Nasdaq BX Last Sale

Product Overview

Nasdaq BX Last Sale (BLS) is a direct data feed product offered by Nasdaq to support the BX Trading and Listing Market upon launch. BLS covers the full range of issues including Nasdaq-, New York Stock Exchange (NYSE)-, NYSE American-, NYSE Arca-, BATS- and US regional exchange-listed securities.

BLS provides Realtime, intra-day trade data from the BX execution system. Market data distributors may use the BLS data feed to update real-time stock tickers, portfolio trackers, trade alert programs, time and sale graphs, and other display systems.

Publisher

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

Data Types

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

Prices are integer fields, supplied with an associated precision. Unless specifically denoted as a Signed Price, Prices are unsigned. When converted to a decimal format, prices are in fixed point format, where the precision defines the number of decimal places. For example, a Price (4) field has an implied 4 decimal places. The maximum value of a Price (4) in BLS is 200,000.0000 (decimal, 77359400 hex). In certain rare instances, the maximum price can exceed 200,000.0000

Timestamp reflects the Nasdaq system time at which the outbound message was generated. Nasdaq states time as the number of nanoseconds past midnight. The time zone is U.S. Eastern Time.
All alphanumeric fields are left-justified, ASCII fields. Padding spaces appear on the right as necessary.

Delivery

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

This repository provides an SDK for developing applications to access the Nasdaq Data Link Streaming 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

Contents

Message Formats

System Event Message:

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

Details:

<table>
<tr><th>Field</th><th>Name</th><th>Type</th><th>Description</th></tr>
<tr><td>SOUP Partition</td><td>SoupPartition</td><td>Int</td><td>Message partition identifier. Ignore.</td></tr>
<tr><td>SOUP Sequence</td><td>SoupSequence</td><td>long</td><td>Auto-incrementing message sequence number.</td></tr>
<tr><td>Tracking Number</td><td>trackingID</td><td>long</td><td>Message Tracking number, compound key containing:
• bytes 0-1 = Nasdaq internal tracking number
• bytes 2-7 = Timestamp in nanoseconds from midnight

See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td>string</td><td>S = System Event Message</td></tr>
<tr><td>Event Code</td><td>event</td><td>string</td><td>BLS events for which the message is being generated. Possible values:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>O</td><td>Start of Transmissions: Denotes that the BX Last Sale has started its daily transmission schedule.</td></tr>
<tr><td>S</td><td>Start of System Hours: This message indicates that Nasdaq is open and ready to start accepting orders.</td></tr>
<tr><td>Q</td><td>Start of Market Hours: Denotes the start of the
Nasdaq BX Last Sale (BLS) 4
regular US market session. Traditionally, only trade transactions reported during the regular market session are considered to be “last sale” eligible.</td></tr>
<tr><td>M</td><td>End of Market Hours: Denotes the end of the regular US session</td></tr>
</table>
</td></tr>
</table>

			E	End of System Hours: Indicates that Nasdaq is now closed and will not accept any new orders today.
			C	End of Transmissions: Denotes that the BX Last Sale has ended its daily transmission schedule.

Schema:

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

Sample:

```
{
 "SoupPartition": 0,
 "SoupSequence": 1,
 "trackingID": 7238625218217,
 "msgType": "S",
 "event": "O"
}
```

Trade Report:

The following message is used to relay BX execution system transactions that are reported for the current business day. Please note that BX only reports one-side of a trade execution on the BX Last Sale (BLS) feed and other data feed products.

Details:

<table>
<tr><th>Field</th><th>Name</th><th>Type</th><th>Description</th></tr>
<tr><td>SOUP Partition</td><td>SoupPartition</td><td>Int</td><td>Message partition identifier. Ignore.</td></tr>
<tr><td>SOUP Sequence</td><td>SoupSequence</td><td>long</td><td>Auto-incrementing message sequence number.</td></tr>
<tr><td>Tracking Number</td><td>trackingID</td><td>long</td><td>Message Tracking number, compound key containing:
bytes 0-1 = Nasdaq internal tracking number
bytes 2-6 = Timestamp in nanoseconds from midnight
See the <code>TrackingID</code> class in the <code>com.nasdaq.ncdsclient.internal.utils</code> package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td>string</td><td>T = Trade Report</td></tr>
<tr><td>Originating Market Center Identifier</td><td>marketCenter</td><td>string</td><td>Denotes the BX market system that generated the trade report message. The allowable values are:<table><tr><th>Code</th><th>Value</th></tr><tr><td>L</td><td>Over the Counter Trade
Reporting Facility (ORF)</td></tr><tr><td>B</td><td>Nasdaq BX (BX)</td></tr></table></td></tr>
<tr><td>Issue Symbol</td><td>symbol</td><td>string</td><td>Denotes the Nasdaq-assigned issue symbol of the security for which the trade report is being generated. For details on Nasdaq symbology, please refer to Appendix B.</td></tr>
<tr><td>Security Class</td><td>securityClass</td><td>string</td><td>Indicates the primary listing market for the issue. Allowable values are:</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td><table><tr><th>Code</th><th>Value</th></tr><tr><td>Q</td><td>Nasdaq</td></tr><tr><td>N</td><td>NYSE</td></tr><tr><td>A</td><td>NYSE American</td></tr><tr><td>P</td><td>NYSE Arca</td></tr><tr><td>Z</td><td>BATS</td></tr><tr><td>V</td><td>Investors’ Exchange, LLC</td></tr></table></td></tr>
<tr><td>Trade Control Number</td><td>controlNumber</td><td>string</td><td>Indicates the BX system internal control number associated with the given trade transaction.

