

NASDAQ GLIMPSE 4.1

1 Overview

A complement to the NASDAQ TotalView-ITCH real-time data feed product, NASDAQ GLIMPSE 4.1 is a point-to-point data feed connection that provides direct data feed customers with the current state of the NASDAQ execution system with full market participant attribution. NASDAQ GLIMPSE 4.1 uses the same data formats as the TotalView-ITCH 4.1 data feed product.

2 Architecture

NASDAQ GLIMPSE 4.1 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. The messages that make up the NASDAQ GLIMPSE 4.1 protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

NASDAQ currently offers the GLIMPSE 4.1 data feed in the [SoupBinTCP](#) protocol option only. Please note that GLIMPSE users must login to SoupBinTCP for sequence 1 to correctly receive data.

3 Data Types

All integer fields are unsigned big-endian (network byte order) binary encoded numbers.

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

Prices are integer fields. When converted to a decimal format, prices are in fixed point format with 6 whole number places followed by 4 decimal digits. The maximum price in GLIMPSE is 200,000.0000 (decimal, 77359400 hex).

4 Message Formats

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

- Symbol Directory messages for all security symbols in the NASDAQ execution system;
- Trading Action messages with the current trading state value for active security symbol in the NASDAQ execution system;
- Add Order messages for all the displayable orders on the NASDAQ 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 NASDAQ GLIMPSE 4.1 uses the same Symbol Directory, Trading Action, and Add Order message formats as the NASDAQ TotalView-ITCH 4.1 data feed.

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

4.1 Time Stamp – Seconds

For bandwidth efficiency reasons, NASDAQ uses separate time stamp messages for the NASDAQ GLIMPSE 4.1 and NASDAQ TotalView-ITCH 4.1 products. The messages will be sequenced so that data feed recipients can apply the time stamps properly.

For the NASDAQ GLIMPSE 4.1 and NASDAQ TotalView-ITCH 4.1 products, NASDAQ disseminates the timestamp into two separate pieces:

Timestamp Portion	Message Type	Notes
Seconds	Standalone message on NASDAQ GLIMPSE 4.1 feed	Reflects the number of seconds past midnight that the Timestamp message was generated. Note: A Timestamp – Second message will be disseminated for every second for which there is at least one payload message.
Nanoseconds	Field within individual message formats on NASDAQ GLIMPSE 4.1 feed	Reflects the number of nanoseconds since the most recent Timestamp-Seconds message that the payload message was generated.

For the standalone Timestamp – Seconds message, the message format will be as follows:

TIMESTAMP - SECONDS MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"T"	Seconds Message.
Second	1	4	Integer	Number of seconds since midnight.

4.2 System Event Message

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

SYSTEM EVENT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"S"	System Event Message.
Timestamp	1	4	Integer	Nanoseconds portion of the timestamp.
Event Code	5	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 NASDAQ 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 NASDAQ 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 NASDAQ 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 NASDAQ market participants that the EMC quotation only period is in effect.
"B"	<i>Emergency Market Condition – Resumption:</i> This message is sent to inform NASDAQ 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 NASDAQ system and was added to the displayable book. The message includes a day-unique Order Reference Number used by NASDAQ to track the order.

For NASDAQ GLIMPSE 4.1 / NASDAQ TotalView-ITCH 4.1, NASDAQ 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 accepted by the NASDAQ system. (Note: If a firm wants to display a MPID for unattributed orders, NASDAQ recommends that it use the MPID of "NSDQ".)

ADD ORDER MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"A"	Add Order – No MPID Attribution Message.
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Order Reference Number	5	8	Integer	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	4	Integer	The total number of shares associated with the order being added to the book.
Stock	18	8	Alpha	The security symbol for which the order is being added.
Price	26	4	Integer	The display price of the new order. Refer to Data Types for field processing notes.

