Nasdaq Basic Canada

Contents

*Include fields or messages not yet in effect

1. Nasdaq Basic Canada Description

The following specification is the detailed requirements for a new product being offered by Nasdaq Canada: Nasdaq Basic Canada. This single Level 1 Market Data product will provide information on all three Nasdaq Canada Trading Books: Nasdaq Canada CXC, Nasdaq Canada CX2, and Nasdaq Canada CXD.

The quotes provided by Nasdaq Basic Canada will quantify the total available liquidity at the inside on Nasdaq Canada's two lit trading books, Nasdaq Canada CXC and Nasdaq Canada CX2, within the single quote message. Nasdaq Basic Canada will provide all trades and relevant trade data from Nasdaq Canada CXC, Nasdaq Canada CX2, as well as Nasdaq Canada CXD

2. Network Protocol Options

Nasdaq will offer the Nasdaq Basic Canada data feed using MoldUDP64.

For network support and ordering information, please refer to the Nasdaq Direct Data Products Specifications Page on the Business.Nasdaq.Com Website.

3. Architecture

Nasdaq Basic Canada 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 Nasdaq Basic Canada protocol are typically delivered using a higher level protocol that takes care of sequencing and delivery guarantees.

4. Data Types

All numeric fields are big-endian (network byte order) binary encoded integers for fields with a length of 4 and longs for fields with a length of 8. Unless otherwise noted, they are unsigned.

Prices are numeric fields, supplied with an associated precision. Unless specifically denoted as a Signed Price, Prices are unsigned. When converted to a decimal format, prices are in a fixed point format, where the precision defines the number of decimal places. For example, a field flagged as Price (8) has an implied 8 decimal places.

Timestamps reflects the Nasdaq system time at which the outbound message was generated by the matching engine. 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.

Timestamps are represented as nanoseconds since midnight

5. Nasdaq Basic Canada Market Data Message

The following represent all information a customer should expect to receive on a daily basis, and relevant instructions with how to utilize said content.

5.1 Quotation Message for Nasdaq Basic Canada

The following message is used to relay Nasdaq Basic Canada Quotation Report. The Nasdaq Canada BBO will broadcast a real-time update every time the Nasdaq Canada best bid and offer quote is updated throughout the trading day. The Nasdaq Basic Canada Quotation message denotes size as a combined value, with attribution in size to the underlying venue where the order(s) originated from.

Quotation Message				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	C = Combined Quotation Report
Time Stamp	1	8	Numeric	Denotes the time stamp of the Nasdaq Canada trading book that generated the quote message.
Stock Symbol	9	10	Alphanumeric	Denotes the Nasdaq Canada stock identifier for which the QBBO quotation message is being generated.
Nasdaq Canada Best Bid Price	19	8	Price (8)	Denotes the best bid price across Nasdaq Canada Market Centers - the highest price for market buy order(s) in the Nasdaq Canada trading book(s).
Nasdaq Canada Best Bid Size	27	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq Canada trading book(s) at the best bid price.
Nasdaq CXC Best Bid Size	31	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq CXC trading book at the Nasdaq Canada best bid price.
Nasdaq CX2 Best Bid Size	35	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq CX2 trading book at the Nasdaq Canada best bid price.
Nasdaq Canada Best Ask Price	39	8	Price (8)	Denotes the best ask price across Nasdaq Canada Market Centers - the highest price for market buy order(s) in the Nasdaq Canada trading book(s).
Nasdaq Canada Best Ask Size	47	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq Canada trading book(s) at the best ask price
Nasdaq CXC Best Ask Size	51	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq CXC trading book at the Nasdaq Canada best ask price.

Nasdaq CX2 Best Ask Size	55	4	Numeric	Denotes the aggregated number of shares available for display within the Nasdaq CX2 trading book at the Nasdaq Canada best ask price.

5.2 Trade Message for Nasdaq Basic Canada

The following message is used to relay all transactions available from or reported by the three Nasdaq Canada Trading Books for the current business day.

