Nasdaq Last Sale Plus (NLS+)

Product Overview

<u>Nasdaq Last Sale (NLS) Plus</u> is a comprehensive, affordable data feed providing access to all Nasdaq U.S. market last sale data as well as consolidated volume. NLS Plus includes all trade data from the following Nasdaq markets for U.S. exchange-listed securities:

- The Nasdaq Stock Market (Nasdaq)
- FINRA Trade Reporting Facility® (TRF®) operated in partnership with Nasdaq ("FINRA/Nasdaq TRF")
- Nasdaq BX (BX)
- Nasdaq PSX (PSX)

NLS Plus also provides consolidated volume information as part of each trade message. Market data distributors are encouraged to use NLS Plus to create enhanced Nasdaq Last Sale and Nasdaq Basic displays.

NLS Plus will be delivery via two data channels:

Channel	Name
1 (NLSUTP)	Nasdaq trades with real-time consolidated volume for Nasdaq listed securities
2 (NLSCTA)	Nasdaq trades with real-time consolidated volume for NYSE, and Other Regional Exchanges

Publisher

Nasdaq Investment Intelligence equips investors with the tools to make informed decisions by providing innovative real-time and historical analytic products and intelligent solutions designed to tap new data sets and meet new industry challenges. Nasdaq Data Cloud Services via Quandl 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, Price field has an implied 4 decimal places. Prices are represented with either a 4-byte integer or an 8-byte integer. Whenever possible, the 4-byte representation will be used. However, for prices that exceed the upper limit of a 4-byte price (e.g.,

OxFFFFFFF=\$429,496.7295), the longer form (8-byte integer) for the price will be used. 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 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 onboarding process.

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

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Message Formats

System Event Message:

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

Field	Name	Туре	Descrip	tion
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 2-7 = Timestamp in nanoseconds from midnight See the TrackingID class in the com.nasdaq.ncdsclient.internal.utils package within the SDK. 	
Message Type	msgType	string		le Report
Event Code	event	string	NLS Plus events for which the message is being generated. Possible values:	
			Code	Value
			0	Start of Transmissions: Denotes that the NLS Plus system has started its daily transmission schedule.
			S	Start of System Hours: This message indicates that Nasdaq is open and ready to start accepting orders.
			Q	Start of Market Hours: Denotes the start of the regular US market session. Traditionally, only trade transactions reported during the regular market session are considered to be "last sale" eligible.
			М	End of Market Hours: Denotes the end of the regular US session

	E	End of System Hours: Indicates that Nasdaq is now closed and will not accept any new orders today.
	С	End of Transmissions: Denotes that the NLS Plus system has ended its daily transmission schedule.

}

```
"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": "T",
"event": "O"
```

Trade Report for Non-NextShares:

The following message is used to relay Nasdaq execution system and TRF trade transactions that are reported for the current business day. Please note that Nasdaq only reports one-side of a trade execution on the Nasdaq Last Sale (NLS Plus) feed and other data feed products. See Appendix B for a description of each sale condition modifier.

Field	Name	Туре	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	T = Trade Report	
Originating Market Center Identifier	marketCenter	string	Denotes the Nasdaq market system that generated the trade report message. The allowable values are:	
			Code Value	
			Q The Nasdaq Stock Market	
			L Nasdaq/FINRA Trade Reporting Facility (TRF) Cartaret	
			2 Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago	
			B Nasdaq BX (BX)	
			X Nasdaq PSX (PSX)	
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 C.	
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are:	

			Code	Value
			Q	Nasdaq
			N	NYSE
			А	NYSE American
			Р	NYSE Arca
			Z	BATS
			V	Investors' Exchange, LLC
Trade Control Number	controlNumber	string		es the source's internal control number associated e given trade transaction.
			the sour	note that the Trade Control Number is specific to rce system reflected in the Market Center ID field. mber is used as a key field for trade cancellations de corrections.
Trade Price	price	Int		ce associated with the trade transaction being d. Refer to Data Types for field processing NLS
Trade Size	size	Int	Indicate transact	es the reported number of shares on the trade tion.
Sale Condition Modifier	saleCondition	string	Sale cor below.	ndition modifier consists of four levels as defined
			Level 1 Used for Settlement Type information. Allowable values are: Allowable values are:	
			Code	Value
			@	Regular Settlement
			С	Cash Settlement
			N	Next Day Settlement
			R	Seller Settlement
			Level 2	

Used for <u>SEC Regulation NMS</u> Trade Through Exemption Codes. Allowable values are:

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

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

Code	Value
Т	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></space>	Not applicable

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

Code	Value	
А	Acquisition	
В	Bunched	
D	Distribution	
Н	Price Variation Transaction	
М	Nasdaq Official Close Price (NOCP)	

			Р	Prior Reference Price
			Q	Nasdaq Official Opening Price (NOOP)
			S	Split Trade
			V	Contingent Trade
			W	Average Price Trade ¹
			Х	Cross Trade
			О	Odd lot execution
			х	Odd Lot Cross execution
			<space></space>	Not applicable
Consolidated Volume	cosolidatedVolume	long	the consolidate trade message	volume for the Issue Symbol as reported on ated market data feed at the time that the ge was generated. See Appendix A for and dissemination information for this data

```
"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"
  },
   "name": "cosolidatedVolume",
   "type": "long"
Sample:
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "T",
 "marketCenter": "Q",
 "symbol": "ZVZZT",
 "securityClass": "Q",
 "controlNumber": "12345",
 "price": 101.12,
 "size": 500,
 "saleCondition": "@4LB",
 "cosolidatedVolume": 25542
```

Long Form Trade Report for Non-NextShares:

The following message is used to relay Nasdaq execution system and TRF trade transactions that are reported for the current business day, for long form trades exceeding the upper limit of a 4-byte price.

Please note that Nasdaq only reports one-side of a trade execution on the Nasdaq Last Sale (NLS Plus) feed and other data feed products. See Appendix B for a description of each sale condition modifier.