Please note that the Trade Control Number is specific to the BX host system reflected in the Market Center ID field. This number is used as a key field for trade cancellations and trade corrections.</td></tr>
<tr><td>Trade Price</td><td>price</td><td>Int</td><td>The price associated with the trade transaction being reported. Refer to Data Types for field processing.</td></tr>
<tr><td>Trade Size</td><td>size</td><td>Int</td><td>Indicates the reported number of shares on the trade transaction.</td></tr>
<tr><td>Sale Condition Modifier</td><td>saleCondition</td><td>string</td><td>Sale condition modifier consists of four levels as defined below.

Level 1
Used for Settlement Type information. Allowable values are:
Allowable values are:<table><tr><th>Code</th><th>Value</th></tr><tr><td>@</td><td>Regular Settlement</td></tr><tr><td>C</td><td>Cash Settlement</td></tr><tr><td>N</td><td>Next Day Settlement</td></tr><tr><td>R</td><td>Seller Settlement</td></tr></table>
Level 2</td></tr>
</table>

Used for SEC Regulation NMS Trade Through Exemption Codes. Allowable values are:

Code	Value
F	Intermarket Sweep
O	Opening Print
4	Derivative Priced
5	Re-Opening Print
6	Closing Print
7	Qualified Contingent Trade (QCT)
<space>	Not applicable

Level 3
Used for Extended Hours or Sold Codes. Allowable values are:

Code	Value
T	Extended Hours Trade
U	Extended Hours Trade – Reported Late or Out of Sequence
L	Sold Last – Reported Late But In Sequence
Z	Sold – Out of Sequence
<space>	Not applicable

Level 4
Used for special sale condition codes. Please note that this field is case sensitive. Allowable values are:

Code	Value
A	Acquisition
B	Bunched
D	Distribution
H	Price Variation Transaction
M	BX Official Close Price – for BX-listed securities only

P	Prior Reference Price
Q	BX Official Opening Price
S	Split Trade
V	Contingent Trade
W	Average Price Trade[1]
X	Cross Trade
o	Odd lot execution
x	Odd Lot Cross execution
<space>	Not applicable

Schema:

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

"name": "marketCenter",
"type": "string"
},
{
"name": "symbol",
"type": "string"
},
{
"name": "securityClass",
"type": "string"
},
{
"name": "controlNumber",
"type": "string"
},
{
"name": "price",
"type": "int"
},
{
"name": "size",
"type": "int"
},
{
"name": "saleCondition",
"type": "string"
}
]
}

Sample:

{
"SoupPartition": 0,
"SoupSequence": 123,
"trackingID": 7238625218217,
"msgType": "T",
"marketCenter": "Q",
"symbol": "ZVZZT",
"securityClass": "Q",
"controlNumber": "12345",
"price": 101.12,
"size": 500,
"saleCondition": "@4LB"
}

Trade Cancel/Error:

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

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-6 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Message Type	msgType	string	X = Trade Cancel/Error
Originating Market Center Identifier	marketCenter	string	Denotes the Nasdaq market system that generated the trade report and cancel/error message. The allowable values are: **Code** / **Value** L / Over the Counter Trade Reporting Facility (ORF) B / BX
Issue Symbol	symbol	string	Denotes the Nasdaq-assigned issue symbol of the security for which the trade report is being generated. For details on Nasdaq symbology, please refer to Appendix B.
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are:

<table>
<tr><td></td><td></td><td></td><td><table><tr><th>Code</th><th>Value</th></tr><tr><td>Q</td><td>Nasdaq</td></tr><tr><td>N</td><td>NYSE</td></tr><tr><td>A</td><td>NYSE American</td></tr><tr><td>P</td><td>NYSE Arca</td></tr><tr><td>Z</td><td>BATS</td></tr><tr><td>V</td><td>Investors’ Exchange, LLC</td></tr><tr><td>B</td><td>BX-listed securities</td></tr></table></td></tr>
<tr><td>Original Trade Control Number</td><td>origControlNumber</td><td>string</td><td>Indicates the source’s internal control number associated with the given trade transaction.

Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field.</td></tr>
<tr><td>Original Trade Price</td><td>origPrice</td><td>int</td><td>Reported price for the original trade transaction. Refer to Data Types for field processing.</td></tr>
<tr><td>Original Trade Size</td><td>origSize</td><td>int</td><td>Reported number of shares for original trade transaction.</td></tr>
<tr><td>Original Sale Condition Modifier</td><td>origSaleCondition</td><td>string</td><td>Defines the sale condition modifiers as reported on the original trade transaction.</td></tr>
</table>

Schema:

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

```
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "trackingID",
      "type": "long"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "marketCenter",
      "type": "string"
    },
    {
      "name": "symbol",
      "type": "string"
    },
    {
      "name": "securityClass",
      "type": "string"
    },
    {
      "name": "origControlNumber",
      "type": "string"
    },
    {
      "name": "origPrice",
      "type": "int"
    },
    {
      "name": "origSize",
      "type": "int"
    },
    {
      "name": "origSaleCondition",
      "type": "string"
    }
  ]
}
```

Sample:


```
{
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "X",
 "marketCenter": "Q",
 "symbol": "ZVZZT",
 "securityClass": "Q",
 "origControlNumber": "12345",
 "origPrice": 101.12,
 "origSize": 500,
 "origSaleCondition": "@4LB"
}
```


Trade Correction:

The following message is used in the event that a Nasdaq trade transaction is corrected on the same business day that it is reported.

