NASDAQ OMX BX Last Sale

For BX Trading Venue and BX Listing Market

NASDAQ OMX Global Data Products
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12/03/2009

1 Overview

1.1 Product Description

BX Last Sale[SM] (BLS) is a direct data feed product offered by NASDAQ OMX to support the BX Trading and Listing Market upon launch. BLS covers the full range of issues including BX-, NASDAQ-, New York Stock Exchange (NYSE)-, NYSE Amex-, NYSE Arca- and US regional exchange-listed securities. BLS provides real-time, intra-day trade data from the BX execution system.

Market data distributors may use the BLS data feed to update real-time stock tickers, portfolio trackers, trade alert programs, time and sale graphs, and other display systems.

For pricing and ordering information:

- Refer to Market Data section of the NASDAQ OMX Trader website.
- Contact the NASDAQ OMX Global Data Products Account Team at +1 301 978 5307 or +45 33 93 33 66.

1.2 Upcoming Product Enhancements

NASDAQ OMX has recently filed with the U.S. Securities and Exchange Commission (SEC) to establish listing standards for the BX exchange. NASDAQ OMX will begin accepting listing applications for the new BX listing market in 2010, pending SEC approval.

Please note items within this document that have been grayed out, although supported technologically, will not be implemented until the launch of the BX Listing Market.

2 Network Protocol Options

For direct data feed subscribers, NASDAQ OMX BX will offer BLS in the following protocol options:

- SoupTCP
- MoldUDP

3 Architecture

BLS will be made up 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 BLS protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

4 Data Types

All numeric fields are represented in ASCII digits and are right-justified. Padding spaces appear on the left as necessary.

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.

Timestamp reflects the BX system time at which the outbound message was generated. BX states time as the number of milliseconds past midnight. The time zone is U.S. Eastern Time.

All alpha fields are left-justified. Padding spaces appear on the right as necessary.

5 Message Formats

5.1 System Event Message

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

<table>
<tr><th colspan="5">System Event Message</th></tr>
<tr><th>Name</th><th>Offset</th><th>Len</th><th>Value</th><th>Notes</th></tr>
<tr><td>Time Stamp</td><td>0</td><td>8</td><td>Numeric</td><td>Time Stamp</td></tr>
<tr><td>Message Type</td><td>8</td><td>1</td><td>Alphanumeric</td><td>S = System Event Message</td></tr>
<tr><td>Event Code</td><td>9</td><td>1</td><td>Alphanumeric</td><td>Denotes the type of event for which the message is being generated. The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>O</td><td>Start of Transmissions: Denotes that the BX Last Sale has started its daily transmission schedule.</td></tr>
<tr><td>Q</td><td>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.</td></tr>
<tr><td>M</td><td>End of Market Hours: Denotes the end of the regular US session.</td></tr>
<tr><td>C</td><td>End of Transmissions: Denotes that the BX Last Sale has ended its daily transmission schedule.</td></tr>
</table>
</td></tr>
</table>

5.2 Trade Report

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

Trade Report Message

Name	***Offset***	***Len***	***Type***	***Value/Description***
Time Stamp	0	8	Numeric	Denotes the time stamp of the BX system that generated the trade transaction.
Message Type	8	1	Alphanumeric	T = Trade Report
Market Center Identifier	9	1	Alphabetic	Denotes the BX market system that generated the trade report message. The allowable values are: Code: Value B: BX execution system L: Over the Counter Trade Reporting Facility (ORF)
Issue Symbol	10	6	Alphanumeric	Denotes the security symbol for the issue of the security for which the trade report is being generated. For details on symbology, please refer to Appendix B.
Security Class	16	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are: Code: Value Q: NASDAQ Listed Issue T: Non-NASDAQ-Listed Issue – Includes NYSE-, NYSE Amex-, NYSE Arca- and regional exchange-listed issues (Current value through January 15, 2010) N: NYSE Listed Issue (New value as of January 19, 2010) A: NYSE Amex Issue (New value as of January 19, 2010) P: NYSE Arca Issue (New Value as of January 19, 2010) B: BX-listed securities (Pending SEC approval of listing exchange)

<table>
<tr><td>Trade Control Number</td><td>17</td><td>10</td><td>Alphanumeric</td><td>Indicates the BX system internal control number associated with the given trade transaction.