4.3.2 Add Order with MPID Attribution

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

ADD ORDER – MPID ATTRIBUTION MESSAGE				
Name	Offset	Length	Value	Notes

Message Type	0	1	"F"	Add Order with MPID Attribution Message.
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Order Reference Number	5	8	Integer	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	4	Integer	The total number of shares associated with the order being added to the book.
Stock	18	8	Alpha	The security symbol for which the order is being added.
Price	26	4	Integer	The display price of the new order. Refer to Data Types for field processing notes.
Attribution	30	4	Alpha	NASDAQ market participant identifier associated with the entered order.

4.4 Symbol Directory

At the start of each GLIMPSE transmission, NASDAQ will disseminate stock directory messages for all symbols in NASDAQ execution 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.

SYMBOL DIRECTORY				
Name	Offset	Length	Value	Notes
Message Type	0	1	"R"	Stock Directory Message
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Stock	5	8	Alpha	Denotes the security symbol for the issue in NASDAQ Single Book. Refer to Appendix NASDAQ Single Book stock symbol convention information.
Market Category	13	1	Alpha	Indicates Listing market or listing market tier for the issue "N" = New York Stock Exchange (NYSE) "A" = NYSE Amex "P" = NYSE Arca "Q" = NASDAQ Global Select Market SM "G" = NASDAQ Global Market SM "S" = NASDAQ Capital Market [®] "Z" = BATS BZX Exchange
Financial Status Indicator	14	1	Alpha	For NASDAQ-listed issues, this field indicates when a firm is not in compliance with NASDAQ continued listing requirements. "D" = Deficient "E" = Delinquent "Q" = Bankrupt "S" = Suspended "G" = Deficient and Bankrupt "H" = Deficient and Delinquent "J" = Delinquent and Bankrupt

				<p>“K” = Deficient, Delinquent and Bankrupt</p> <p>Space = Company is in compliance, if NASDAQ-listed issue</p> <p>For NYSE, NYSE Amex, NYSE Arca and BATS issues, this field will also be space-filled. Redistributors should refer to SIAC feeds for code if needed.</p>
Round Lot Size	15	4	Integer	Indicates the number of shares that represent a round lot for the issue
Round Lots Only	19	1	Alpha	<p>Indicates if NASDAQ system limits order entry for issue</p> <p>“Y” = only round lots are accepted in this stock</p> <p>“N” = odd/mixed lots are allowed</p>

4.5 Stock Trading Action message

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

In the GLIMPSE transmission, NASDAQ will send out a Stock Trading Action message for only those NASDAQ, NYSE, NYSE Amex, NYSE Arca and BATS 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 or paused state at the time of the GLIMPSE transmission, however, the Trading Action state may reflect one of the other states outlined 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.
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Stock	5	8	Alpha	Stock symbol right padded with spaces.
Trading State	13	1	Alpha	<p>Indicates the current trading state for the stock. Allowable values:</p> <p>“H” = Halted across all U.S. equity markets / SROs</p> <p>“P” = Paused across all U.S. equity markets / SROs (NASDAQ-listed securities only)</p> <p>“Q” = Quotation only period for cross-SRO halt or pause</p> <p>“T” = Trading on NASDAQ</p>
Reserved	14	1	Alpha	Reserved.
Reason	15	4	Alpha	Trading Action reason.

4.6 Reg SHO Short Sale Price Test Restricted Indicator

In February 2011, the Securities and Exchange Commission (SEC) will implement changes to Rule 201 of the Regulation SHO (Reg SHO). For details, please refer to [SEC Release Number 34-61595](#). In association with the Reg SHO rule change, NASDAQ will introduce the following Reg SHO Short Sale Price Test Restricted Indicator message format.