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-6 = Timestamp in nanoseconds from midnight

<table>
<tr><td></td><td></td><td></td><td>See the <code>TrackingID</code> class in the <code>com.nasdaq.ncdsclient.internal.utils</code> package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td>string</td><td>C = Trade Correction</td></tr>
<tr><td>Originating Market Center Identifier</td><td>marketCenter</td><td>string</td><td>Denotes the Nasdaq market system that generated the trade report and cancel/error message. The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>L</td><td>Over the Counter Trade Reporting Facility (ORF)</td></tr>
<tr><td>B</td><td>BX</td></tr>
</table></td></tr>
<tr><td>Issue Symbol</td><td>symbol</td><td>string</td><td>Denotes the Nasdaq-assigned issue symbol of the security for which the trade report is being generated. For details on Nasdaq symbology, please refer to Appendix B.</td></tr>
<tr><td>Security Class</td><td>securityClass</td><td>string</td><td>Indicates the primary listing market for the issue. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>Q</td><td>Nasdaq</td></tr>
<tr><td>N</td><td>NYSE</td></tr>
<tr><td>A</td><td>NYSE American</td></tr>
<tr><td>P</td><td>NYSE Arca</td></tr>
<tr><td>Z</td><td>BATS</td></tr>
<tr><td>V</td><td>Investors’ Exchange, LLC</td></tr>
<tr><td>B</td><td>BX-listed securities</td></tr>
</table></td></tr>
<tr><td>Original Trade Control Number</td><td>origControlNumber</td><td>string</td><td>Indicates the source’s internal control number associated with the given trade transaction.</td></tr>
</table>

			Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field.
Original Trade Price	origPrice	int	Reported price for the original trade transaction. Refer to Data Types for field processing.
Original Trade Size	origSize	int	Reported number of shares for original trade transaction.
Original Sale Condition Modifier	origSaleCondition	string	Defines the sale condition modifiers as reported on the original trade transaction.
Corrected Trade Control Number	correctedControlNumber	string	Indicates the Nasdaq internal control number associated with the adjusted trade transaction. Please note that the Trade Control Number is specific to the Nasdaq host system reflected in the Originating Market Center ID field.
Corrected Trade Price	correctedPrice	int	Indicates the price for the corrected trade transaction. Refer to Data Types for field processing.
Corrected Trade Size	correctedSize	int	Indicates the number of shares for the corrected trade transaction.
Corrected Sale Condition Modifier	correctedSaleCondition	string	Denotes the sale condition modifiers associated with the corrected trade transaction.

Schema:


```
{
 "type": "record",
 "name": "SeqTradeCorrection",
 "fields": [
  {
   "name": "SoupPartition",
   "type": "int"
```

},
{
  "name": "SoupSequence",
  "type": "long"
},
{
  "name": "trackingID",
  "type": "long"
},
{
  "name": "msgType",
  "type": "string"
},
{
  "name": "marketCenter",
  "type": "string"
},
{
  "name": "symbol",
  "type": "string"
},
{
  "name": "securityClass",
  "type": "string"
},
{
  "name": "origControlNumber",
  "type": "string"
},
{
  "name": "origPrice",
  "type": "int"
},
{
  "name": "origSize",
  "type": "int"
},
{
  "name": "origSaleCondition",
  "type": "string"
},
{
  "name": "correctedControlNumber",
  "type": "string"
},
{
  "name": "correctedPrice",
  "type": "int"
},
{
  "name": "correctedSize",
  "type": "int"
},

```
    {
      "name": "correctedSaleCondition",
      "type": "string"
    }
  ]
}
```

Sample:

```
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "C",
  "symbol": "ZVZZT",
  "securityClass": "Q",
  "origControlNumber": "12345",
  "origPrice": 101.12,
  "origSize": 500,
  "origSaleCondition": "@4LB",
  "correctedControlNumber": "67890",
  "correctedPrice": 100.45,
  "correctedSize": 475,
  "correctedSaleCondition": "@FUD"
}
```

Administrative Messages

Stock Trading Action:

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

Prior to the start of system hours, BX will send out a Trading Action spin. In the spin, BX will send out a Stock Trading Action message with the “T” (Trading Resumption) for all Nasdaq-, BX-, and other exchange-listed securities that are eligible for trading on the BX market 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 BX platform at the start of the system hours. Please note that securities may be halted in the BX system for regulatory or operational reasons.

After the start of system hours, BX will use the Trading Action message to relay changes in trading status for an individual security. Messages will be sent when a stock is halted / paused, is released for quotation, or is released for trading.