Please note that the Trade Control Number is specific to the BX host system reflected in the Market Center ID field. This number is used as a key field for trade cancellations and trade corrections.</td></tr>
<tr><td>Trade Price</td><td>27</td><td>10</td><td>Numeric</td><td>Denotes the report price on the trade transaction. Price format is $$$$$$dddd.</td></tr>
<tr><td>Trade Size</td><td>37</td><td>9</td><td>Numeric</td><td>Indicates the reported number of shares on the trade transaction.</td></tr>
<tr><td>Sale Condition Modifier</td><td>46</td><td>4</td><td>Alphanumeric</td><td>Sale condition modifier consists of four levels as defined below.</td></tr>
<tr><td>Sale Condition Modifier – Level 1</td><td>46</td><td>1</td><td>Alphanumeric</td><td>Used for Settlement Type information. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>@</td><td>Regular Settlement</td></tr>
<tr><td>C</td><td>Cash Settlement</td></tr>
<tr><td>N</td><td>Next Day Settlement</td></tr>
<tr><td>R</td><td>Seller Settlement</td></tr>
</table></td></tr>
<tr><td>Sale Condition Modifier – Level 2</td><td>47</td><td>1</td><td>Alphanumeric</td><td>For Reg NMS eligible securities, this sale condition level is used to define the trade through reason code. For the BX trading market, the allowable codes are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>F</td><td>Intermarket Sweep</td></tr>
<tr><td><space></td><td>Not applicable</td></tr>
</table>
For non-Reg NMS securities, this sale condition level is used to identify cross transactions. For BX-listed securities, the allowable codes are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>O</td><td>Opening Print</td></tr>
<tr><td>5</td><td>Re-Opening Print</td></tr>
<tr><td>6</td><td>Closing Print</td></tr>
<tr><td><space></td><td>Not applicable</td></tr>
</table></td></tr>
</table>

<table>
<tr><td>Sale Condition Modifier – Level 3</td><td>48</td><td>1</td><td>Alphanumeric</td><td>Used for Extended Hours or Sold Codes. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>T</td><td>Extended Hours Trade</td></tr>
<tr><td>U</td><td>Extended Hours Trade – Reported Late or Out of Sequence</td></tr>
<tr><td>L</td><td>Sold Last – Reported Late But In Sequence</td></tr>
<tr><td>Z</td><td>Sold – Out of Sequence</td></tr>
<tr><td><space></td><td>Not applicable</td></tr>
</table></td></tr>
<tr><td>Sale Condition Modifier – Level 4</td><td>49</td><td>1</td><td>Alphanumeric</td><td>Used for special sale condition codes. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>A</td><td>Acquisition</td></tr>
<tr><td>B</td><td>Bunched</td></tr>
<tr><td>D</td><td>Distribution</td></tr>
<tr><td>H</td><td>Price Variation Transaction</td></tr>
<tr><td>M</td><td>BX Official Close Price – for BX-listed securities only</td></tr>
<tr><td>P</td><td>Prior Reference Price</td></tr>
<tr><td>Q</td><td>BX Official Opening Price – for BX-listed securities only</td></tr>
<tr><td>S</td><td>Split Trade</td></tr>
<tr><td>W</td><td>Weighted Average Price</td></tr>
<tr><td>X</td><td>Cross Trade – For BX-listed securities only</td></tr>
<tr><td>o</td><td>Odd lot execution</td></tr>
<tr><td><space></td><td>Not applicable</td></tr>
</table></td></tr>
</table>

5.3 Trade Cancel/Error

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

<table>
<tr><th colspan="5">Trade Cancel/Error Message</th></tr>
<tr><th>Name</th><th>Offset</th><th>Len</th><th>Type</th><th>Value/Description</th></tr>
<tr><td>Time Stamp</td><td>0</td><td>8</td><td>Numeric</td><td>Denotes the time stamp of the BX system that generated the trade cancel/error message.</td></tr>
<tr><td>Message Type</td><td>8</td><td>1</td><td>Alphanumeric</td><td>X = Trade Cancel/Error</td></tr>
<tr><td>Market Center Identifier</td><td>9</td><td>1</td><td>Alphabetic</td><td>Denotes the BX market system that generated the trade report and cancel/error message. The allowable values are:<table><tr><th>Code</th><th>Value</th></tr><tr><td>B</td><td>BX Execution System</td></tr><tr><td>L</td><td>Over the Counter Trade Reporting Facility (ORF)</td></tr></table></td></tr>
<tr><td>Issue Symbol</td><td>10</td><td>6</td><td>Alphanumeric</td><td>Denotes the security symbol for the issue for which the trade report is being generated. For details on symbology, please refer to Appendix B.</td></tr>
</table>