Field	Name	Туре	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	t = Trade Report		
Originating Market Center Identifier	marketCenter	string	Denotes the Nasdaq market system that generated trade report message. The allowable values are:		
			Code	Value	
			Q	The Nasdaq Stock Market	
			L	Nasdaq/FINRA Trade Reporting Facility (TRF) Cartaret	
			2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago	
			В	Nasdaq BX (BX)	
			Х	Nasdaq PSX (PSX)	
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 C.		
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are:		

			Code	Value		
			Q	Nasda	q	
			N	NYSE		
			А	NYSE /	American	
			Р	NYSE /	Arca	
			Z	BATS		
			V	Invest	ors' Exchange, LLC	
Trade Control Number	controlNumber	string			urce's internal control number ass	sociated
			the sou	rce syste nber is i	t the Trade Control Number is spe em reflected in the Market Center used as a key field for trade cancel ctions.	ID field.
Trade Price	price	long	The price associated with the trade transaction being reported. Refer to Data Types for field processing NLS Plus.			
Trade Size	size	Int	Indicates the reported number of shares on the trade transaction.			
Sale Condition Modifier	saleCondition	string	Sale cor below.	ndition n	nodifier consists of four levels as d	efined
			Level 1 Used fo are: Allowab		nent Type information. Allowable s are:	values
			Code		Value	
			@		Regular Settlement	
			С		Cash Settlement	
			N		Next Day Settlement	
			R		Seller Settlement	
			Level 2			

Used for <u>SEC Regulation NMS</u> Trade Through Exemption Codes. Allowable values are:

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

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

Code	Value
Т	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></space>	Not applicable

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

Code	Value
А	Acquisition
В	Bunched
D	Distribution
Н	Price Variation Transaction
М	Nasdaq Official Close Price (NOCP)

			Р	Prior Reference Price
		Q	Nasdaq Official Opening Price (NOOP)	
			S	Split Trade
			V	Contingent Trade
			W	Average Price Trade ¹
			Х	Cross Trade
			О	Odd lot execution
			х	Odd Lot Cross execution
			<space></space>	Not applicable
Consolidated Volume	cosolidatedVolume	long	the consolida trade messag	rolume for the Issue Symbol as reported on ted market data feed at the time that the ewas generated. See Appendix A for and dissemination information for this data

```
"type": "record",
"name": "SeqTradeReportLongMessage",
"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": "long"
 },
   "name": "size",
   "type": "int"
   "name": "saleCondition",
   "type": "string"
 },
   "name": "cosolidatedVolume",
   "type": "long"
Sample:
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "t",
 "marketCenter": "Q",
 "symbol": "ZVZZT",
 "securityClass": "Q",
 "controlNumber": "12345",
 "price": 101.12,
 "size": 500,
 "saleCondition": "@4LB",
 "cosolidatedVolume": 25542
```

Trade Report for NextShares:

The following message is used to relay Nasdaq execution system and TRF trade transactions that are reported for the current business day. Please note that Nasdaq only reports one-side of a trade execution on the Nasdaq Last Sale (NLS Plus) feed and other data feed products. See Appendix B for a description of each sale condition modifier.

Field	Name	Туре	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	M = Trade Report		
Originating Market Center Identifier	marketCenter	string	Denotes the Nasdaq market system that generated the trade report message. The allowable values are:		
			Code Value		
			Q The Nasdaq Stock Market		
			L Nasdaq/FINRA Trade Reporting Facility (TRF) Cartaret		
			2 Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago		
			B Nasdaq BX (BX)		
			X Nasdaq PSX (PSX)		
NextShares Symbol	symbol	string	Denotes the NextShares symbol for which the trade report is being generated.		
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are:		

			Code		Value	
			Nasdaq		Q	
Trade Control Number Proxy Price Trade Size	controlNumber price size	string Int	Please note the source s This numbe and trade co	en trade transact that the Trade C system reflected r is used as a key prrections. e reported numb	al control number as tion. ontrol Number is spe in the Market Center field for trade cance per of shares on the toper of shares on the to	ecific to ID field. Ilations rade
NAV Offset Amount	navPremium	int		set that should back that should be set that should	oe applied to the Pros (+/-) field.	ky Price.
Modifier			Level 1 Used for Set are: Allowable va		formation. Allowable	values
			Code	Value		
			@	Regular Set	tlement	
			С	Cash Settle	ment	
			N	Next Day Se	ettlement	
			R	Seller Settle	ement	
				C Regulation NM wable values are:	<u>S</u> Trade Through Exe	mption
			Code	Value		
			F	Intermarket	t Sweep	
			0	Opening Pri	int	
			4	Derivative P	Priced	
			5	Re-Opening	Print	

6	Closing Print
7	Qualified Contingent Trade (QCT)
<space></space>	Not applicable

Level 3

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

Code	Value
Т	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></space>	Not applicable

Level 4

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

Code	Value
Α	Acquisition
В	Bunched
D	Distribution
Н	Price Variation Transaction
М	Nasdaq Official Close Price (NOCP)
Р	Prior Reference Price
Q	Nasdaq Official Opening Price (NOOP)
S	Split Trade
V	Contingent Trade
W	Average Price Trade ²

			X o x <space></space>	Cross Trade Odd lot execution Odd Lot Cross execution Not applicable
Consolidated Volume	cosolidatedVolume	long	the consolidate trade message	olume for the Issue Symbol as reported on ed market data feed at the time that the was generated. See Appendix A for d dissemination information for this data

```
"type": "record",
"name": "SeqTradeReportETMFMessage",
"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": "navPremium",
   "type": "int"
 },
   "name": "saleCondition",
   "type": "string"
   "name": "cosolidatedVolume",
   "type": "long"
}
Sample:
 "SoupPartition": 0,
"SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "M",
"marketCenter": "Q",
 "symbol": "ZVZZT",
 "securityClass": "Q",
"controlNumber": "12345",
 "price": 101.12,
 "size": 500,
"navPremium": 2,
"saleCondition": "@4LB",
 "cosolidatedVolume": 25542
```

Trade Cancel/Error for Non-NextShares Trades:

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

Field	Name	Туре	Description	
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.	
SOUP Sequence	SoupSequence	long	Auto-increm	enting 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 Ca	ncel/Error
Originating Market Center Identifier	marketCenter	string	Denotes the Nasdaq market system that generated t trade report and cancel/error message. The allowabl values are:	
			Code	Value
			Q	Nasdaq
			L	Nasdaq/FINRA TRF
			2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago
			В	вх
			Х	PSX
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 C.	
Security Class	securityClass	string	Indicates the Allowable va	e primary listing market for the issue. Ilues are:

			Code	Value	
			Q	Nasdaq	
			N	NYSE	
			А	NYSE American	
			Р	NYSE Arca	
			Z	BATS	
			V	Investors' Exchange, LLC	
Original Trade Control Number	origControlNumber	string	Indicates the source's internal control numbers with the given trade transaction.		ciated
				e that the Trade Control Number is specif e system reflected in the Market Center ID	
Original Trade Price	origPrice	int		price for the original trade transaction. Re pes for field processing NLS Plus.	efer
Original Trade Size	origSize	int	Reported i	number of shares for original trade transa	iction.
Original Sale Condition Modifier	origSaleCondition	string		e sale condition modifiers as reported on ade transaction.	the
Consolidated Volume	cosolidatedVolume	long	the consol trade cand	ne volume for the Issue Symbol as reported idated market data feed at the time that the rel/error message was generated. See A for calculation and dissemination information to the element	the

```
{
"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"
},
"name": "cosolidatedVolume", "type": "long"
}
```

Sample:

```
{
    "SoupPartition": 0,
    "SoupSequence": 123,
    "trackingID": 7238625218217,
    "msgType": "X",
    "marketCenter": "Q",
    "symbol": "ZVZZT",
    "securityClass": "Q",
    "origControlNumber": "12345",
    "origPrice": 101.12,
    "origSize": 500,
    "origSaleCondition": "@4LB",
    "cosolidatedVolume": 25542
}
```

Long Form Trade Cancel/Error for Non-NextShares Trades:

The following message is used in the event that a Nasdaq trade transaction, exceeding the upper limit of a 4-byte price, is cancelled on the same business day that it is reported.

