



# Bruce Last Sale

Version 1.0

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## Overview

Bruce Last Sale is a direct data feed product offered by The Bruce ATS. Bruce Last Sale provides real-time, intra-day trade data from the platform.

## Architecture

Bruce Last Sale will be made up of a series of sequenced messages. Each message is variable in length based on the message type. The messages that make up the Bruce Last Sale protocol are typically delivered using a higher-level protocol that takes care of sequencing and delivery guarantees.

The Bruce Last Sale is offered in [MoldUDP64](#) protocol.

In the market data messages, instruments are identified by a stock locate code – a low lying integer employed with the intent of serving as an array index for rapidly looking up instrument details. The locate codes are dynamically assigned each day, starting with a value of 1, and communicated via the Stock Directory message. An instrument's locate code will not change intraday. However, there should be no expectation that the assignment will remain the same across multiple days. The Stock Locate code appears all messages, and at the same position in all messages to support efficient filtering. A default value of 0 will be applied to messages which are not stock dependent.

## Data Types

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

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

Prices are integer fields, supplied with an associated precision. When converted to a decimal format, prices are in fixed point format, where the precision defines the number of decimal places. For example, a field flagged as Price (4) has an implied 4 decimal digits.

Timestamps reflect the system time when the outbound message was generated and are represented as the number of nanoseconds since the start of the unix epoch (January 1, 1970).

## Message Formats

### System Event Message

The System Event message is used to communicate key market or data feed control events.

SYSTEM EVENT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"S"	System Event
Stock Locate	1	2	Integer	Always 0
Time Stamp	3	8	Timestamp	Time stamp
Event Code	11	1	Alphanumeric	Denotes the type of event for which the message is being generated. See list below for allowable values.

On a daily basis, Bruce Last Sale will support the following event codes:

SYSTEM EVENT CODES – DAILY	
Code	Explanation
O	<i>Start of Transmissions:</i> Denotes that Bruce Last Sale has started its daily transmission schedule
S	<i>Start of System Hours:</i> Denotes that Bruce is open and ready to start accepting orders.
Q	<i>Start of Market Hours:</i> Denotes that Market Hours orders are available for execution.
M	<i>End of Market Hours:</i> Denotes that Market Hours orders are no longer available for execution.
E	<i>End of System Hours:</i> Denotes that Bruce is now closed and will not accept any new orders today.
C	<i>End of Transmissions:</i> Denotes that Bruce Last Sale has completed its daily transmission schedule.

## Administrative Messages

### Stock Directory

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

STOCK DIRECTORY				
Name	Offset	Length	Value	Notes
Message Type	0	1	"R"	Stock Directory Message
Stock Locate	1	2	Integer	Locate Code uniquely assigned to the security symbol for the day
Timestamp	3	8	Timestamp	Time stamp
Stock	11	8	Alphanumeric	Denotes the security symbol for the issue in the execution system.
Market Category	19	1	Alphanumeric	Indicates Listing market for the issue  A = NYSE American N = NYSE P = NYSE ARCA Q = NASDAQ V = Investors' Exchange LLC Z = CBOE BZX Exchange <space> = Not Available
Round Lot Size	20	4	Integer	Indicates the number of shares that represent a round lot for the issue
Authenticity	24	1	Alphanumeric	Flags whether the issue is treated by the Bruce ATS as a live/production symbol or a test symbol  P = Live/Production T = Test

## Stock Trading Action

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

Prior to the start of market hours, Bruce will send out a Trading Action spin in which the Bruce Last Sale will deliver a Stock Trading Action message with a *Trading State* of "T" for all securities that are eligible for trading at the start of the market 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 Bruce platform.

Afterwards, Bruce 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 trading

STOCK TRADING ACTION MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"H"	Trading Action
Stock Locate	1	2	Integer	Locate code identifying the security
Time Stamp	3	8	Timestamp	Time stamp
Stock	11	8	Alphanumeric	Denotes the security symbol for the issue in the execution system.
Trading State	19	1	Alphanumeric	The current trading state for the issue. The allowable values are: H = Halted / Paused in the Bruce ATS T = Trading on the Bruce ATS

## Reg SHO Short Sale Price Test Restricted Indicator

In November 2010, the Securities and Exchange Commission (SEC) implemented changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to [SEC Release Number 34-61595](#).

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

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

REG SHO RESTRICTION				
Name	Offset	Length	Value	Notes
Message Type	0	1	"Y"	Reg SHO Short Sale Price Test Restricted Indicator
Stock Locate	1	2	Integer	Locate code identifying the security
Timestamp	3	8	Timestamp	Time stamp
Stock	11	8	Alphanumeric	Denotes the security symbol for the issue in the execution system.

Reg SHO Action	19	1	Alphanumeric	<p>Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are:</p> <p>“0” = No price test in place</p> <p>“1” = Reg SHO Short Sale Price Test Restriction in effect due to an intra- day price drop in security</p> <p>“2” = Reg SHO Short Sale Price Test Restriction remains in effect</p>
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## Trade Report Message

Bruce Last Sale will broadcast a real-time update every time that the system produces a trade during the trading day.

TRADE REPORT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	“T”	Trade Message
Stock Locate	1	2	Integer	Locate code identifying the security
Timestamp	3	8	Timestamp	Time stamp
Stock	11	8	Alphanumeric	Denotes the security symbol for the issue in the execution system.
MatchId	19	8	Integer	Unique identifier for the trade
Price	27	8	Price (4)	Trade price
Size	35	4	Integer	Trade size

## Trade Cancel Message

Bruce Last Sale will broadcast a real-time update every time that the system produces a trade during the trading day.

TRADE CANCEL MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	“X”	Trade Cancel Message
Stock Locate	1	2	Integer	Locate code identifying the security
Timestamp	3	8	Timestamp	Times tamp
Stock	11	8	Alphanumeric	Denotes the security symbol for the issue in the execution system.
MatchId	19	8	Integer	Unique identifier for the trade that was cancelled
Price	27	8	Price (4)	Trade price
Size	35	4	Integer	Trade size



## Contact Information

Questions about the Bruce Last Sale entitlement and specification document may be directed to [Clientsuccess@nasdaq.com](mailto:Clientsuccess@nasdaq.com).





## **Appendices**

### **Appendix A - Documentation Version Control Log**

**Bruce Last Sale Version 1.0**

**March 1, 2025**

Initial version.

### **Appendix B – Stock Symbol Convention**

For all exchange-listed issues, Bruce currently restricts its symbol length to a maximum of 8 characters, using the Nasdaq symbology for representing the root symbol plus any additional suffixes. For details on the symbology, please refer to the [Ticker Symbol Convention page](#).