Security Class	16	1	Alphabetic	Indicates the primary listing market for the issue. Allowable values are: <table><tr><th>Code</th><th>Value</th></tr><tr><td>Q</td><td>NASDAQ Listed Issue</td></tr><tr><td>T</td><td>Non-NASDAQ-Listed Issue – Includes NYSE-, NYSE Amex-, NYSE Arca- and regional exchange-listed issues (Current value through January 15, 2010)</td></tr><tr><td>N</td><td>NYSE Listed Issue (New value as of January 19, 2010)</td></tr><tr><td>A</td><td>NYSE Amex Issue (New value as of January 19, 2010)</td></tr><tr><td>P</td><td>NYSE Arca Issue (New Value as of January 19, 2010)</td></tr><tr><td>B</td><td>BX-listed securities (Pending SEC approval of listing exchange)</td></tr></table>
Original Trade Control Number	17	10	Alphanumeric	Indicates the BX system internal control number associated with the given trade transaction. Please note that the Trade Control Number is specific to the BX host system reflected in the Market Center ID field.
Original Trade Price	27	10	Numeric	Reported price for the transaction. Price format is $$$$$$dddd.
Original Trade Size	37	9	Numeric	Reported number of shares for transaction.
Original Sale Condition Modifier	46	4	Alphanumeric	Defines the sale condition modifiers as reported on the original trade transaction.

5.4 Trade Correction

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

Trade Correction Message				
Name	***Offset***	***Len***	***Type***	***Value/Description***

<table>
<tr><td>Time Stamp</td><td>0</td><td>8</td><td>Numeric</td><td>Denotes the time stamp of the BX system that generated the trade correction message.</td></tr>
<tr><td>Message Type</td><td>8</td><td>1</td><td>Alphanumeric</td><td>C = Trade Correction</td></tr>
<tr><td>Market Center Identifier</td><td>9</td><td>1</td><td>Alphabetic</td><td>Denotes the BX market system that generated the trade report and cancel/error message. The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>B</td><td>BX Execution System</td></tr>
<tr><td>L</td><td>Over the Counter Trade Reporting Facility (ORF)</td></tr>
</table></td></tr>
<tr><td>Issue Symbol</td><td>10</td><td>6</td><td>Alphanumeric</td><td>Denotes the BX-assigned issue symbol for which the trade correction message is being generated. For details on BX symbology, please refer to Appendix B.</td></tr>
<tr><td>Security Class</td><td>16</td><td>1</td><td>Alphabetic</td><td>Indicates the primary listing market for the issue. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>Q</td><td>NASDAQ Listed Issue</td></tr>
<tr><td>T</td><td>Non-NASDAQ-Listed Issue – Includes NYSE-, NYSE Amex-, NYSE Arca- and regional exchange-listed issues (Current value through January 15, 2010)</td></tr>
<tr><td>N</td><td>NYSE Listed Issue (New value as of January 19, 2010)</td></tr>
<tr><td>A</td><td>NYSE Amex Issue (New value as of January 19, 2010)</td></tr>
<tr><td>P</td><td>NYSE Arca Issue (New Value as of January 19, 2010)</td></tr>
<tr><td>B</td><td>BX Listed Issue (Pending SEC approval of listing exchange)</td></tr>
</table></td></tr>
<tr><td>Original Trade Control Number</td><td>17</td><td>10</td><td>Alphanumeric</td><td>Indicates the BX internal control number associated with the given trade transaction.

Please note that the Trade Control Number is specific to the BX host system reflected in the Market Center ID field.</td></tr>
</table>

Original Trade Price	27	10	Numeric	Reported price on the original trade transaction. Price format is $$$$$$dddd.
Original Trade Size	37	9	Numeric	Reported number of shares on the original trade transaction.
Original Sale Condition Modifier	46	4	Alphanumeric	Indicates sale condition modifiers associated with the original transaction.
Corrected Trade Control Number	50	10	Alphanumeric	Indicates the BX internal control number associated with the adjusted trade transaction. Please note that the Trade Control Number is specific to the BX host system reflected in the Market Center ID field.
Corrected Trade Price	60	10	Numeric	Indicates the price for the corrected trade transaction. Price format is $$$$$$dddd.
Corrected Trade Size	70	9	Numeric	Indicates the number of shares for the corrected trade transaction.
Corrected Sale Condition Modifier	79	4	Alphanumeric	Denotes the sale condition modifiers associated with the corrected trade transaction.