Field	Name	Туре	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	tra		Nasdaq market system that generated and cancel/error message. The allowal	
				Code	Value	
				Q	Nasdaq	
				L	Nasdaq/FINRA TRF	
				2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago	
				В	BX	
				X	PSX	
Security Class	securityClass	string	Apı	pendix C.	n Nasdaq symbology, please refer to primary listing market for the issue. lues are:	
				Code	Value	
				Q	Nasdaq	
				N	NYSE	
				Α	NYSE American	
				Р	NYSE Arca	
				Z	BATS	
	•		1 1			

Original Trade Control Number	origControlNumber	string	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.
Original Trade Price	origPrice	long	Reported price for the original trade transaction. Refer to Data Types for field processing NLS Plus.
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.
Consolidated Volume	cosolidatedVolume	long	Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element

```
{
"type": "record",
"name": "SeqTradeCancelLong",
{
   "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": "long"
},
"name": "origSize",
"type": "int"
},
"name": "origSaleCondition", "type": "string"
},
"name": "cosolidatedVolume", "type": "long"
```

Sample:

```
{
    "SoupPartition": 0,
    "SoupSequence": 123,
    "trackingID": 7238625218217,
    "msgType": "x",
    "marketCenter": "Q",
    "symbol": "ZVZZT",
    "securityClass": "Q",
    "origControlNumber": "12345",
    "origPrice": 101.12,
    "origSize": 500,
    "origSaleCondition": "@4LB",
    "cosolidatedVolume": 25542
}
```

Trade Cancel/Error for NextShares Trades:

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

Field	Name	Туре	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	O = Trade Cancel/Error	
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	
			Q Nasdaq	

Issue Symbol	symbol	string	L Nasdaq/FINRA TRF 2 Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago 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 C.
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are: Code Value Q Nasdaq
Original Trade Control Number	origControlNumber	string	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.
Original Proxy Price	origPrice	int	Reported price for the original trade transaction.
Original NAV Offset Amount	origNavPrice	int	Original NAV offset originally applied to the Proxy Price. Please note: This is a signed (+/-) field.
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.
Consolidated Volume	cosolidatedVolume	long	Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element

```
"type": "record",
"name": "SeqTradeCancelETMFMessage",
"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": "origNavPrice",
  "type": "int"
  "name": "origSize",
  "type": "int"
 },
```

```
"name": "origSaleCondition",
   "type": "string"
   "name": "cosolidatedVolume",
   "type": "long"
]
}
Sample:
"SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "O",
 "marketCenter": "Q",
 "symbol": "ZVZZT",
 "securityClass": "Q",
 "origControlNumber": "12345",
 "origPrice": 101.12,
"origNavPrice": 2,
 "origSize": 500,
 "origSaleCondition": "@4LB",
 "cosolidatedVolume": 25542
}
```

Trade Correction for Non-NextShares Trades:

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

Field	Name	Туре	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

			com.nasc	rackingID class in the daq.ncdsclient.internal.utils ithin the SDK.
Message Type	msgType	string	C = Trade	Correction
Originating Market mark Center Identifier	marketCenter	string	the trade r	ne Nasdaq market system that generated report and cancel/error message. The values are:
			Code	Value
			Q	Nasdaq
			L	Nasdaq/FINRA TRF
			2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago
			В	BX
			Х	PSX
			security to	r which the trade report is being
Security Class	securityClass	string	generated refer to Ap	. For details on Nasdaq symbology, pleas
Security Class	securityClass	string	generated refer to Ap	. For details on Nasdaq symbology, pleas opendix C. he primary listing market for the issue.
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable	. For details on Nasdaq symbology, pleas opendix C. he primary listing market for the issue. values are:
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable Code	. For details on Nasdaq symbology, pleas opendix C. he primary listing market for the issue. values are: Value
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable Code Q	. For details on Nasdaq symbology, pleasopendix C. he primary listing market for the issue. values are: Value Nasdaq
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable Code Q N	. For details on Nasdaq symbology, pleasopendix C. he primary listing market for the issue. values are: Value Nasdaq NYSE
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable Code Q N A	. For details on Nasdaq symbology, pleasopendix C. he primary listing market for the issue. values are: Value Nasdaq NYSE NYSE American
Security Class	securityClass	string	generated refer to Ap Indicates t Allowable Code Q N A	. For details on Nasdaq symbology, pleasopendix C. he primary listing market for the issue. values are: Value Nasdaq NYSE NYSE American NYSE Arca

			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 NLS Plus.
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 NLS Plus.
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.
Consolidated Volume	cosolidatedVolume	long	Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element

```
{
  "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"
   "name": "cosolidatedVolume",
   "type": "long"
]
}
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",
 "cosolidatedVolume": 25542
}
```

Long Form Trade Correction for Non-NextShares Trades:

The following message is used in the event that a Nasdaq trade transaction is corrected on the same business day that it is reported. Please note this is only for trades that have exceeded the upper limit of a 4-byte price.

Field	Name	Туре	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.utipackage within the SDK.	
Message Type	msgType	string	c = Trade (Correction
Originating Market Center Identifier	marketCenter	string		ne Nasdaq market system that generated eport and cancel/error message. The values are:
			Code	Value
			Q	Nasdaq
			L	Nasdaq/FINRA TRF
			2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago
			В	BX
			Х	PSX
			security fo	ne Nasdaq-assigned issue symbol of the r which the trade report is being
Security Class	securityClass	string	security fo generated refer to Ap	r which the trade report is being . For details on Nasdaq symbology, pleas
Security Class	securityClass	string	security fo generated refer to Ap	r which the trade report is being . For details on Nasdaq symbology, pleas pendix C. he primary listing market for the issue.
Security Class	securityClass	string	security fo generated refer to Ap Indicates t Allowable	r which the trade report is being . For details on Nasdaq symbology, pleas pendix C. he primary listing market for the issue. values are:
Security Class	securityClass	string	security fo generated refer to Ap Indicates t Allowable	r which the trade report is being . For details on Nasdaq symbology, pleas opendix C. the primary listing market for the issue. values are:
Security Class	securityClass	string	security for generated refer to Applicates to Allowable Code Q	r which the trade report is being . For details on Nasdaq symbology, pleas opendix C. the primary listing market for the issue. values are: Value Nasdaq
Security Class	securityClass	string	security for generated refer to Applicates to Allowable Code Q N	r which the trade report is being . For details on Nasdaq symbology, please pendix C. the primary listing market for the issue. values are: Value Nasdaq NYSE
Security Class	securityClass	string	security for generated refer to Applicates to Allowable Code Q N A	r which the trade report is being . For details on Nasdaq symbology, please pendix C. the primary listing market for the issue. values are: Value Nasdaq NYSE NYSE American
Security Class	securityClass	string	security for generated refer to Appear to Appe	r which the trade report is being . For details on Nasdaq symbology, please pendix C. the primary listing market for the issue. values are: Value Nasdaq NYSE NYSE American NYSE Arca