Details:

<table>
<tr><th>Field</th><th>Name</th><th>Type</th><th>Description</th></tr>
<tr><td>SOUP Partition</td><td>SoupPartition</td><td>Int</td><td>Message partition identifier. Ignore.</td></tr>
<tr><td>SOUP Sequence</td><td>SoupSequence</td><td>long</td><td>Auto-incrementing message sequence number.</td></tr>
<tr><td>Tracking Number</td><td>trackingID</td><td>long</td><td>Message Tracking number, compound key containing:
bytes 0-1 = Nasdaq internal tracking number
bytes 2-6 = Timestamp in nanoseconds from midnight
See the <code>TrackingID</code> class in the <code>com.nasdaq.ncdsclient.internal.utils</code> package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td>string</td><td>H = Trading Action</td></tr>
<tr><td>Issue Symbol</td><td>symbol</td><td>string</td><td>Nasdaq-assigned indicator for issue for which the trading action message is being generated. For details on Nasdaq symbology, please refer to Appendix B.</td></tr>
<tr><td>Security Class</td><td>market</td><td>string</td><td>Indicates the primary listing market for the issue. Allowable values are:<table><tr><th>Code</th><th>Value</th></tr><tr><td>Q</td><td>Nasdaq</td></tr><tr><td>N</td><td>NYSE</td></tr><tr><td>A</td><td>NYSE American</td></tr><tr><td>P</td><td>NYSE Arca</td></tr><tr><td>Z</td><td>BATS</td></tr><tr><td>V</td><td>Investors’ Exchange, LLC</td></tr><tr><td>B</td><td>BX-listed securities</td></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Current Trading State</td><td>tradingState</td><td>string</td><td>Reflects the current trading state for the issue. The allowable values are:
<table><tr><th>Code</th><th>Value</th></tr><tr><td>H</td><td>Halt in effect (Cross all U.S. equity exchanges)</td></tr><tr><td>P</td><td>Paused across all U.S. equity markets / SROs (Nasdaq-listed securities only)</td></tr><tr><td>Q</td><td>Quote only period in effect (Cross all U.S. equity changes)</td></tr><tr><td>T</td><td>Trading on BX</td></tr></table></td></tr>
<tr><td>Reason</td><td>reason</td><td>string</td><td>Reflects the Market Ops or Market Watch code for the trading state change. Refer to Appendix C for current code list.</td></tr>
</table>

Schema:

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

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

Sample:

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

Stock Directory:

At the start of each trading day, Nasdaq disseminates stock directory messages for all active Nasdaq and non-Nasdaq-listed security symbols.

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

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.

<table>
<tr><td>Tracking Number</td><td>trackingID</td><td>long</td><td>Message Tracking number, compound key containing:
bytes 0-1 = Nasdaq internal tracking number
bytes 2-6 = Timestamp in nanoseconds from midnight
See the <code>TrackingID</code> class in the <code>com.nasdaq.ncdsclient.internal.utils</code> package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td>string</td><td>R = Stock Directory Message</td></tr>
<tr><td>Stock</td><td>symbol</td><td>string</td><td>Nasdaq-assigned indicator for issue for which the trading action message is being generated. For details on Nasdaq symbology, please refer to Appendix B.</td></tr>
<tr><td>Market Category</td><td>marketClass</td><td>string</td><td>Indicates Listing market or listing market 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^{SM}</td></tr>
<tr><td>G</td><td>Nasdaq Global Market^{SM}</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>Z</td><td>BATS Z Exchange</td></tr>
<tr><td>V</td><td>Investors’ Exchange, LLC</td></tr>
<tr><td><space></td><td>Not available</td></tr>
</table></td></tr>
<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.
<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>
</table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>
<table>
<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>
</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
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>Y</td><td>Nasdaq system only accepts round lots orders for this security.</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>
</td></tr>
<tr><td>Issue Classification</td><td>issueClass</td><td>string</td><td>Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.</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.</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>shortThreshold</td><td>string</td><td>Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3).</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>
<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>
</td></tr>
<tr><td>IPO Flag</td><td>ipo</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 colspan="2">Non-Nasdaq-Listed Instruments</td></tr>
<tr><td><space></td><td>Not available</td></tr>
</table>
</td></tr>
<tr><td>LULD Reference Price Tier</td><td>luldTier</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 applicable</td></tr>
</table>
</td></tr>
<tr><td>ETP Flag</td><td>etf</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>
</td></tr>
<tr><td>ETP Leverage Factor</td><td>etfFactor</td><td>int</td><td>Tracks the integral relationship of the ETP to the underlying index. Example: If the underlying Index increases by a value of 1 and the ETP’s Leverage factor is 3, indicates the ETF will increase/decrease (see Inverse) by 3.

Leverage Factor is rounded to the nearest integer below, e.g. leverage factor 1 would represent leverage factors of 1 to 1.99.</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>This field is used for LULD Tier I price band calculation purposes.</td></tr>
<tr><td>Inverse Indicator</td><td>inverseETF</td><td>string</td><td>Indicates the directional relationship between the ETP and underlying index.
<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></table>
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>

Schema:


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

```
{
  "name": "fsi",
  "type": "string"
},
{
  "name": "roundLotSize",
  "type": [
    "null",
    "int"
  ]
},
{
  "name": "roundLotOnly",
  "type": [
    "null",
    "string"
  ]
},
{
  "name": "issueClass",
  "type": [
    "null",
    "string"
  ]
},
{
  "name": "issueSubtype",
  "type": [
    "null",
    "string"
  ]
},
{
  "name": "authenticity",
  "type": [
    "null",
    "string"
  ]
},
{
  "name": "shortThreshold",
  "type": [
    "null",
    "string"
  ]
},
{
  "name": "ipo",
  "type": [
    "null",
    "string"
  ]
},
```

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

Sample:

```
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "R",
  "symbol": "ZVZZT",
  "marketClass": "Q",
  "fsi": "N",
  "roundLotSize": 250,
  "roundLotOnly": "N",
  "issueClass": "L",
  "issueSubtype": "MF",
```

"authenticity": "T",
"shortThreshold": "N",
"ipo": "N",
"luldTier": "1",
"etf": "Y",
"etfFactor": 2,
"inverseETF": "N"
}

Regulation SHO Short Sale Price Test Restricted Indicator:

In 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 introduced a Reg SHO Short Sale Price Test Restricted Indicator.