Trade Report Message				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	T = Trade Report
Time Stamp	1	8	Numeric	Denotes the time stamp of the Nasdaq Canada trading book that generated the trade message
Originating Market Center Identifier	9	1	Alphanumeric	Denotes the Nasdaq Canada trading book that generated the trade message. The allowable values are: Code – Value C – The Nasdaq CXC Trading Book X – The Nasdaq CX2 Trading Book D – The Nasdaq CXD Trading Book
Stock Symbol	10	10	Alphanumeric	Denotes the Nasdaq Canada stock identifier of the security for which the trade report is being generated.
Trade Number	20	4	Numeric	Indicates the source's internal number associated with the given trade transaction. Please note that the Trade Number is specific to the source trading book reflected in the Market Center ID field. This number is used as a key field for trade cancellations and trade corrections.
Trade Price	24	8	Price (8)	The price associated with the trade transaction being reported.
Trade Size	32	4	Numeric	Indicates the reported number of shares on the trade transaction.
Broker	36	3	Alphanumeric	The three digit numeric Broker Number of the buyer, or 001 for anonymous.
Contra Broker	39	3	Alphanumeric	The three digit numeric Broker Number of the seller, or 001 for anonymous.
Sale Condition Modifier	42	4	Alphanumeric	Sale condition modifier consists of four levels as defined below.
Sale Condition Modifier – Level 1	46	1	Alphanumeric	Used for Trade Attribute Information Code – Value <blank> – Regular Trade B – Bypass (Crosses Only) L – M-ELO P – CXD Pure Stream

<table>
<tr><td>Sales Condition Modifier – Level 2</td><td>47</td><td>1</td><td>Alphanumeric</td><td>Used for Cross Type Information
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>I</td><td>Internal</td></tr>
<tr><td>B</td><td>Basis</td></tr>
<tr><td>C</td><td>Contingent</td></tr>
<tr><td>V</td><td>VWAP</td></tr>
<tr><td>X</td><td>Intentional</td></tr>
<tr><td>D</td><td>Derivative Related</td></tr>
</table></td></tr>
<tr><td>Sales Condition Modifier – Level 3</td><td>48</td><td>1</td><td>Alphanumeric</td><td>Used for Settlement Terms Information
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>T</td><td>Cash Today</td></tr>
<tr><td>C</td><td>Cash Tomorrow</td></tr>
<tr><td>D</td><td>Delayed Delivery</td></tr>
</table></td></tr>
<tr><td>Sales Condition Modifier – Level 4</td><td>49</td><td>1</td><td>Alphanumeric</td><td>Used for Board Lot Eligibility Information
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>A</td><td>Odd Lot</td></tr>
<tr><td>B</td><td>Board Lot or Larger</td></tr>
</table></td></tr>
<tr><td>Consolidated Trade Volume*</td><td>50</td><td>8</td><td>Numeric</td><td>Reflects the volume for the Stock Symbol as reported by each exchange at the time that the trade message was generated</td></tr>
</table>

*This field is not yet in effect. Below is a simplified example of the way Consolidated Trade Volume is calculated and will appear in the feed.

Time	**Nasdaq Basic Canada Trade Volume (RT)**	**Away Exchange Trade Volume (Delayed)**	**Published Consolidated Trade Volume**
9:30 AM	100	150	100
9:35 AM	200	250	300
9:37 AM	300	350	600
9:45 AM	400	450	1000
9:46 AM	500	550	**1650**

5.3 Trade Break Message

If a Trade is cancelled during the same day as its execution, Nasdaq Basic Canada will send a Trade Break message. This message will reference the original Trade Message's Trade Control Number, so a consumer of this content is responsible for managing the daily Time and Sales content to ensure data can be managed locally to affect any change in market data represented by the Trade Break.

Trade Break Message				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	X = Trade Break
Time Stamp	1	8	Numeric	Denotes the time stamp of the Nasdaq system that generated the Trade Break.

<table>
<tr><td>Trade Control Number</td><td>9</td><td>4</td><td>Numeric</td><td>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. This number is used as a key field for trade cancellations and trade corrections.</td></tr>
<tr><td>Originating Market Center Identifier</td><td>13</td><td>1</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada trading book that generated the trade break message. The allowable values are:<table><tr><td>Code</td><td>Value</td></tr><tr><td>C</td><td>The Nasdaq CXC Trading Book</td></tr><tr><td>X</td><td>The Nasdaq CX2 Trading Book</td></tr><tr><td>D</td><td>The Nasdaq CXD Trading Book</td></tr></table></td></tr>
</table>

5.4 Trade Correction Message

If a Trade is corrected during the same day as its execution, Nasdaq Basic Canada will send a Trade Correction message. This message will reference the original Trade Message's Trade Control Number, so a consumer of this content is responsible for managing the daily Time and Sales content to ensure data can be managed locally to affect any change in market data represented by the Trade Correction.