			Please note that the Trade Control Number is specific to the source system reflected in the Market Center ID field.
Original Trade Price	origPrice	long	Reported price for the original trade transaction. Refer to Data Types for field processing NLS Plus.
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	long	Indicates the price for the corrected trade transaction. Refer to Data Types for field processing NLS Plus.
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.
Consolidated Volume	cosolidated Volume	long	Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element

```
{
  "type": "record",
  "name": "SeqTradeCorrectionLong",
  "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": "long"
 "name": "origSize",
 "type": "int"
 "name": "origSaleCondition",
 "type": "string"
 "name": "correctedControlNumber",
 "type": "string"
},
 "name": "correctedPrice",
 "type": "long"
},
 "name": "correctedSize",
 "type": "int"
},
```

```
"name": "correctedSaleCondition",
   "type": "string"
   "name": "cosolidatedVolume",
   "type": "long"
]
}
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",
 "cosolidatedVolume": 25542
}
```

Trade Correction for NextShares Trades:

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

Field	Name	Туре	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	Z = Trade (Cancel/Error
Market Center Identifier	marketCenter	string		ne Nasdaq market system that generated report and cancel/error message. The values are:
			Code	Value
			Q	Nasdaq
			L	Nasdaq/FINRA TRF
			2	Nasdaq/FINRA Trade Reporting Facility (TRF) Chicago
Security Class	securityClass	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 C. Indicates the primary listing market for the issue. Allowable values are:	
			Code	Value
			Q	Nasdaq
Original Trade Control Number	origControlNumber	string	Indicates the source's internal control number associated with the given trade transaction. Please note that the Trade Control Number is specifito the source system reflected in the Market Center ID field.	
Original Proxy Price	origPrice	int	Reported price for the original trade transaction.	
Original NAV Offset Amount	origNavPrice	int	Original NAV offset originally applied to the Proxy Price.	
			Please not	e: This is a signed (+/-) field.

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 Market Center ID field.
Corrected Proxy Price	correctedPrice	int	Indicates the price for the corrected trade transaction in proxy price.
Corrected NAV Offset Amount	correctedNavPremium	int	Indicates the corrected NAV offset originally applied to the Proxy Price. Please note: This is a signed (+/-) field.
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.
Consolidated Volume	cosolidatedVolume	long	Reflects the volume for the Issue Symbol as reported on the consolidated market data feed at the time that the trade cancel/error message was generated. See Appendix A for calculation and dissemination information for this data element

```
{
  "type": "record",
  "name": "SeqTradeCorrectionETMFMessage",
  "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": "origNavPremium",
 "type": "int"
 "name": "origSize",
 "type": "int"
 "name": "origSaleCondition",
 "type": "string"
 "name": "correctedControlNumber",
 "type": "string"
},
 "name": "correctedPrice",
 "type": "int"
},
 "name": "correctedNavPremium",
 "type": "int"
},
```

```
"name": "correctedSize",
   "type": "int"
   "name": "correctedSaleCondition",
   "type": "string"
   "name": "cosolidatedVolume",
   "type": "long"
 }
]
}
Sample:
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "Z",
 "symbol": "ZVZZT"
 "securityClass": "Q",
 "origControlNumber": "12345",
 "origPrice": 101.12,
 "origNavPrice": 2,
 "origSize": 500,
 "origSaleCondition": "@4LB",
 "correctedControlNumber": "67890",
 "correctedPrice": 100.45,
 "origNavPrice": 2,
 "correctedSize": 475,
 "correctedSaleCondition": "@FUD",
 "cosolidatedVolume": 25542
```

Administrative Messages

Stock Trading Action:

Nasdaq uses this administrative message to indicate the current trading status of a security to the trading community. Please note that this message originates from the Nasdaq market center system.

Prior to the start of system hours, Nasdaq will send out a Trading Action spin. In the spin, Nasdaq will send out a Stock Trading Action message with the "T" (Trading Resumption) for all Nasdaq- and other exchange-listed securities that are eligible for trading at the start of the system hours. If a security is absent from the pre-opening Trading Action spin, firms should assume that the security is being treated as halted in the Nasdaq platform at the start of the system hours. Please note that securities may be halted in the Nasdaq system for regulatory or operational reasons.

After the start of system hours, Nasdaq will use the Trading Action message to relay changes in trading status for an individual security. Messages will be sent when a stock is:

- Halted
- Paused*
- Released for quotation
- Released for trading

Field	Name	Туре	Description		
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.		
SOUP Sequence	SoupSequence	long	Auto-increme	nting 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		
				q.ncdsclient.internal.utils	
Message Type	msgType	string	H = Trading A	ction	
Reserved	filler	string	This field is reserved for future use. In the initial release, this field will be space filled.		
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the trading action message is being generated. For details on Nasdaq symbology, please refer to Appendix C.		
Security Class	market	string	Indicates the primary listing market for the issue. Allowable values are:		
			Code	Value	
			Q	Nasdaq	
			N	NYSE	
			А	NYSE American	
			P NYSE Arca		
			Z	BATS	
			V	Investors' Exchange, LLC	

^{*} 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.

