

BX GLIMPSE 3.1

Note: This version of the BX GLIMPSE service is designed to support symbols up to six characters only.

As noted in [Data Technical News #2010-3](#), NASDAQ OMX is releasing new versions of the BX GLIMPSE service to support expanded symbol fields. Given NYSE's announced plans to move to longer ticker symbols, NASDAQ OMX is advising direct data feed subscribers to migrate to the new BX GLIMPSE (Version 3.2) data formats.

While NASDAQ OMX plans to support this version of the BX GLIMPSE data formats, the feed will carry data only for those securities with a ticker symbol (inclusive of suffixes) of six characters or less.

1 Overview

A complement to the BX TotalView-ITCH real-time data feed product, BX GLIMPSE 3.1 is a point-to-point data feed connection that provides direct data feed customers with the current state of the BX Order Book with full market participant attribution. BX GLIMPSE 3.1 uses the same Add Order messages as the BX TotalView-ITCH 3.1 data feed product.

2 Architecture

BX GLIMPSE 3.1 is a point-to-point data feed product comprised of a series of sequenced messages. Each message is variable in length based on the message type and is composed of non-control ASCII bytes. The messages that make up the BX GLIMPSE 3.1 protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

BX currently offers the BX GLIMPSE 3.1 data feed in the [SoupTCP3.0](#) protocol option only. Please note that GLIMPSE users must login to SoupTCP3.0 for sequence 1 to correctly receive data.

3 Data Types

All numeric fields are composed of a string of ASCII coded digits, right justified and space filled on the left.

All alpha fields are left justified and padded on the right with spaces.

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.

4 Message Formats

Upon logon to the BX GLIMPSE service, firms will receive the following data elements with the relevant system time stamp:

- Symbol Directory messages for all security symbols in the BX execution system;
- Trading Action messages with the current trading state value for active security symbol in the BX execution system;
- Add Order messages for all the displayable orders on the BX execution system at the time of login request;

- GLIMPSE Snapshot message that reflects the most recent order reference number reflected in the transmission.

Please note that BX GLIMPSE 3.1 uses the same Symbol Directory, Trading Action, and Add Order message formats as the BX TotalView-ITCH 3.1 data feed.

At the end of the spins, BX GLIMPSE will send a Snapshot message to denote where firms should begin processing real-time updates via the BX TotalView-ITCH product.

4.1 Time Messages

For bandwidth efficiency reasons, BX uses separate time stamp messages for the BX GLIMPSE 3.1 and BX TotalView-ITCH 3.1 products. The messages will be sequenced so that data feed recipients can apply the time stamps properly. The time stamp is broken into two separate messages: seconds and milliseconds.

4.1.1 Seconds Message

This message is sent every second for which at least one BX GLIMPSE 3.1 / BX TotalView-ITCH 3.1 message is being generated.

SECONDS MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"T"	Seconds Message.
Second	1	5	Numeric	Number of second since midnight.

4.1.2 Milliseconds Message

This message is sent every millisecond for which at least one BX GLIMPSE 3.1 / BX TotalView-ITCH 3.1 message is being generated.

MILLISECONDS MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"M"	Milliseconds Message.
Millisecond	1	3	Numeric	Number of milliseconds since last second.

4.2 System Event Message

BX GLIMPSE product is designed to support the same system event messages as the BX TotalView-ITCH feed. On BX GLIMPSE, BX will send out system event messages for those events that occurred up to the time of the BX GLIMPSE snapshot request.

SYSTEM EVENT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"S"	System Event Message.
Event Code	1	1	Alpha	See System Event Codes below.

SYSTEM EVENT CODES – DAILY	
Code	Explanation
"O"	<i>Start of Messages.</i> Outside of time stamp messages, the start of day message is the first message sent in any trading day.
"S"	<i>Start of System hours.</i> This message indicates that BX is open

	and ready to start accepting orders.
"Q"	<i>Start of Market hours.</i> This message is intended to indicate that Market Hours orders are available for execution.
"M"	<i>End of Market hours.</i> This message is intended to indicate that Market Hours orders are no longer available for execution.
"E"	<i>End of System hours.</i> It indicates that BX is now closed and will not accept any new orders today. It is still possible to receive Broken Trade messages and Order Delete messages after the End of Day.
"C"	<i>End of Messages.</i> This is always the last message sent in any trading day.

SYSTEM EVENT CODES – AS NEEDED	
Code	Explanation
"A"	<i>Emergency Market Condition – Halt:</i> This message is sent to inform BX market participants that the EMC is in effect. No trading is allowed during the EMC.
"R"	<i>Emergency Market Condition – Quote Only Period:</i> This message is sent to inform BX market participants that the EMC quotation only period is in effect.
"B"	<i>Emergency Market Condition – Resumption:</i> This message is sent to inform BX market participants that EMC is no longer in effect.

4.3 Add Order Message

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

For BX GLIMPSE 3.1 / BX TotalView-ITCH 3.1, BX supports two variations of the Add Order message format.

4.3.1 Add Order – No MPID Attribution

This message will be generated for unattributed orders in the BX system.

ADD ORDER MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"A"	Add Order Message.
Order Reference Number	1	12	Numeric	The unique reference number assigned to the new order. The order reference number is increasing, but not necessarily sequential.
Buy/Sell Indicator	13	1	Alpha	The type of order being added. "B" = buy order. "S" = sell order.
Shares	14	6	Numeric	The total number of shares associated with the order being added to the book.
Stock	20	6	Alpha	The security symbol for which the order is being added.
Price	26	10	Numeric	The display price of the new order. Refer to

				Data Types for field processing notes.
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4.3.1 Add Order – MPID Attribution

This message will be generated for attributed orders and quotations entered into the BX system.