<table>
<tr><td colspan="5">Trade Correction Message</td></tr>
<tr><th>Name</th><th>Offset</th><th>Length</th><th>Type</th><th>Value/Description</th></tr>
<tr><td>Message Type</td><td>0</td><td>1</td><td>Alphanumeric</td><td>Z = Trade Correction</td></tr>
<tr><td>Time Stamp</td><td>1</td><td>8</td><td>Numeric</td><td>Denotes the time stamp of the Nasdaq Canada trading book that generated the trade correction.</td></tr>
<tr><td>Originating Market Center Identifier</td><td>9</td><td>1</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada trading book that generated the trade break message. The allowable values are:<table><tr><td>Code</td><td>Value</td></tr><tr><td>C</td><td>The Nasdaq CXC Trading Book</td></tr><tr><td>X</td><td>The Nasdaq CX2 Trading Book</td></tr><tr><td>D</td><td>The Nasdaq CXD Trading Book</td></tr></table></td></tr>
<tr><td>Stock Symbol</td><td>10</td><td>10</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada stock symbol of the security for which the trade correction is being generated.</td></tr>
<tr><td>Original Trade Number</td><td>20</td><td>4</td><td>Numeric</td><td>Indicates the source's internal number associated with the given trade transaction.
Please note that the Trade Number is specific to the source trading book 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>Original Trade Price</td><td>24</td><td>8</td><td>Price (8)</td><td>The price associated with the original trade transaction.</td></tr>
<tr><td>Original Trade Size</td><td>32</td><td>4</td><td>Numeric</td><td>Indicates the reported number of shares on the original trade transaction</td></tr>
</table>

Corrected Trade Price	36	8	Price (8)	The price associated with the trade correction being reported.
Corrected Trade Size	44	4	Numeric	Indicates the reported number of shares on the trade correction.

6. System Event Messages

The system event message type will be issued to indicate a market state event.

<table>
<tr><th colspan="5">System Event Message</th></tr>
<tr><th>Name</th><th>Offset</th><th>Length</th><th>Type</th><th>Value/Description</th></tr>
<tr><td>Message Type</td><td>0</td><td>1</td><td>Alphanumeric</td><td>S = System Event Message</td></tr>
<tr><td>Time Stamp</td><td>1</td><td>8</td><td>Numeric</td><td>Denotes the time stamp of the Nasdaq Canada trading book that generated the system event message.</td></tr>
<tr><td>Originating Market Center Identifier</td><td>9</td><td>1</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada trading book that generated the event message. The allowable values are:
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>C</td><td>The Nasdaq CXC Trading Book</td></tr>
<tr><td>X</td><td>The Nasdaq CX2 Trading Book</td></tr>
<tr><td>D</td><td>The Nasdaq CXD Trading Book</td></tr>
<tr><td>A</td><td>All Markets (CXC, CX2, CXD)</td></tr>
</table></td></tr>
<tr><td>Event Code</td><td>10</td><td>1</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada market system event code. The allowable values are:
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>O</td><td>First message of the day</td></tr>
<tr><td>S</td><td>Start of Nasdaq Canada Trading Session</td></tr>
<tr><td>Q</td><td>Start of Primary Market Trading Activity Session</td></tr>
<tr><td>M</td><td>End of Primary Market Trading Session. Indicates the Pegged orders are no longer available for execution</td></tr>
<tr><td>E</td><td>End of Nasdaq Canada Trading Session</td></tr>
<tr><td>C</td><td>End of Messages. Last message of the day</td></tr>
</table></td></tr>
</table>

7. Stock Directory Message

At the start of each trading day, Nasdaq disseminates stock directory messages for all active symbols in the Nasdaq Execution system. Please note that the Stock Display Name is truncated after 40 characters.