The Reg SHO Short Sale Price Test Restricted Indicator message is disseminated intra-day when a security has a price drop of 10% or more from the adjusted prior day's Nasdaq Official Closing Price (NOCP). Once a message with the "S" indicator is disseminated, all short sale orders entered for the given security will be subject to processing under Rule 201 (Alternative Bid Tick Rule) of Reg SHO for the remainder of the trading day or until a "C" action message is disseminated whichever is sooner.

In addition, Nasdaq supports a pre-opening spin of Reg SHO Short Sale Price Test Restricted Indicator messages for those securities in which Rule 201 will remain in effect for the current trading day.

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-6 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Message Type	msgType	string	Y = Short Sale Restriction Indicator
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the short sale restriction indicator message is being generated. For details on Nasdaq symbology, please refer to Appendix B.

<table>
<tr>
<td>Reg SHO Action</td>
<td>regSHOAction</td>
<td>string</td>
<td>Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are:
<table>
<tr><th>Code</th><th>Definition</th></tr>
<tr><td>0</td><td>No price test in place</td></tr>
<tr><td>1</td><td>Reg SHO Short Sale Price Test Restriction in effect due to an intra-day price drop in security</td></tr>
<tr><td>2</td><td>Reg SHO Short Sale Price Test Restriction remains in effect</td></tr>
</table>
</td>
</tr>
</table>

Schema:

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

Sample:


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


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

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

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-6 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Message Type	msgType	string	V = Market wide circuit breaker Decline Level Message
Level 1	level1	long	Denotes the MWCB Level 1 Value.
Level 2	level2	long	Denotes the MWCB Level 2 Value.
Level 3	level3	long	Denotes the MWCB Level 3 Value.

Schema:


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

```
  "fields": [
    {
      "name": "SoupPartition",
      "type": "int"
    },
    {
      "name": "SoupSequence",
      "type": "long"
    },
    {
      "name": "trackingID",
      "type": "long"
    },
    {
      "name": "msgType",
      "type": "string"
    },
    {
      "name": "level1",
      "type": "long"
    },
    {
      "name": "level2",
      "type": "long"
    },
    {
      "name": "level3",
      "type": "long"
    }
  ]
}
```

Sample:

```
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "V",
  "level1": 252345,
  "level2": 689678567,
  "level3": 12343
}
```

Market-Wide Circuit Breaker (MWCB) Message – Status:

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

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.
Tracking Number	trackingID	long	Message Tracking number, compound key containing: • bytes 0-1 = Nasdaq internal tracking number • bytes 2-6 = Timestamp in nanoseconds from midnight See the `TrackingID` class in the `com.nasdaq.ncdsclient.internal.utils` package within the SDK.
Message Type	msgType	string	W = Market-Wide Circuit Breaker Status message
Breached Level	level	string	Denotes the MWCB Level that was breached. “1” = Level 1 “2” = Level 2 “3” = Level 3

Schema:

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

```
    {
      "name": "level",
      "type": "string"
    }
  ]
}
```

Sample:

```
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "W",
  "level1": "1"
}
```

Operational Halt:

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

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

Details:

Field	Name	Type	Description
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.
SOUP Sequence	SoupSequence	long	Auto-incrementing message sequence number.

<table>
<tr><td>Tracking Number</td><td>trackingID</td><td>long</td><td>Message Tracking number, compound key containing:
bytes 0-1 = Nasdaq internal tracking number
bytes 2-6 = Timestamp in nanoseconds from midnight
See the <code>TrackingID</code> class in the <code>com.nasdaq.ncdsclient.internal.utils</code> package within the SDK.</td></tr>
<tr><td>Message Type</td><td>msgType</td><td></td><td>h = Operational Halt</td></tr>
<tr><td>Stock</td><td>symbol</td><td></td><td>Denotes the security symbol for the issue in the Nasdaq execution system</td></tr>
<tr><td>Market Code</td><td>market</td><td></td><td><table><tr><th>Code</th><th>Value</th></tr><tr><td>Q</td><td>Nasdaq</td></tr><tr><td>B</td><td>BX</td></tr><tr><td>X</td><td>PSX</td></tr></table></td></tr>
<tr><td>Operational Halt Action</td><td>action</td><td></td><td><table><tr><th>Code</th><th>Value</th></tr><tr><td>H</td><td>Operationally Halted on the identified Market</td></tr><tr><td>T</td><td>Operational Halt has been lifted and Trading resumed</td></tr></table></td></tr>
</table>

Schema:


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

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


Sample:


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

Appendix A – Last Sale Processing

SEC Vendor Display Rule

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

BLS carries only trade transactions executed on the BX system. Since BLS is not a consolidated trade data feed, it should not be used to feed market data displays that are subject to the SEC Vendor Display Rule.

Issue Price-Level Statistics

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

a) Last Sale Calculation

Within the market data industry, the term "last sale" has been widely used in conjunction with the SEC Vendor Display Rule. "Last Sale" is typically used to denote the most recent round or mixed lot trade transaction reported by a market center with an eligible sale condition code for the regular U.S. market session. For consolidated BX displays, firms should use the time stamp field from the Trade

Report message to determine the proper trade sequence order for last sale calculations as well as time and sales displays.