Current Trading State	Current Trading State tradingState string		tring Reflects the current trading state for allowable values are:	
			Code	Value
			Н	Halt in effect (Cross all U.S. equity exchanges)
			P	Paused across all U.S. equity markets / SROs (Nasdaq-listed securities only)
			Q	Quote only period in effect (Cross all U.S. equity changes)
			Т	Trading on Nasdaq market
Reason	reason	string		Market Ops or Market Watch code for the change. Refer to Appendix C for current

```
"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",
 "filler": "",
 "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.

Field	Name	Туре	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	R = Stock Directory Message
Reserved	filler	string	This field is reserved for future use. In the initial release, this field will be space filled.
Stock	symbol	string	Nasdaq-assigned indicator for issue for which the trading action message is being generated. For details on Nasdaq symbology, please refer to Appendix C.
Market Category	marketClass	string	Indicates Listing market or listing market tier for the issue
			Code Definition
			Nasdaq-Listed Instruments
			Q Nasdaq Global Select Market SM
			G Nasdaq Global Market SM
			S Nasdaq Capital Market®
			Non-Nasdaq-Listed Instruments
			N New York Stock Exchange (NYSE)
			A NYSE American
			P NYSE Arca
			Z BATS Z Exchange
			V Investors' Exchange, LLC
			<pre><space> Not available</space></pre>
Financial Status Indicator	fsi	string	For Nasdaq-listed issues, this field indicates when a firm is not in compliance with Nasdaq continued listing requirements.
			Code Definition
			Nasdaq-Listed Instruments
			D Deficient
			E Delinquent
			Q Bankrupt
			S Suspended
			G Deficient and Bankrupt
			H Deficient and Delinquent
			J Delinquent and Bankrupt

			K Deficient, Delinquent and Bankrupt C Creations and/or Redemptions Suspended for Exchange Traded Product N Normal (Default): Issuer Is NOT Deficient, Delinquent, or Bankrupt Non-Nasdaq-Listed Instruments <space> Not available. Firms should refer to SIAC feeds for code if needed.</space>
Round Lot Size	roundLotSize	int	Denotes the number of shares that represent a round lot for the issue
Round Lots Only	roundLotOnly	string	Indicates if Nasdaq system limits order entry for issue
			Code Definition
			Y Nasdaq system only accepts round lots orders for this security.
			N Nasdaq system does not have any order size restrictions for this security. Odd and mixed lot orders are allowed.
Issue Classification	issueClass	string	Identifies the security class for the issue as assigned by Nasdaq. See Appendix for allowable values.
Issue Sub-Type	issueSubtype	string	Identifies the security sub-type for the issue as assigned by Nasdaq. See Appendix for allowable values.
Authenticity	authenticity	string	Denotes if an issue or quoting participant record is set- up in Nasdaq systems in a live/production, test, or demo state. Please note that firms should only show live issues and quoting participants on public quotation displays. Code Definition
			P Live/Production T Test
Short Sale Threshold Indicator	shortThreshold	string	Indicates if a security is subject to mandatory close-out of short sales under SEC Rule 203(b)(3).

			Code	Definition
			Y	Issue is restricted under SEC Rule 203(b)(3)
			N	Issue is not restricted
			<space></space>	Threshold Indicator not
				available
IPO Flag	ipo	string	This field is i	the Nasdaq security is set up for IPO release. intended to help Nasdaq market participant y with FINRA Rule 5131(b).
			Code	Definition
				ted Instruments
			Υ	Nasdaq listed instrument is
				set up as a new IPO security
			N	Nasdaq listed instrument is
				not set up as a new IPO
				security
			Non-Nasda	nq-Listed Instruments
			<space></space>	Not available
Price Tier				Darameter is to be used for the instrument. Definition
			1	Tier 1 NMS Stocks and
			-	select ETPs
			2	Tier 2 NMS Stocks
			<space></space>	Not applicable
ETP Flag	etf	string	Indicates wh product (ETI	nether the security is an exchange traded P):
			Code	Definition
			Υ	Instrument is an ETP
			N	Instrument is not an ETP
			<space></space>	Not available
ETP Leverage Factor	etfFactor	int	underlying in increases by	ntegral relationship of the ETP to the ndex. Example: If the underlying Index a value of 1 and the ETP's Leverage factor is the ETF will increase/decrease (see Inverse)
				ctor is rounded to the nearest integer below, e factor 1 would represent leverage factors of

			purposes.	for LULD Tier I price band calculation ctor currently not supported for Non- P's.
Inverse Indicator	inverseETF	string	Indicates the dire	ectional relationship between the ETP ndex.
			Code	Definition
			Υ	ETP is an Inverse ETP
			N	ETP is not an Inverse ETP
			-	Leverage Factor of 3 and an Inverse ates the ETP will decrease by a value of
Bloomberg ID	compositeId	string	The composite II security.	O that Bloomberg has assigned to the

```
"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"
   ]
  },
   "name": "compositeId",
   "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",
"compositeId": "BBG123BLYYV2"
}
```

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.

Field	Name	Туре	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 C.

Reg SHO Action	regSHOAction	string	status for t	e Reg SHO Short Sale Price Test Restriction he issue at the time of the message ion. Allowable values are:
			Code	Definition
			0	No price test in place
			1	Reg SHO Short Sale Price
				Test Restriction in effect
				due to an intra-day price
				drop in security
			2	Reg SHO Short Sale Price
				Test Restriction remains in
				effect

```
"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"
}
```

Adjusted Closing Price:

At the start of each trading day, Nasdaq disseminates the adjusted closing price for all active symbols in the Nasdaq system.

For Nasdaq-listed securities the Nasdaq Official Closing Price will be used to calculate the adjusted close. For non-Nasdaq securities, the consolidated close will be used to calculate adjusted close.

Note: Nasdaq will not support the adjusted closing price message format for NextShares.

Field	Name	Туре	Description		
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.		
SOUP Sequence	SoupSequence	long	Auto-incremen	iting message sequence number.	
Tracking Number	trackingID	long	bytesbytesmidnig See the Track	kingID class in the ncdsclient.internal.utils	
Message Type	msgType	string	G = Adjusted Closing Price		
Issue Symbol	symbol	string	sale restriction	ed indicator for issue for which the short indicator message is being generated. For daq symbology, please refer to Appendix C.	
Security Class	securityClass	string	Indicates the primary listing market for the issue. Allowable values are:		
			Code	Value	
			Q	Nasdaq	

			N A P Z V	NYSE NYSE American NYSE Arca BATS Investors' Exchange, LLC
Adjusted Closing Price	adjClosingPrice	int	for any corpor	evious trading day's official closing price adjusted applicable corporate actions. If there were no ate actions for a security, the previous day's official will be disseminated.

```
"type": "record",
"name": "SeqAdjClosingPrice", "fields": [
  "name": "SoupPartition",
  "type": "int"
  "name": "SoupSequence",
  "type": "long"
 },
  "name": "trackingID",
  "type": "long"
  "name": "msgType",
  "type": "string"
  "name": "symbol",
  "type": "string"
  "name": "securityClass",
  "type": "string"
  "name": "adjClosingPrice",
  "type": "int"
```

```
}

]

Sample:

{
    "SoupPartition": 0,
    "SoupSequence": 123,
    "trackingID": 7238625218217,
    "msgType": "G",
    "symbol": "ZVZZT",
    "securityClass": "Q",
    "adjClosingPrice": 102.09
}
```

Long Form Adjusted Closing Price:

At the start of each trading day, Nasdaq disseminates the adjusted closing price for all active symbols in the Nasdaq system.

For Nasdaq-listed securities the Nasdaq Official Closing Price will be used to calculate the adjusted close. For non-Nasdaq securities, the consolidated close will be used to calculate adjusted close.

Note: Nasdaq will not support the adjusted closing price message format for NextShares. Please note this is only for securities that have exceeded the upper limit of a 4-byte price.

Field	Name	Туре	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	g = Adjusted Closing Price
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 C.

Security Class	securityClass	string	Indicates the Allowable val	primary listing market for the issue. ues are:
			Code	Value
			Q	Nasdaq
			N	NYSE
			Α	NYSE American
			Р	NYSE Arca
			Z	BATS
			V	Investors' Exchange, LLC
Adjusted Closing Price	adjClosingPrice	long	adjusted for a there were no corporate act	trading day's official closing price any applicable corporate actions. If o close for a security, the previous close will be disseminated.