<table>
<tr><td colspan="5">System Event Message</td></tr>
<tr><th>Name</th><th>Offset</th><th>Length</th><th>Type</th><th>Value/Description</th></tr>
<tr><td>Message Type</td><td>0</td><td>1</td><td>Alphanumeric</td><td>R=Stock Directory Message</td></tr>
<tr><td>Time Stamp</td><td>1</td><td>8</td><td>Numeric</td><td>Denotes the time stamp of the Nasdaq Canada trading book that generated the stock directory message.</td></tr>
<tr><td>Stock Symbol</td><td>9</td><td>10</td><td>Alphanumeric</td><td>Denotes the Nasdaq Canada stock symbol of the security for which the message is being generated.</td></tr>
<tr><td>Stock Display Name</td><td>19</td><td>40</td><td>Alphanumeric</td><td>1*40 Printable ASCII; no default</td></tr>
<tr><td>Listing Market</td><td>59</td><td>1</td><td>Alphanumeric</td><td>Indicates the primary listing market for the stock. The allowable values are as follows:
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>T</td><td>The TMX Senior Market (TSX)</td></tr>
<tr><td>C</td><td>The Canadian Securities Exchange</td></tr>
<tr><td>V</td><td>The TMX Venture Market</td></tr>
<tr><td>N</td><td>The NEO Exchange</td></tr>
</table></td></tr>
<tr><td>Board Lot Size</td><td>60</td><td>4</td><td>Alphanumeric</td><td>Denotes the Board Lot Size of the Symbol</td></tr>
<tr><td>Currency</td><td>64</td><td>1</td><td>Alphanumeric</td><td>Denotes the Currency of the Symbol
<table>
<tr><td>Code</td><td>Value</td></tr>
<tr><td>U</td><td>USD</td></tr>
<tr><td>C</td><td>CAD</td></tr>
</table></td></tr>
</table>

8. Stock Status Message

This message indicates the current trading status of a stock. At the start of day, the feed will send a stock status message for each of the symbols trading on Nasdaq Canada. Subsequently, stock status messages will be sent when a stock is halted or is released for trading. If a security halts on one trading book, but remains in a trading state on another trading book, the user will continue to receive orders on Nasdaq Basic Canada, but all orders will be from the trading book actively trading the instrument at that point in time. If the Stock Status message is sent with a Market of ‘A’, and a System Status of “H”, this means that trading is halted across all trading books.

Note: Normal case is to halt and resume symbols across all books using a Market Value of “A”

Stock Status Message				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	H=Stock Status Message
Time Stamp	1	8	Numeric	Denotes the time stamp of the Nasdaq Canada trading book that generated the stock status message.
Stock Symbol	9	10	Alphanumeric	Denotes the Nasdaq Canada symbol of the security for which the message is being generated.
Market	19	1	Alphanumeric	Denotes the Nasdaq Canada trading book that generated the message. The allowable values are:

				<table><tr><td>Code</td><td>Value</td></tr><tr><td>C</td><td>The Nasdaq CXC Trading Book</td></tr><tr><td>X</td><td>The Nasdaq CX2 Trading Book</td></tr><tr><td>D</td><td>The Nasdaq CXD Trading Book</td></tr><tr><td>A</td><td>All Markets (CXC, CX2, CXD)</td></tr></table>
System Status	20	1	Alphanumeric	Denotes whether the trading state of the Canada trading books is currently halted. The allowable values are: <table><tr><td>Code</td><td>Value</td></tr><tr><td>H</td><td>Halted</td></tr><tr><td>T</td><td>Trading</td></tr></table>

9. End of Day Trade Summary*

End of Day Trade Summary will be published once at 4:15PM and again at 5:15PM. This message will include all traded symbols from the day. The second message at 5:15PM will include the same symbols as the 4:15PM message, updated for any changes made between 4:15PM and 5:15PM. All symbol data will be available at the same time. Fields will be populated with zeros if the stock does not trade during the day.

End of Day Trade Summary				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	D=Trade Summary
Time Stamp	1	8	Numeric	Denotes the time stamp of the Nasdaq Canada trading book that generated the trade message
Stock Symbol	9	10	Alphanumeric	Denotes the Nasdaq Canada stock identifier of the security for which the trade report is being generated.
Consolidated High Price	19	8	Price (8)	The highest price of any high/low eligible transaction on the trading day for any exchange
Consolidated Low Price	27	8	Price (8)	The lowest price of any high/low eligible transaction on the trading day for any exchange
Consolidated Open Price	35	8	Price (8)	The first last sale eligible transactions received on the trading day for any participating exchange
Listing Center Open Price	43	8	Price (8)	The first last sale eligible transactions received on the trading day from the primary listing exchange
Consolidated Close Price	51	8	Price (8)	The final last sale eligible transaction on any participating exchange received on the trading day

Listing Center Close Price	59	8	Price (8)	The final last sale eligible transactions received on the trading day from the primary listing exchange
Consolidated Volume	67	8	Numeric	Reflects the sum of the total volume for the issue from all participating exchanges

*This message is not yet in effect.