To facilitate a "Last Sale" calculation, BLS includes the sale condition modifier for the BX execution system transactions. The Sale Condition Modifier field consists of four levels. A trade should only be applied to the high, low, last sale, and volume calculations if all four sales condition modifiers so allow.

Sale Condition – Level 1 denotes the settlement type of the transaction. If a transaction has a special settlement code, firms should not include transaction in high, low, or last sale price calculations. If the transaction has a regular settlement type, firms should process the next levels to determine proper processing.

Code	Value	High/Low	Last Sale	Volume
@	Regular Settlement	Yes, if other levels do not overrule	Yes, if other levels do not overrule	Yes, if other levels do not overrule
C	Cash Settlement	No	No	Yes
N	Next Day Settlement	No	No	Yes
R	Seller Settlement	No	No	Yes

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

Code	Value	High/Low	Last Sale	Volume
F	Intermarket Sweep	Yes	Yes	Yes

Sale Condition – Level 3 indicates if the transaction was reported during regular market hours with a "sold" code or during the extended trading hours session. Historically, only trades that occur during normal market hours and in proper sequence are included in the "last sale" calculation.

Code	Value	High/Low	Last Sale	Volume
T	Extended Hours Trade	No	No	Yes
U	Extended Hours Trade – Reported Late or Out of Sequence	No	No	Yes
L	Sold Last – Reported Late But In Sequence	Yes	Yes	Yes
Z	Sold – Out of Sequence	Yes	No (except if first regular market trade of day)	Yes
<space>	Not applicable	See other levels	See other levels	See other levels

Sale Condition – Level 4 indicates special trading situations.

For the BX execution system, this sale condition level is used to denote when a trade record contains the BX Official Opening Price or BX Official Closing Price values.
Nasdaq BX Last Sale (BLS) 30
Since BX also reports the underlying cross execution transaction to the tape, the BX Opening and Closing report volume should not be included in the daily volume calculation.
For the Cross Trade (X) modifiers, firms should defer to the Level 2 and Level 3 sale condition codes to determine whether to include the trade in the high, low, and last sale calculation statistics.
As outlined in the table below, BX also observes special processing rules for the Prior Reference Price (P), Weighted Average Price (W), and Odd Lot Execution (o) codes.

Code	Value	High/Low	Last Sale	Volume
A	Acquisition	Yes	Yes	Yes
B	Bunched	Yes	Yes	Yes
D	Distribution	Yes	Yes	Yes
H	Price Variation Trade	No	No	Yes
M	BX Official Close Price	Yes for BX market center only or BX system- wide displays No for BX/ FINRA TRF only displays	Yes (for BX market center only or BX system- wide displays only)	No
o	Odd lot execution[3]	No	No	Yes
P	Prior Reference Price	Yes	No (except if first regular market trade of day)	Yes
Q	BX Official Opening Price	Yes for BX market center only or BX system- wide displays No for BX/ FINRA TRF only displays	No	No
S	Split Trade	Yes	Yes	Yes
V	Contingent Trade	No	No	Yes

Code	Value	High/Low	Last Sale	Volume
W	Average Price Trade[4]	No	No	Yes
X	Cross Trade – For BX-listed securities only	Yes (if sent with an eligible Level 2 modifier)	Yes (if sent with an eligible Level 2 modifier)	Yes
x	Odd Lot Cross Trade	No	No	Yes
<space>	Not applicable	See other levels	See other levels	See other levels

b) Last Trade Calculation

The term “Last Trade” is more widely applied within the market data industry. Many firms use the term “last trade” to refer to the most recent trade transaction reported in sequence. In addition to the “last sale” codes, many firms include odd lots and extended trading hour executions in the “last trade” price calculations.

c) Net Change Calculation

BLS does not include a net change indicator field. Data feed recipient must perform their own calculation for last sale eligible and last trade eligible transactions. The formula should be as follows:

Net Change for Issue Symbol = Current Trade Price - Adjusted Previous Close Price

To obtain the Adjusted Previous Close, firms will need to apply dividends to the previous day’s closing price value. Nasdaq offers several products to support the BX and Nasdaq-listed securities:

For Nasdaq-listed securities, firms may obtain dividend information via the Nasdaq Daily List product page on the Nasdaq Trader website

For NYSE-, NYSE American-, NYSE Arca-, BATS-, IEX-listed securities, firms should contact the listing exchange directly to inquire about corporate action data delivery options.

Dividend adjustments are typically applied to the closing price on the day prior to ex- date and reflected on the ex-date, the next business day. Cash dividends of $0.01 or greater should be subtracted from the closing price. For stock dividends, the closing price should be divided by the dividend amount.

Appendix B – Sale Condition Modifier Definitions

The following definitions are included for informational purposes only.