5.5 Administrative Messages

To help firms create a full display, BX supports the following two administrative messages: (1) Trading Action and (2) Symbol Directory.

5.5.1 Stock Trading Action

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

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

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

Trading Action Message				
Name	***Offset***	***Len***	***Type***	***Value/Description***
Time Stamp	0	8	Numeric	Time Stamp.

<table>
<tr><td>Message Type</td><td>8</td><td>1</td><td>Alphanumeric</td><td>H = Trading Action</td></tr>
<tr><td>Issue Symbol</td><td>9</td><td>6</td><td>Alphanumeric</td><td>Denotes the security symbol for which the trading action message is being generated. For details on symbology, please refer to Appendix B.</td></tr>
<tr><td>Security Class</td><td>15</td><td>1</td><td>Alphabetic</td><td>Indicates the primary listing market for the issue. Allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>Q</td><td>NASDAQ Listed Issue</td></tr>
<tr><td>T</td><td>Non-NASDAQ-Listed Issue – Includes NYSE-, NYSE Amex-, NYSE Arca- and regional exchange-listed issues (Current value through January 15, 2010)</td></tr>
<tr><td>N</td><td>NYSE Listed Issue (New value as of January 19, 2010)</td></tr>
<tr><td>A</td><td>NYSE Amex Issue (New value as of January 19, 2010)</td></tr>
<tr><td>P</td><td>NYSE Arca Issue (New Value as of January 19, 2010)</td></tr>
<tr><td>B</td><td>BX-listed securities (Pending SEC approval of listing exchange)</td></tr>
</table>
</td></tr>
<tr><td>Current Trading State</td><td>16</td><td>1</td><td>Alphabetic</td><td>Reflects the current trading state for the issue. The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>H</td><td>Halt / Pause in effect</td></tr>
<tr><td>V</td><td>Halted or paused on NASDAQ only</td></tr>
<tr><td>Q</td><td>Quote only period in effect</td></tr>
<tr><td>T</td><td>Trading on BX</td></tr>
</table>
</td></tr>
<tr><td>Reason</td><td>17</td><td>4</td><td>Alphanumeric</td><td>Reflects the Market Ops or MarketWatch code for the trading state change. Refer to Appendix C for current code list.</td></tr>
</table>

5.5.2 Stock Directory

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

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 and BX-listed issues.

<table>
<tr><th colspan="5">Stock Directory Message</th></tr>
<tr><th>Name</th><th>Offset</th><th>Len</th><th>Type</th><th>Value/Description</th></tr>
<tr><td>Time Stamp</td><td>0</td><td>8</td><td>Numeric</td><td>Time Stamp.</td></tr>
<tr><td>Message Type</td><td>8</td><td>1</td><td>Alphanumeric</td><td>R = Stock Directory</td></tr>
<tr><td>Issue Symbol</td><td>9</td><td>6</td><td>Alphanumeric</td><td>Denotes the security symbol for which the directory message is being generated. For details on symbology, please refer to Appendix B.</td></tr>
<tr><td>Market Category</td><td>15</td><td>1</td><td>Alphanumeric</td><td>Denotes the listing market for the issue. The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>B</td><td>BX-listed securities</td></tr>
<tr><td>T</td><td>Non-NASDAQ-Listed Issue – Includes NYSE-, NYSE Amex-, NYSE Arca- and regional exchange-listed issues (Current value through January 15, 2010)</td></tr>
<tr><td>N</td><td>NYSE Listed Issue (New value as of January 19, 2010)</td></tr>
<tr><td>A</td><td>NYSE Amex Issue (New value as of January 19, 2010)</td></tr>
<tr><td>P</td><td>NYSE Arca Issue (New Value as of January 19, 2010)</td></tr>
<tr><td>Q</td><td>NASDAQ Global Select Market</td></tr>
<tr><td>G</td><td>NASDAQ Global Market</td></tr>
<tr><td>S</td><td>NASDAQ Capital Market</td></tr>
<tr><td><Space></td><td>Not available</td></tr>
</table>
</td></tr>
</table>

<table>
<tr>
<td>Financial Status Indicator</td>
<td>16</td>
<td>1</td>
<td>Alphanumeric</td>
<td>For BX and NASDAQ-listed issues, this field indicates when a firm is not in compliance with BX or NASDAQ continued listing requirements.

