number. |
| Message Type | msgType | string | "O" = Direct Listing with Capital Raise Message |
| Market Session | marketSession | int | Indicates the Session/Market the data originates from:<br>1 = Nasdaq 9PM-4AM Session<br>2 = Nasdaq 4AM-9PM Session<br>3 = Nasdaq Texas<br>4 = PSX<br>5 = reserved for future use |
| Symbol Locate | symbolLocate | int | Locate code uniquely assigned to the security symbol for the day on each market/session |
| Timestamp | Timestamp | long | timestamp |
| Stock | symbol | string | Stock Symbol, right padded with spaces |
| Open Eligibility Status | state | string | Indicates if the security is eligible to be released for trading<br>"N": Not Eligible<br>"Y": Eligible |

| | | | |
|---|---|---|---|
| Minimum Allowable Price | minAllowablePrice | double | 20% below Registration Statement Lower Price |
| Maximum Allowable Price | maxAllowablePrice | double | 80% above Registration Statement Highest Price |

| | | | |
|---|---|---|---|
| Near Execution Price | nearExecPrice | double | The current reference price when the DLCR volatility test has successfully passed |
| Near Execution Time | nearExecTime | long | The time at which the near execution price was set |
| Lower Price Range Collar | lowerCollarPrice | double | Indicates the price of the Lower Auction Collar Threshold (10% below the Near Execution Price) |
| Upper Price Range Collar | upperCollarPrice | double | Indicates the price of the Upper Auction Collar Threshold (10% above the Near Execution Price) |

## Schema


```
{
  "type": "record",
  "name": "SeqOpenEligibilityMessage",
  "namespace": "com.nasdaq.equities.island.applications.datafeed.itch.itchplus50.messaging",
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "marketSession",
      "type": "int"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "symbolLocate",
      "type": "int"
    },
    {
      "name": "unixTimestamp",
      "type": "long"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "state",
      "type": "string"
    },
    {
      "name": "minAllowablePrice",
      "type": "int"
    },
    {
      "name": "maxAllowablePrice",
      "type": "int"
    },
    {
```


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```
      "name": "nearExecPrice",
      "type": "int"
    },
    {
      "name": "nearExecTime",
      "type": "long"
    },
    {
      "name": "lowerCollarPrice",
      "type": "int"
    },
    {
      "name": "upperCollarPrice",
      "type": "int"
    }
  ],
  "version": "1"
}
```

## Sample

```
{
“SoupPartition”: 1,
"SoupSequence": 123,
“marketSession: 1,
"msgType": "I",
"symbolLocate": 1234,
“unixTimestamp”: 1793232000000000000,,
“symbol”: "ZVZZT",
"state": "Y",
"minAllowablePrice": 60.00,
"maxAllowablePrice": 70.00,
"nearExecPrice": 60.00,
"nearExecTime": "7238625218217"
"lowerCollarPrice": 45.00,
"upperpricerangecollar": 80.00
}
```

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## Appendix A - Documentation and Revision Control Log

*November 6, 2026 -*

Launch of Totalview ITCH Plus 1.0

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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 e.g., 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 charactersymbol suffixes, pleaserefer to Ticker Symbol Convention page on the NasdaqTrader 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 Trading Halt Actions | |
|---|---|
| **Code** | **Value** |
| T1 | Halt News Pending |
| T2 | Halt News Disseminated |
| T5 | Single Security 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 SECTrading Suspension |
| H11 | Halt Regulatory Concern |
| O1 | OperationsHalt; 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 |

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| 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 | IPOSecurity Released for Quotation (Nasdaq Securities Only) |
| IPOE | IPO Security — Positioning Window Extension (Nasdaq Securities Only) |
| Space | Reason Not Available |
| T3 | News and Resumption Times |
| T7 | Single Security Trading Pause / Quotation Only Period |

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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 | OrdinaryShare |
| P | PreferredStock |
| 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 IndexETNs |
| 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 GoldShares |
| EI | ETN-•-Equity Index-•-Linked Securities |
| EM | NextShares Exchange Traded Managed Fund* |
| 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 |

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| | |
|---|---|
| LL | Identifies securities of companies that are set up as a Limited Liability Company (LLC) |
| M | Equity-•-Based Derivative |
| MF | Managed FundShares |
| 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 RateClosing |
| 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 | NotApplicable |

* NextShares Exchange Traded Managed Funds (ETMFs) launched in February 2016. NextShares prices are stated in proxy price on this feed. For more information, please refer to the NextShares Homepage.

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