ADD ORDER – MPID ATTRIBUTION MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"F"	Add Order Message.
Order Reference Number	1	12	Numeric	The unique reference number assigned to the new order. The order reference number is increasing, but not necessarily sequential.
Buy/Sell Indicator	13	1	Alpha	The type of order being added. "B" = buy order. "S" = sell order.
Shares	14	6	Numeric	The total number of shares associated with the order being added to the book.
Stock	20	6	Alpha	The security symbol for which the order is being added.
Price	26	10	Numeric	The display price of the new order. Refer to Data Types for field processing notes.
Attribution	36	4	Alpha	BX market participant identifier associated with the entered order.

4.4 Symbol Directory

At the start of each trading day, NASDAQ OMX BX disseminates stock directory messages for all active symbols in the system for the current trading day. Please note that the Symbol Directory spin may include halted issues. Firms must process the Trading Action message for current trading state information.

STOCK DIRECTORY				
Name	Offset	Length	Value	Notes
Message Type	0	1	"R"	Stock Directory Message
Stock	1	6	Alphabetic	Denotes the security symbol for the issue in the feed.
Market Category	7	1	Alphanumeric	Indicates listing market center or listing market tier for the issue "T" = CQS issues including New York Stock Exchange (NYSE), NYSE Amex and NYSE Arca "Q" = NASDAQ Global Select Market SM "G" = NASDAQ Global Market SM "S" = NASDAQ Capital Market [®] "B" = BX-Listing Market Space = Not available
Financial Status Indicator	8	1	Alphanumeric	For NASDAQ-listed or BX-listed issues, this field indicates when a firm is not in compliance with NASDAQ or BX continued listing requirements. "D" = Deficient

				<p>“E” = Delinquent “Q” = Bankrupt “S” = Suspended “G” = Deficient and Bankrupt “H” = Deficient and Delinquent “J” = Delinquent and Bankrupt “K” = Deficient, Delinquent and Bankrupt</p> <p>Space = Company is in compliance, if NASDAQ-listed or BX-listed issue</p> <p>For NYSE, NYSE Amex, and NYSE Arca issues, this field will also be space-filled. Redistributors should refer to SIAC feeds for code if needed.</p>
Round Lot Size	9	6	Numeric	Indicates the number of shares that represent a round lot for the issue
Round Lots Only	15	1	Alphabetic	<p>Indicates if NASDAQ or BX system limits order entry for issue</p> <p>“Y” = Only round lots are accepted in this stock “N” = Odd/mixed lots are allowed</p>

4.5 Stock Trading Action message

Administrative messages are used to indicate the current trading status of a security to the trading community.

In the GLIMPSE transmission, BX will send out a Stock Trading Action message for only those NASDAQ, NYSE, NYSE Amex and NYSE Arca issues that were eligible for trading during the current trading session.

For most issues, the Trading Action state would be “T” (Trading Resumption) to reflect the issue was released for trading during the current market session.

If the issue was in a halted state at the time of the GLIMPSE transmission, however, the Trading Action state could be one of the other Trading States listed below.

If the GLIMPSE transmission includes a Stock Directory message, but not a Stock Trading Action message, for an issue, firms may assume that the issue was placed in an operational or regulatory trading halt prior to the start of the current trading system.

STOCK TRADING ACTION				
Name	Offset	Length	Value	Notes
Message Type	0	1	“H”	Stock Trading Action Message.
Stock	1	6	Alphanumeric	Stock symbol right padded with spaces.
Trading State	7	1	Alphabetic	<p>Indicates the current trading state for the stock. Allowable values:</p> <p>“H” = Halted or paused on across all U.S. equity markets “V” = Halted or paused on primary market; Halt/pause observed by BX market “Q” = Quotation only period for cross-market</p>

				halt or pause "T" = Trading on BX
Reserved	8	1	Alphanumeric	Reserved.
Reason	9	4	Alphanumeric	Trading Action reason.

4.6 Snapshot message

The Snapshot message reflects the BX TotalView-ITCH 3.1 sequence number at the time that the BX GLIMPSE 3.1 spin was requested.

To maintain a real-time order display, firms should begin to process real-time BX TotalView-ITCH 3.1 messages beginning with the sequence number stated in this BX GLIMPSE snapshot message.

END OF SNAPSHOT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"G"	End of Snapshot message
BX TotalView-ITCH 3.1 Sequence number	1	20	Numeric	BX TotalView-ITCH 3.1 sequence number when the BX GLIMPSE 3.1 snapshot was taken. To keep the order book current, firms should process real-time BX TotalView-ITCH 3.1 messages beginning with the message sequence number reflected in this snapshot message.

5 Support

- For general product support for BX data feeds, please contact NASDAQ OMX Global Data Products at +1 301 978 5307 or dataproductions@nasdaqomx.com.
- For technical support for BX data feeds, please contact NASDAQ OMX Development Support at devsupport@nasdaqomx.com.

Appendix A

Documentation Revision Control Log

July 2, 2010: BX GLIMPSE Version 3.1

NASDAQ OMX added a new Trading State code value of "V" to the Stock Trading Action message to denote a NASDAQ Volatility Guard trading pause.

May 25, 2010: BX GLIMPSE Version 3.1

NASDAQ OMX updated the definition of the Trading State "H" value to indicate Halted / Paused for single security trading pause situations

January 22, 2010: BX GLIMPSE Version 3.1

Released a new version of the BX TotalView-ITCH documentation to support the following changes:

- Added Symbol Directory and Trading Action message types.

January 7, 2010: BX GLIMPSE Version 3.1

NASDAQ OMX releases initial BX GLIMPSE 3.1 specifications to public