```
"type": "record",
"name": "SeqAdjClosingPriceLong",
"fields": [
  "name": "SoupPartition",
  "type": "int"
  "name": "SoupSequence",
  "type": "long"
 },
  "name": "trackingID",
  "type": "long"
  "name": "msgType",
"type": "string"
  "name": "symbol",
  "type": "string"
  "name": "securityClass",
  "type": "string"
 },
```

```
{
  "name": "adjClosingPrice",
  "type": "long"
}
}

Sample:
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "g",
  "symbol": "ZVZZT",
  "securityClass": "Q",
  "adjClosingPrice": 102.09
}
```

End of Day Trade Summary:

At the close of each trading day, Nasdaq will disseminate the following end of day trade summary messages for all active Nasdaq- and non-Nasdaq-listed securities. Nasdaq disseminates this message to ensure that NLS Plus subscribers have the correct daily volume information for all issues.

Field	Name	Туре	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	J = End of Day Trade Summary
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the directory message is being generated. For details on Nasdaq symbology, please refer to Appendix C.
Market Category	securityClass	string	Denotes the listing market for the issue. The allowable values are:
			Code Value

			Q N A P	Nasdaq NYSE NYSE American NYSE Arca
			Z V	Investors' Exchange, LLC
Consolidated High Price	highPrice	int		ice of any high/low eligible transaction on Creceived on the trading day.
Consolidated Low Price	lowPrice	int	1	ce of any high/low eligible transaction on Creceived on the trading day.
Consolidated Closing Price	closePrice	int	The final last s received on th	cale eligible transaction on Tapes A, B or C e trading day.
Consolidated Volume	cosolidatedVolume	long	Reflects the to consolidated r	ital volume for the issue reported at the narket level.
Consolidated Open Price	openPrice	int		ale eligible transactions received on the r Tapes A, B or C.

```
"type": "string"
   "name": "symbol",
   "type": "string"
   "name": "securityClass",
   "type": "string"
   "name": "highPrice",
   "type": "int"
 },
   "name": "lowPrice",
   "type": "int"
   "name": "closePrice",
   "type": "int"
 },
   "name": "cosolidatedVolume",
   "type": "long"
 },
   "name": "openPrice",
   "type": "int"
Sample:
"SoupPartition": 0,
"SoupSequence": 123,
"trackingID": 7238625218217,
"msgType": "J",
"symbol": "ZVZZT",
"highPrice": 103.11,
"lowPrice": 102.89,
"closePrice": 103.04,
"cosolidatedVolume": 4527985,
"openPrice": 103.87
```

}

}

Long Form End of Day Trade Summary:

At the close of each trading day, Nasdaq will disseminate the following end of day trade summary messages for all active Nasdaq- and non-Nasdaq-listed securities. Nasdaq disseminates this message to ensure that NLS Plus subscribers have the correct daily volume information for all issues. This message only applies to securities that have exceeded the upper limit of a 4-byte price.

Field	Name	Туре	Description	1
SOUP Partition	SoupPartition	Int	Message partition identifier. Ignore.	
SOUP Sequence	SoupSequence	long	Auto-increr	menting 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		Day Trade Summary
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the directory message is being generated. For details on Nasdaq symbology, please refer to Appendix C.	
Market Category	securityClass	string	Denotes the listing market for the issue. The allowab values are:	
			Code	Value
			Q	Nasdaq
			N	NYSE
			А	NYSE American
			Р	NYSE Arca
			Z	BATS
			V	Investors' Exchange, LLC
Consolidated High Price	highPrice	long	The highest price of any high/low eligible transaction on Tapes A, B or C received on the trading day.	
Consolidated Low Price	lowPrice	long	The lowest price of any high/low eligible transaction on Tapes A, B or C received on the trading day.	
Consolidated Closing Price	closePrice	long		st sale eligible transaction on Tapes A, B or on the trading day.

Consolidated Volume	cosolidated Volume	long	Reflects the total volume for the issue reported at the consolidated market level.
Consolidated Open Price	openPrice	long	The first last sale eligible transactions received on the Trading day for Tapes A, B or C.

```
"type": "record",
"name": "SeqEndOfDayTradeSummaryLong",
"fields": [
  "name": "SoupPartition",
  "type": "int"
  "name": "SoupSequence",
  "type": "long"
  "name": "trackingID",
  "type": "long"
  "name": "msgType",
  "type": "string"
  "name": "symbol",
  "type": "string"
  "name": "securityClass",
  "type": "string"
  "name": "highPrice",
  "type": " long"
  "name": "lowPrice",
  "type": " long"
  "name": "closePrice",
  "type": " long"
  "name": "cosolidatedVolume",
  "type": "long"
},
```

```
"name": "openPrice",
  "type": "long"
}

Sample:
{
  "SoupPartition": 0,
  "SoupSequence": 123,
  "trackingID": 7238625218217,
  "msgType": "j",
  "symbol": "ZVZZT",
  "highPrice": 103.11,
  "lowPrice": 102.89,
  "closePrice": 103.04,
  "cosolidatedVolume": 4527985,
  "openPrice": 103.87
}
```

End of Day Trade Summary – NextShares:

At the close of each trading day, Nasdaq will disseminate the following end of day trade summary messages for all active Nasdaq listed NextShares securities. Nasdaq disseminates this message to ensure that NLS Plus subscribers have the correct daily volume information for all issues.

Field	Name	Туре	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	N = End of Day Trade Summary
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the directory message is being generated. For details on Nasdaq symbology, please refer to Appendix C.

Market Category	securityClass	string	Denotes the listing market for the issue. The allowable values are:		
			Code Value		
			Q Nasdaq		
Consolidated High Price	highPrice	int	The highest price of any high/low eligible transaction on Tapes A, B or C received on the trading day. In Proxy Price format.		
NAV Offset Amount - High	highPriceNAV	int	The NAV offset that should be applied to the Proxy Price. Please note: This is a signed (+/-) field.		
Consolidated Low Price	lowPrice	int	The lowest price of any high/low eligible transaction on Tapes A, B or C received on the trading day. In Proxy Price format.		
NAV Offset Amount - Low	lowPriceNAV	int	The NAV offset that should be applied to the Proxy Price. Please note: This is a signed (+/-) field.		
Consolidated Closing Price	closePrice	int	The final last sale eligible transaction on Tapes A, B or C received on the trading day. In Proxy Price format.		
NAV Offset Amount - Close	closePriceNAV	int	The NAV offset that should be applied to the Proxy Price. Please note: This is a signed (+/-) field.		
Consolidated Volume	cosolidatedVolume	long	Reflects the total volume for the issue reported at the consolidated market level.		
Consolidated Open Price	openPrice	int	The first last sale eligible transactions received on the Trading day for Tapes A, B or C. In Proxy Price format.		
NAV Offset Amount - Open	openPriceNAV	int	The NAV offset that should be applied to the Proxy Price.		
			Please note: This is a signed (+/-) field.		