The allowable values are:
<table>
<tr><th>Code</th><th>Value</th></tr>
<tr><td>D</td><td>Deficient</td></tr>
<tr><td>E</td><td>Delinquent</td></tr>
<tr><td>Q</td><td>Bankrupt</td></tr>
<tr><td>G</td><td>Deficient and Bankrupt</td></tr>
<tr><td>H</td><td>Deficient and Delinquent</td></tr>
<tr><td>J</td><td>Delinquent and Bankrupt</td></tr>
<tr><td>K</td><td>Deficient, Delinquent, and Bankrupt</td></tr>
<tr><td><space></td><td>Company is in compliance with BX or NASDAQ listing standards

OR

Issue is not listed on BX or NASDAQ</td></tr>
</table>
</td>
</tr>
</table>

6 Contact Information

Questions about the BLS entitlement and display guidelines may be directed to NASDAQ OMX Global Data products at +1 301 978 5307 or dataproducts@nasdaqomx.com.

Questions about BLS transmissions may be directed to NASDAQ OMX Development Support Team at devsupport@nasdaqomx.com.

Appendix A – Last Sale Processing

SEC Vendor Display Rule

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

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

Issue Statistic Calculations

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

a) Last Sale and Volume Calculation

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

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

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

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

Sale Condition – Level 2

For Reg NMS eligible securities, this sale condition level is used to define the trade through reason code. For the BX trading market, the allowable codes are:

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

<space>	Not applicable	See other levels	See other levels	See other levels

For non-Reg NMS securities, this sale condition level is used to identify cross transactions. For the BX listed securities, the allowable codes are:

Code	Value	High/Low	Last Sale	Volume
O	Opening Print	Yes	Yes	Yes
5	Re-Opening Print	Yes	Yes	Yes
6	Closing Print	Yes	Yes	Yes
<space>	Not applicable	See other levels	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 ORF system, the "sold" code is 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	Volume
T	Extended Hours Trade	No	No	Yes
U	Extended Hours Trade – Reported Late or Out of Sequence	No	No	Yes
L	Sold Last – Reported Late But In Sequence	Yes	Yes	Yes
Z	Sold – Out of Sequence	Yes	No (except if first regular market trade of day)	Yes
<space>	Not applicable	See other levels	See other levels	See other levels

Sale Condition – Level 4 indicates special trading situations.

For the BX execution system, this sale condition level is used to denote when a trade record contains the BX Official Opening Price or BX Official Closing Price values. Since BX also reports the underlying cross execution transaction to the tape, the BX Opening and Closing report volume should not be included in the daily volume calculation.

For the Cross Trade (X) modifiers, firms should defer to the Level 2 and Level 3 sale condition codes to determine whether to include the trade in the high, low, and last sale calculation statistics.

As outlined in the table below, BX also observes special processing rules for the Prior Reference Price (P), Weighted Average Price (W), and Odd Lot Execution (o) codes.

Code	Value	High/Low	Last Sale	Volume
A	Acquisition	Yes	Yes	Yes
B	Bunched	Yes	Yes	Yes
D	Distribution	Yes	Yes	Yes
H	Price Variation Trade	No	No	Yes
M	BX Official Close Price	Yes for BX market center only or BX system-wide displays No for BX/ FINRA TRF only displays	Yes (for BX market center only or BX system-wide displays only)	No
o	Odd lot execution	No	No	Yes*
P	Prior Reference Price	Yes	No (except if first regular market trade of day)	Yes
Q	BX Official Opening Price	Yes for BX market center only or BX system-wide displays No for BX/ FINRA TRF only displays	No	No
S	Split Trade	Yes	Yes	Yes
W	Weighted Average Price	No	No	Yes
X	Cross Trade – For BX-listed securities only	Yes (if sent with an eligible Level 2 modifier)	Yes (if sent with an eligible Level 2 modifier)	Yes
<space>	Not applicable	See other levels	See other levels	See other levels

* 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 and NASDAQ OMX BX believe 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.

b) Last Trade Calculation

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

c) Net Change Calculation

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

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

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

- For NASDAQ-listed securities, firms may obtain dividend information via the NASDAQ Daily List product page on the NASDAQ OMX Trader website.
- For BX-listed securities, firms may obtain dividend information via the BX Daily List product on the NASDAQ OMX Trader website.