10. Previous Day Adjusted Close Price*

The Previous Day Adjusted Close Price message will be sent out once at 7:00AM to reflect any adjustments made overnight. This message can go out multiple times if necessary, with the last scheduled time being 7:30AM. The Previous Day Adjusted Close Price message will typically only be sent out once before the trading day begins.

Adjusted Closing Price				
Name	Offset	Length	Type	Value/Description
Message Type	0	1	Alphanumeric	G = Adjusted Closing Price
Time Stamp	1	6	Numeric	Time Stamp.
Issue Symbol	7	10	Alphanumeric	Denotes the security symbol for the issue in the Nasdaq execution system.
Security Class	17	1	Alphanumeric	Indicates the primary listing market for the issue. The allowable values are as follows: Code: Value T: The TMX Senior Market (TSX) C: The Canadian Securities Exchange V: The TMX Venture Market N: The NEO Exchange
Adjusted Closing Price	18	8	Price (8)	The previous trading day's official closing price adjusted for any applicable corporate actions. If there were no corporate actions for a security, the previous day's official close will be disseminated.

*This message is not yet in effect.

11. Version Control

Date	Version	Comments
06/13/2018	1.0	Initial Specification
01/26/2023	1.4	Added value ‘N’ to the Listing Market field of the Stock Directory Message
10/09/2023	1.5	Added Consolidated Trade Volume field, End of Day Trade Summary message, and Previous Day Adjusted Close Price message.
10/25/2023	1.5	Specified zero values in EOD Trade Summary message
11/1/2023	1.5	Included example calculation for Consolidated Trade Volume Message.
2/1/2024	1.6	“Bypass” changed to “Basis” in Level 2 Last Sale Condition Matrix

12. IP Configuration Information

The following tables summarize network address & parameter configurations needed for accessing the multicast market data services Nasdaq Basic Canada in the Primary, DR, the Point Of Presence, and the NTF.

Nasdaq Basic Canada Network Configuration Parameters				
IP Details	**Primary TR2** 45 Parliament St, Toronto	**DR CH4** 350 E. Cermak Rd, Chicago	**Markham POP** 3500 Steeles Ave E, Markham	**Nasdaq Test Facility (NTF) Platform**
Stream	Stream A	Stream C	Stream E	
Multicast Group	233.128.23.121	233.187.20.23	233.128.23.75	233.128.33.68
Multicast Port	18073	18073	18073	18073
RP	207.251.255.138	207.251.255.97	207.251.255.16	207.251.255.136
Source	206.200.1.224/28	206.200.95.0/25	206.200.58.240/29	206.200.59.240/28
MMRS	206.200.1.195	206.200.92.123	206.200.58.226	206.200.59.227
MMRS Port	18173	18173	18173	18173
Stream	Stream B	Stream D	Stream F	
Multicast Group	233.128.23.122	233.211.120.23	233.128.23.79	
Multicast Port	18073			
RP	207.251.255.139	207.251.255.98	207.251.255.17	
Source	206.200.1.240/28	206.200.95.128/25	206.200.58.248/29	
MMRS	206.200.1.211	206.200.92.126	206.200.58.234	
MMRS Port	18173	18173	18173	

13. Last Sale Condition Matrix

Within the market data industry, the term "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 Canadian Market session. For Nasdaq Canada, 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, Nasdaq Canada 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 trade attribute type of the transaction

Code	Value	High/Low	Last Sale	Volume
<blank>	Regular	Y	Y	Y
B	Bypass	Y	Y	Y
L	M-ELO	Y	Y	Y

Sale Condition – Level 2 denotes the Cross Type of the transaction.

Code	Value	High/Low	Last Sale	Volume
<blank>	Regular	Y	Y	Y
I	Internal	Y	Y	Y
B	Basis	N	N	Y
C	Contingent	Y	Y	Y
V	VWAP	N	N	Y
X	Intentional Cross	Y	Y	Y
D	Derivative Related	Y	Y	Y

Sale Condition – Level 3 denotes the Settlement Terms of the transaction.

Code	Value	High/Low	Last Sale	Volume
<blank>	Regular	Y	Y	Y
T	Cash Today	N	N	Y
C	Cash Tomorrow	N	N	Y
D	Delayed Delivery	n	n	Y

Sale Condition – Level 4 denotes the Board Lot Eligibility of the transaction. is not an eligible value for Board Lot Eligibility

Code	Value	High/Low	Last Sale	Volume
A	Odd Lot	N	N	Y
B	Board Lot or Larger	Y	Y	Y