```
{
  "type": "record",
  "name": "SeqEndOfDayTradeSummaryETMF",
  "fields": [
  {
      "name": "SoupPartition",
```

```
"type": "int"
 "name": "SoupSequence",
 "type": "long"
 "name": "trackingID",
 "type": "long"
 "name": "msgType",
 "type": "string"
 "name": "symbol",
 "type": "string"
 "name": "securityClass",
 "type": "string"
 "name": "highPrice",
 "type": "int"
 "name": "highPriceNAV",
 "type": "int"
 "name": "lowPrice",
 "type": "int"
 "name": "lowPriceNAV",
 "type": "int"
},
 "name": "closePrice",
 "type": "int"
 "name": "closePriceNAV",
 "type": "int"
 "name": "cosolidatedVolume",
 "type": "long"
 "name": "openPrice",
 "type": "int"
},
```

```
"name": " openPriceNAV",
   "type": "int"
 }
Sample:
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "N",
 "symbol": "ZVZZT",
 "highPrice": 103.11,
 " highPriceNAV": 1
 "lowPrice": 102.89,
" lowPriceNAV": 1,
 "closePrice": 103.04,
 " closePriceNAV": 1,
 "cosolidatedVolume": 4527985,
 "openPrice": 103.02,
 " openPriceNAV": 1
}
```

IPO Information:

Nasdaq will disseminate the following IPO messages from the UTP Level 1 feeds for Initial Public Offerings for all Nasdaq-listed securities. Please note that NLS Plus filters the General Administrative Messages from the UTP feeds for IPO specific text as the General Administrative Messages are free-form text and not used solely for IPO messages only.

Field	Name	Туре	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 		
Managa Taura		-4	package within the SDK.		
Message Type	msgType	string	I = IPO Message		
Issue Symbol	symbol	string	Nasdaq-assigned indicator for issue for which the trading action message is being generated. For details on Nasdaq symbology, please refer to Appendix C.		
Security Class	marketCenter	string	Indicates the primary listing market for the issue. Allowable values are:		
			Code	Value	
			Q	Nasdaq	
			N	NYSE	
			Α	NYSE American	
			Р	NYSE Arca	
			Z	BATS	
			V	Investors' Exchange, LLC	
Reference For Net Change	refForNetChange	string	Reflects the current trading state for the issue. The allowable values are:		
			Code	Value	
			F	First Trade Price	

			W	Underwriter Price
Reference Price	refPrice	int	Reference Price	

```
"type": "record",
"name": "SeqIPOMessage",
", "fields": [
  "name": "SoupPartition",
  "type": "int"
  "name": "SoupSequence",
  "type": "long"
  "name": "trackingID",
  "type": "long"
  "name": "msgType",
  "type": "string"
 },
  "name": "symbol",
  "type": "string"
  "name": "marketCenter",
  "type": "string"
 },
  "name": "refForNetChange",
  "type": "string"
  "name": "refPrice",
  "type": "int"
```

Sample

```
{
    "SoupPartition": 0,
    "SoupSequence": 123,
    "trackingID": 7238625218217,
    "msgType": "I",
    "symbol": "ZVZZT",
    "marketCenter": "Q",
    "refForNetChange": "F",
    "refPrice": 101.34
}
```

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	Туре	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.

```
{
"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	Туре	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

```
"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"
}
```

IPO Quoting Period Update:

Indicates the anticipated IPO quotation release time of a security.

Details:

Field	Name	Туре	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	K = IPO Quoting Period Update Message	
Stock	symbol	string	Denotes the security symbol for the issue in the Nasdaq execution system.	
IPO Quotation Release Time	releaseTime	int	execution system. Denotes the IPO release time, in seconds since midnight, for quotation to the nearest second. NOTE: If the quotation period is being canceled/postponed, we should state that 1. IPO Quotation Time will be set to 0 2. IPO Price will be set to 0	

IPO Quotation	releaseQualifier	string		
Release Qualifier	releasequalifier	301116	Code	Description
			A	Anticipated quotation release time This value would be used when Nasdaq Market Operations initially enters the IPO instrument for release.
			С	IPO release canceled/postponed This value would be used when Nasdaq Market Operations cancels or postpones the release of the IPO instrument.
IPO Price	ipoPrice	int	Denotes the IPO price to be used for intraday net change calculations. Prices are given in decimal format with 6 whole number places followed by 4 decimal digits. The whole number portion is padded on the left with spaces; the decimal portion is padded on the right with zeros. The decimal point is implied by position; it does not appear inside the price field.	

```
"type": "string"
  },
   "name": "releaseTime",
   "type": "int"
   "name": "releaseQualifier",
   "type": "string"
   "name": "ipoPrice",
   "type": "int"
]
}
Sample:
 "SoupPartition": 0,
 "SoupSequence": 123,
 "trackingID": 7238625218217,
 "msgType": "K",
 "symbol": "ZVZZT",
 "releaseTime": 34509843560,
 "releaseQualifier": "A",
 "ipoPrice": 15.00
```