Sale Condition Modifier	Description
Acquisition (A)	A transaction made on the Exchange as a result of an acquisition.
Average Price Trade (W)	A trade where the price reported is based upon an average of the prices for transactions in a security during all or any portion of the trading day. Please note that the Nasdaq market center also uses this value to report stopped stock situations. For BLS processing, Nasdaq will use the sale condition modifier of "W" for all Average Price Trades regardless of the listing market center. While the UTP SIP uses the same sale condition modifier code for Nasdaq-listed issues, it should be noted that SIAC / CTA SIP uses a "B" sale condition modifier for Average Price Trades for NYSE-, NYSE MKT-, NYSE Arca and BATS-listed securities.
Bunched Trade (B)	A trade representing an aggregate of two or more regular trades in a security occurring at the same price either simultaneously or within the same 60-second period, with no individual trade exceeding 10,000 shares.
Bunched Sold Trades (G)	A bunched trade that is reported late.
Cash Sale (C)	A transaction that calls for the delivery of securities and payment on the same day the trade took place.
Cross Trade (X)	A Cross Trade a trade transaction resulting from a market center's crossing session.
Dot-T or Form-T (T)	A trade executed before or after the regular US market hours. Please note that the Dot-T modifier should be appended to all transactions that occur during the pre- and post-market sessions. The volume of Form-T trades will be included in the calculation of consolidated and market center volume. The price information in Dot-T trades will not be used to update high, low and last sale data for individual securities or indices since they occur outside of normal trade reporting hours.
Distribution (D)	Sale of a large block of stock in such a manner that the price is not adversely affected.
Extended Trading Hours - Sold Out of Sequence (U)	Trade reports used to identify extended trading hours trades that are reported more than 30 seconds after execution. Currently, the extended trading hours are comprised of pre-market trading from 7 a.m. to 9:30 a.m., Eastern Time (ET), and post-market trading from 4 p.m. to 8:00 p.m., ET. This sale condition would be similar to the existing "T" sale condition in that trades executed outside of market hours will not impact market center or consolidated high, low, or last sale prices for an issue. The transactions would, however, count toward issue and market volume.
Intermarket Sweep (F)	Intermarket sweep order means a limit order for an NMS stock that meets the following requirements: • When routed to a trading center, the limit order is identified as an intermarket sweep order; and • Simultaneously with the routing of the limit order identified as an intermarket sweep order, one or more additional limit orders, as necessary, are routed to execute against the full displayed size of any protected bid, in the case of a limit order to sell, or the full displayed size of any protected offer, in the case of a limit order to buy, for the NMS stock with a price that is superior to the limit price of the limit order identified as an intermarket sweep order. These additional routed orders also must be marked as intermarket sweep orders.

Sale Condition Modifier	Description
Market Center Close Price (M)	Indicates the "Official" closing value as determined by a Market Center. This transaction report will contain the market center generated closing price. The "M" (Market Center Close Price) sale condition modifier shall only affect the Market Center Closing/Last Sale value and will not affect the consolidated market value.
Market Center Open Price (Q)	Indicates the "Official" opening value as determined by a Market Center. This transaction report will contain the market center generated opening price. The "Q" (Market Center Open Price) sale condition modifier shall only affect the Market Center Opening value and will not affect the consolidated market value. Direct data recipients that maintain individual market center open values should use this value as the official market center opening value and populate data displays accordingly
Next Day (N)	A transaction that calls for the delivery of securities between one and four days (to be agreed by both parties to the trade – the number of days are not noted with the transaction) after the trade date.
Odd Lot Transaction (o)	The Odd Lot sale condition modifier indicates that the execution size for a transaction was less than one round lot for the security. Please note that the consolidated trade feeds offered by the UTP Security Information Processor (UTP SIP) and the Securities Information Automation Corporation (SIAC) do not include odd lot execution data at this time.
Opening Prints (O)	The transaction or group of transactions reported as a result of a single-priced opening event by the Market Center.
Price Variation Trade (H)	The Price Variation Trade sale condition code is used to denote a regular market session trade transaction that carries a price that is significantly away from the prevailing consolidated or primary market value at the time of the transaction.
Prior Reference Price (P)	An executed trade that relates to an obligation to trade at an earlier point in the trading day or that refers to a prior referenced price. This may be the result of an order that was lost or misplaced or was not executed on a timely basis.
Seller (R)	A Seller's option transaction is a special transaction that gives the seller the right to deliver the stock at any time within a specific period, ranging from not less than four calendar days to not more than sixty calendar days.
Sold Out of Sequence (Z)	Sold Out of Sequence is used when a trade is printed (reported) out of sequence and at a time different from the actual transaction time.
Sold Last (L)	Sold Last sale condition modifier is used when a trade prints in sequence but is reported late. A Sold Last transaction should only impact the consolidated last sale price for an issue if the market center reporting the sold last transaction also reported the transaction setting the current last sale price.
Split Trade (S)	An execution in two markets when the specialist or Market Maker in the market first receiving the order agrees to execute a portion of it at whatever price is realized in another market to which the balance of the order is forwarded for execution.
Derivatively Priced (4)	A transaction that constituted the trade-through was the execution of an order at a price that was not based, directly or indirectly, on the quoted price of the NMS stock at the time of execution and for which the material terms were not reasonably determinable at the time the commitment to execute the order was made.
Re-Opening Prints (5)	The transaction or group of transactions reported as a result of a single-priced re-opening event by the Market Center.

Sale Condition Modifier	Description
Closing Prints (6)	The transaction or group of transactions reported as a result of a single-priced closing event by the Market Center.

Appendix C - Stock Symbol Convention

For Nasdaq-listed issues, Nasdaq currently restricts its symbol length to a maximum of 8 characters. For common stock issuances, Nasdaq, PSX and BX will only assign root symbols of 1 to 4 characters in length with possible fifth and or sixth character denoting a suffix. In certain instances, a dot "." delimiter may be applied to symbols after the root and between the suffix eg., XXXX.A. For subordinate securities, Nasdaq and BX will assign a 5 character symbol for which the last character relays information about the issue class or issue type. For the current list of fifth and or six character symbol suffixes, please refer to Ticker Symbol Convention page on the Nasdaq Trader website.