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

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

Appendix B - Stock Symbol Convention

For bandwidth efficiency reasons, NASDAQ OMX BX supports a 6-byte symbol field on its proprietary order, quotation and trade data feed products.

For most classes of securities, this field length is sufficient to support the exchange-assigned symbol. For NYSE-, NYSE Amex- and NYSE Arca-listed securities with subordinate issue types, however, NASDAQ may modify the trading symbol to fit the allotted field size on the data feeds. For the current symbol convention matrix, please refer to the Ticker Symbol Conversion for CQS Securities page on the NASDAQ OMX Trader website.

For NASDAQ-listed issues, NASDAQ currently restricts its symbol length to a maximum of 5 characters. For common stock issuances, NASDAQ assigns a symbol of 1 to 4 characters in length. For subordinate securities, NASDAQ assigns a 5 character symbol for which the last character relays information about the issue class or issue type. For the current list of fifth character symbol suffixes, please refer to Current List of Fifth Character Symbol Suffixes for NASDAQ-listed Issues on the NASDAQ OMX Trader website.

NASDAQ OMX has not yet determined its symbology for the BX listing market. NASDAQ OMX is committed to keeping the maximum BX listing market symbols length to 6 characters. NASDAQ OMX will release more detailed plans for the BX issue symbols prior to the official market launch.

Appendix C – 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.

For BX-listed issues, NASDAQ OMX BX acts as the primary market and has the authority to institute a trading halt in an issue due to news dissemination or regulatory reasons.

For CQS issues, NASDAQ abides by any regulatory trading halts and trading pauses instituted by the primary or listing market as appropriate.

For all issue types, NASDAQ and/or BX may also halt trading for operational reasons.

NASDAQ and/or BX will send out a trading action message to inform its market participants when the trading status of an issue changes. For informational purposes, NASDAQ and BX also attempt to provide the reason for each trading action update. For bandwidth efficiency reasons, NASDAQ and BX use a 4-byte code for the reason on its outbound data feeds.

REASON CODES FOR TRADING HALT ACTIONS	
Code	Value
T1	Halt News Pending
T2	Halt News Disseminated
T5	Single Security Trading Pause In Affect
T6	Regulatory Halt — Extraordinary Market Activity
T8	Halt ETF
T12	Trading Halted; For Information Requested by Listing Market
H4	Halt Non-Compliance
H9	Halt Filings Not Current
H10	Halt SEC Trading Suspension
H11	Halt Regulatory Concern
O1	Operations Halt; Contact Market Operations
IPO1	IPO Issue Not Yet Trading
M1	Corporate Action
M2	Quotation Not Available
<space>	Reason Not Available

REASON CODES FOR QUOTATION/TRADING RESUMPTION ACTIONS	
Code	Value
T3	News and Resumption Times
T7	Single Security Trading Pause / Quotation Only Period
R4	Qualifications Issues Reviewed/Resolved; Quotations/Trading to Resume

R9	Filing Requirements Satisfied/Resolved; Quotations/Trading To Resume
C3	Issuer News Not Forthcoming; Quotations/Trading To Resume
C4	Qualifications Halt ended; Maintenance Requirements Met; Resume
C9	Qualifications Halt Concluded; Filings Met; Quotes/Trades To Resume
C11	Trade Halt Concluded By Other Regulatory Auth.; Quotes/Trades Resume
R1	New Issue Available
R2	Issue Available
IPOQ	IPO Security Released for Quotation (NASDAQ and BX-Listed Securities)
IPOE	IPO Security — Positioning Window Extension (NASDAQ and BX-Listed Securities)
<space>	Reason Not Available

For the current list of regulatory halts, please refer to the Trading Halts page on the NASDAQ OMX Trader website.

Appendix D – Documentation Version Control Log

July 2, 2010: BLS Version 1.00
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: BLS Version 1.00
NASDAQ added two new Trading Action Reason code values (T5 and T7) for single security trading pause situations.

January 7, 2010: BLS Version 1.00

BLS specification updated to reflect the following change planned for January 19, 2010:

- Changed the Security Class field values to differentiate between NYSE, NYSE Amex and NYSE Arca listed issues.

December 3, 2009: BLS Version 1.00

BLS specification document released to public. Please refer to Data News #2009-43