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	Туре	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		H = Operation	onal Halt
Stock	symbol		Denotes the security symbol for the issue in the Nasdaq execution system	
Market Code	market			
			Code	Value
			Q	Nasdaq
			В	BX
			Х	PSX
Operational Halt	action			
Action			Code	Value
			Н	Operationally Halted on the identified Market
			Т	Operational Halt has been lifted and Trading resumed

```
{
  "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

Issue Price-Level Statistics

For messaging efficiencies, NLS Plus provides raw trade data for the Nasdaq trading venues. If needed, firms may create their own algorithms for issue- and market center-level price statistics. To help in the process, Nasdaq 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 Nasdaq cross-market displays, firms should use the time stamp field from the Trade Report message to determine the proper trade sequence order for last sale calculations as well as time and sales displays.

To facilitate a "Last Sale" calculation, NLS Plus includes the sale condition modifier. 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
@	Regular Settlement	Yes, if other levels do not overrule	Yes, if other levels do not overrule
С	Cash Settlement	No	No
N	Next Day Settlement	No	No
R	Seller Settlement	No	No

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

Code	Value	High/Low	Last Sale
F	Intermarket Sweep	Yes	Yes
0	Opening Print	Yes	Yes
4	Derivative Priced	Yes	No (except if first regular market trade of day)
5	Re-Opening Print	Yes	Yes
6	Closing Print	Yes	Yes
7	Qualified Contingent Trade (QCT)	No	No
<space></space>	Not applicable	See other levels	See other levels

Sale Condition – Level 3 indicates if the transaction was reported during regular market hours with a "sold" code or during the extended trading hours session. For the TRF system, the "sold" codes are used to indicate that a trade occurred during normal market hours but was reported more than 90 seconds after execution. Historically, only trades that occur during normal market hours and in proper sequence are included in the "last sale" calculation.

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

Sale Condition – Level 4 indicates special trading situations.

For the Nasdaq execution system, this sale condition level is used to denote when a trade record contains the Nasdaq Official Opening Price (NOOP) or Nasdaq Official Closing Price (NOCP) values. Since Nasdaq also reports the underlying cross execution transaction to the tape, the NOOP and NOCP report volume should 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, Nasdaq also observes special processing rules for the Prior Reference Price (P), Average Price (W), and Odd Lot Execution (o) codes.

Code	Value	High/Low	Last Sale
А	Acquisition	Yes	Yes
В	Bunched	Yes	Yes
D	Distribution	Yes	Yes
Н	Price Variation Trade	No	No
М	Nasdaq Official Close Price (NOCP)	Yes for Nasdaq market center only or Nasdaq system-wide displays No for BX, PSX or Nasdaq/ FINRA TRF	Yes for Nasdaq market center only or Nasdaq system-wide displays No for BX, PSX or Nasdaq/ FINRA TRF
		only displays	only displays
0	Odd lot execution ³	No	No
P	Prior Reference Price	Yes	No (except if first regular market trade of day)
Q	Nasdaq Official Opening Price (NOOP)	Yes for Nasdaq market center only or Nasdaq system-wide displays No for BX, PSX or Nasdaq/ FINRA TRF only displays	No
S	Split Trade	Yes	Yes
V	Contingent Trade	No	No

³ Please note that the consolidated trade feeds offered by the Nasdaq Security Information Processor (SIP) and the Securities Information Automation Corporation (SIAC) do not include odd lot execution data at this time. While Nasdaq OMX believes that odd lot executions should be included in volume statistics, a firm may choose to omit odd lot executions from the calculation if it needs volume numbers to match across multiple system platforms.

Code	Value	High/Low	Last Sale
W	Average Price Trade ⁴	No	No
X	Cross Trade	Yes (if sent with an eligible Level 2 modifier)	Yes (if sent with an eligible Level 2 modifier)
х	Odd Lot Cross Trade	No	No
<space></space>	Not applicable	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

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

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

To obtain the Adjusted Previous Close, firms will need to apply dividends to the previous day's closing price value. For Nasdaq-listed securities, firms may obtain dividend information via the Dividend Daily List web-based product. For ordering information, please refer to the <u>Daily List product page</u> on the Nasdaq Trader website.

For NYSE, NYSE American, NYSE Arca and BATS-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.

d) Consolidated Volume

As a reference point, Nasdaq includes the volume for the Issue Symbol as reported on the consolidated market data feed on the individual NLS Plus trade messages. The volume reflects the consolidated volume at the time that the NLS Plus trade message is generated.

For Nasdaq-listed issues, the consolidated volume is based on the real-time trades reported via NLS Plus and UTP Trade Data Feed (UTDF) for the issue symbol. Nasdaq calculates the real-time issue volume for

⁴ For NLS Plus 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 American- and NYSE Arca-listed securities.

its trading venues based on the NLS Plus trade messages. It then adds the real-time trading volume for the other (non-Nasdaq) trading venues as reported via the UTDF data feed.

For non-Nasdaq-listed issues, the consolidated volume is based on trades reported via NLS Plus and SIAC's Consolidated Tape System (CTS) for the issue symbol. Nasdaq calculates the real-time issue volume for its trading venues based on the NLS Plus trade messages. It then adds the real-time trading volume for the other (non-Nasdaq) trading venues as reported via the CTS data feed.

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 NLS Plus 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 American, 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)	30 seconds after execution. Currently, the extended trading hours are comprised of premarket 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, BX, and PSX will only assign root symbols of 1 to 4 characters in length with possible fifth and or sixth character denoting a suffix. In certain instances, a dot "." delimiter may be applied to symbols after the root and between the suffix eg., XXXX.A. For subordinate securities, Nasdaq, BX, and PSX 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 <u>Ticker Symbol Convention</u> 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	
Т2	Halt News Disseminated	
Т5	Single Stock Trading Pause In Effect	
Т6	Regulatory Halt — Extraordinary Market Activity	
Т8	Halt ETF	
T12	Trading Halted; For Information Requested by Listing Market	
H4	Halt Non-Compliance	
Н9	Halt Filings Not Current	
H10	Halt SEC Trading Suspension	
H11	Halt Regulatory Concern	
01	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></space>	Reason Not Available	

REASON CODES FOR QUOTATION/TRADING RESUMPTION ACTIONS		
Code	Value	
Т3	News and Resumption Times	
Т7	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	
С3	Issuer News Not Forthcoming; Quotations/Trading To Resume	
C4	Qualifications Halt ended; Maintenance Requirements Met; Resume	
С9	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></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 <u>Trading Halts page</u> 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
Α	American Depositary Share
В	Bond
С	Common Stock
F	Depository Receipt
I	144A
L	Limited Partnership
N	Notes
0	Ordinary Share
Р	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 ISSI	JE CLASSIFICATION VALUES
Code	Value
Α	Preferred Trust Securities
Al	Alpha Index ETNs
В	Index Based Derivative
С	Common Shares
СВ	Commodity Based Trust Shares
CF	Commodity Futures Trust Shares
CL	Commodity-Linked Securities
CM	Commodity Index Trust Shares
СО	Collateralized Mortgage Obligation
СТ	Currency Trust Shares
CU	Commodity-Currency-Linked Securities
CW	Currency Warrants
D	Global Depositary Shares
E	ETF-Portfolio Depositary Receipt
EG	Equity Gold Shares
El	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
1	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)
М	Equity-Based Derivative
MF	Managed Fund Shares
ML	ETN-Multi-Factor Index-Linked Securities
MT	Managed Trust Securities
N	NY Registry Shares
0	Open Ended Mutual Fund
P	Privately Held Security
PP	Poison Pill
PU	Partnership Units
Q R	Closed-End Funds Reg-S
	Commodity-Redeemable Commodity-Linked Securities
RC RF	ETN-Redeemable Futures-Linked Securities
RT	REIT
RU	Commodity-Redeemable Currency-Linked Securities
S	SEED SEED
SC	Spot Rate Closing
SI	Spot Rate Closing 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
-	1/24.2

X	Trust
Υ	Other
Z	Not Applicable

Appendix G - Documentation Version Control Log

NLS Plus Version 3.0

May 17, 2021

Nasdaq enhanced message 5.8.5 End of Day Trade Summary message to now include the Consolidated High Price, Consolidated Low Price, Consolidated Closing Price, and add Consolidated Open Price to the end of the message.

NLS Plus Version 3.0

May 17, 2021

Nasdaq enhanced non-nextshares trades with Long form trades messages exceeding the upper limit 4-byte.

NLS Plus Version 3.0

July 14, 2022

Due to the launch of non-integer leverage factors, updated ETP Leverage Factor from section "Stock Directory" page 52.

NLS Plus Version 3.0

Feb 20, 2024

Re-phrased the Data Type section to include the decimal format for Price fields.

NLS Plus Version 3.0

May 28, 2024

In accordance with recent SEC rule change, per the <u>Equity Trader Alert</u>, Nasdaq will no longer be disseminating Sale Condition code "N" Next Day Settlement on respective trade feeds.