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

Appendix D – Trading Action Reason Codes

For Nasdaq-listed issues, Nasdaq acts as the primary market and has the authority to institute a trading halt or trading pause in an issue due to news dissemination or regulatory reasons. Nasdaq may also halt trading for operational reasons. Nasdaq will send out a trading action message to inform its market participants when the trading status of an issue changes. For informational purposes, Nasdaq also attempts to provide the reason for each trading action update. For bandwidth efficiency reasons, Nasdaq uses a 4-byte code for the reason on its outbound data feeds.

REASON CODES FOR TRADING HALT ACTIONS	
Code	Value
T1	Halt News Pending
T2	Halt News Disseminated
T5	Single Stock Trading Pause In Effect
T6	Regulatory Halt — Extraordinary Market Activity
T8	Halt ETF
T12	Trading Halted; For Information Requested by Listing Market
H4	Halt Non-Compliance
H9	Halt Filings Not Current
H10	Halt SEC Trading Suspension
H11	Halt Regulatory Concern
O1	Operations Halt; Contact Market Operations
LUDP	Volatility Trading Pause
LUDS	Volatility Trading Pause – Straddle Condition
MWC1	Market Wide Circuit Breaker Halt – Level 1
MWC2	Market Wide Circuit Breaker Halt – Level 2
MWC3	Market Wide Circuit Breaker Halt – Level 3
MWC0	Market Wide Circuit Breaker Halt – Carry over from previous day
IPO1	IPO Issue Not Yet Trading
M1	Corporate Action
M2	Quotation Not Available
<space>	Reason Not Available

REASON CODES FOR QUOTATION/TRADING RESUMPTION ACTIONS	
Code	Value
T3	News and Resumption Times
T7	Single Stock Trading Pause / Quotation Only Period
R4	Qualifications Issues Reviewed/Resolved; Quotations/Trading to Resume
R9	Filing Requirements Satisfied/Resolved; Quotations/Trading To Resume
C3	Issuer News Not Forthcoming; Quotations/Trading To Resume
C4	Qualifications Halt ended; Maintenance Requirements Met; Resume
C9	Qualifications Halt Concluded; Filings Met; Quotes/Trades To Resume
C11	Trade Halt Concluded By Other Regulatory Auth.; Quotes/Trades Resume
MWCQ	Market Wide Circuit Breaker Resumption
R1	New Issue Available
R2	Issue Available
IPOQ	IPO Security Released for Quotation (Nasdaq Securities Only)
IPOE	IPO Security — Positioning Window Extension (Nasdaq Securities Only)
<space>	Reason Not Available

For non-Nasdaq-listed issues, Nasdaq abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate. While Nasdaq does support Trading Action messages for these securities, it is unable to support the full range of Reason Code values.

For the current list of regulatory halts for both Nasdaq- and non-Nasdaq-listed securities, please refer to the Trading Halts page on the Nasdaq Trader website.

Appendix E - Issue Classification Values

Identifies the security class for the issue as assigned by Nasdaq

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

Appendix F - Issue Sub-Type Values

CODES FOR ISSUE CLASSIFICATION VALUES	
Code	**Value**
A	Preferred Trust Securities
AI	Alpha Index ETNs
B	Index Based Derivative
C	Common Shares
CB	Commodity Based Trust Shares
CF	Commodity Futures Trust Shares
CL	Commodity-Linked Securities
CM	Commodity Index Trust Shares
CO	Collateralized Mortgage Obligation
CT	Currency Trust Shares
CU	Commodity-Currency-Linked Securities
CW	Currency Warrants
D	Global Depositary Shares
E	ETF-Portfolio Depositary Receipt
EG	Equity Gold Shares
EI	ETN-Equity Index-Linked Securities
EM	Exchange Traded Managed Funds
EN	Exchange Traded Notes
EU	Equity Units
F	HOLDRS
FI	ETN-Fixed Income-Linked Securities
FL	ETN-Futures-Linked Securities
G	Global Shares
I	ETF-Index Fund Shares
IR	Interest Rate
IW	Index Warrant
IX	Index-Linked Exchangeable Notes
J	Corporate Backed Trust Security
L	Contingent Litigation Right
LL	Identifies securities of companies that are set up as a Limited Liability Company (LLC)
M	Equity-Based Derivative
MF	Managed Fund Shares
ML	ETN-Multi-Factor Index-Linked Securities
MT	Managed Trust Securities
N	NY Registry Shares
O	Open Ended Mutual Fund
P	Privately Held Security
PP	Poison Pill
PU	Partnership Units
Q	Closed-End Funds
R	Reg-S
RC	Commodity-Redeemable Commodity-Linked Securities
RF	ETN-Redeemable Futures-Linked Securities
RT	REIT
RU	Commodity-Redeemable Currency-Linked Securities
S	SEED
SC	Spot Rate Closing
SI	Spot Rate Intraday
T	Tracking Stock
TC	Trust Certificates
TU	Trust Units
U	Portal
V	Contingent Value Right
W	Trust Issued Receipts
WC	World Currency Option

X	Trust
Y	Other
Z	Not Applicable