NASDAQ will process 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
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Stock	5	8	Alpha	Stock symbol right padded with spaces.
Reg SHO Action	13	1	Alpha	Denotes the Reg SHO Short Sale Price Test Restriction status for the issue at the time of the message dissemination. Allowable values are: "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

4.7 Retail Price Improvement Indicator (RPII)

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

Retail Interest Message				
Name	Offset	Length	Value	Notes
Message Type	0	1	"N"	Retail Interest message
Timestamp - Nanoseconds	1	4	Integer	Nanoseconds portion of the timestamp.
Stock	5	8	Alpha	Denotes the security symbol for the issue in the NASDAQ execution system. Refer to Appendix B for stock symbol convention information.
Interest Flag	13	1	Alpha	"B" = RPI orders available on the buy side "S" = RPI orders available on the sell side "A" = RPI orders available on both sides (buy and sell) "N" = No RPI orders available

4.8 Snapshot message

The Snapshot message reflects the NASDAQ TotalView-ITCH 4.1 sequence number at the time that the NASDAQ GLIMPSE 4.1 spin was requested.

NASDAQ GLIMPSE 4.1 INTERFACE SPECIFICATION

To maintain a real-time order display, firms should begin to process real-time NASDAQ TotalView-ITCH 4.1 messages beginning with the sequence number stated in this NASDAQ GLIMPSE 4.1 snapshot message.

END OF SNAPSHOT MESSAGE				
Name	Offset	Length	Value	Notes
Message Type	0	1	"G"	End of Snapshot message
Sequence number	1	20	Numeric	<p>NASDAQ TotalView-ITCH 4.1 sequence number when the NASDAQ GLIMPSE 4.1 snapshot was taken.</p> <p>To keep the order book current, firms should process real-time NASDAQ TotalView-ITCH 4.1 messages beginning with the message sequence number reflected in this snapshot message.</p> <p>Note: While TotalView-ITCH 4.1 is a binary data feed, the SoupBINTCP protocol uses ASCII characters for the sequence number in the logon request message format.</p>

5 Support

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

Appendix A

Documentation Revision Control Log

January 9, 2013: NASDAQ GLIMPSE Version 4.10

NASDAQ OMX removed the Trading State, "R", from the Stock Trading Action message.

January 8, 2013: NASDAQ GLIMPSE Version 4.10

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

- Modified the Retail Price Interest Indicator Message. Changed the message type from "G" to "N".

November 6, 2012: NASDAQ GLIMPSE Version 4.10

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

- Added the "P" value to the Trading State in the Stock Trading Message.
- Removed Trading State, "V", related to the Volatility Guard Program
- Added the Retail Price Interest Indicator Message

November 1, 2011: NASDAQ GLIMPSE Version 4.10

NASDAQ OMX updated the Market Category to include the BATS Listings Market.

November 4, 2010: NASDAQ GLIMPSE Version 4.10

NASDAQ OMX updated the Regulation SHO definition to reflect the SEC new implementation date.

July 14, 2010: NASDAQ GLIMPSE Version 4.10

NASDAQ OMX added a new Regulation SHO Short Sale Price Test Restricted Indicator message format to be introduced in the fourth quarter of 2010.

July 2, 2010: NASDAQ GLIMPSE Version 4.10

NASDAQ OMX added new Action Trading code(s) to the Stock Trading Action message for the NASDAQ Volatility Guard trading pause.

January 26, 2010: NASDAQ GLIMPSE Version 4.10

NASDAQ updated the length of the symbol field from 6 characters to 8 characters to match the NASDAQ TotalView-ITCH 4.1 product offering.

January 22, 2010: NASDAQ GLIMPSE Version 4.00

NASDAQ added stock directory and stock trading action message types to the GLIMPSE specification

July 28, 2009: NASDAQ GLIMPSE Version 4.00

NASDAQ corrected the system event message formats to match TotalView-ITCH 4.0.

July 20, 2009: NASDAQ GLIMPSE Version 4.00

NASDAQ modified system event processing to include a wider range of TotalView-ITCH codes.

May 20, 2009: NASDAQ GLIMPSE Version 4.00

NASDAQ adds a statement about the user logon procedure for GLIMPSE in section 2.

April 28, 2009: NASDAQ GLIMPSE Version 4.00

NASDAQ releases initial GLIMPSE 4.0 specifications to public.