

Nasdaq Canada OUCH 5.0

Order Entry Specification

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1 Overview

Nasdaq Canada accepts limit orders from system participants and executes matching orders when possible. Non-matching orders may be added to the Nasdaq Canada Trading Books (CXC, CX2, CXD).

OUCH is a simple protocol that allows Nasdaq Canada participants to enter, replace, and cancel orders and receive executions. It is intended to allow participants and their software developers to integrate Nasdaq Canada into their proprietary trading systems or to build custom front ends.

OUCH only provides a method for participants to send orders to Nasdaq Canada and receive updates on those orders entered.

OUCH is the low-level native protocol for connecting to Nasdaq. It is designed to offer the maximum possible performance at the cost of flexibility and ease of use. For applications that do not require this extreme level of performance, Nasdaq Canada offers other, more standard interfaces that may be more suitable and easier to develop to.

1.1 Architecture

The OUCH protocol is composed of logical messages passed between the OUCH host and the client application. Each message type has a fixed message length.

All messages sent from the OUCH host to the client are assumed to be sequenced, and their delivery must be guaranteed by some lower-level protocol. SoupBinTCP (available separately) is the typical protocol used to guarantee the delivery and sequencing of OUCH messages sent between the host and the client.

Messages sent from the OUCH client to the host are inherently non-guaranteed, even if carried by a lower-level protocol that guarantees delivery. Therefore, all host-bound messages are designed so that they can be benignly resent for robust recovery from connection and application failures. Each physical OUCH host port is bound to a Nasdaq Canada-assigned logical OUCH Account. On a given day, every order entered on OUCH is uniquely identified by the combination of the logical OUCH Account and the participant-created UserRefNum field.

1.2 Data Types

Alpha fields may contain upper and lowercase characters.

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

All Numeric fields are binary formatted, big-endian numbers. Four flavors of numeric fields are supported: Longs (8 bytes), Integers (4 bytes), Shorts (2 bytes), and Bytes (1 byte).

Sizes (shares quantities, field lengths) should be treated as unsigned values.

Prices are numeric fields with an implied 8 decimal places. Prices are to be treated as unsigned numeric fields, unless designated otherwise. A price of 0 will be treated as a market order.

A UserRefNum is an unsigned numeric. For a given OUCH port, the UserRefNum is used as a transaction identifier, and must be both unique and strictly increasing throughout the trading day. The UserRefNum begins at 1 and the system ignores new order requests identified with UserRefNums lower than the last one processed, assuming they are retransmissions.

Client however has an option to multiplex their order flow via the use of an optional tag UserRefIdx. When this tag is present the UserRefNum is then assumed to be linked to an "order flow channel" specified by the UserRefIdx and the above rules regarding the use of UserRefNum are applied only within this "order flow channel" instead of the port globally.

An optional attribute on an order is communicated via a TagValue element, constructed as follows:

TagValue element

Field	Offset	Length	Type	Notes
Length	0	1	Numeric	Remaining length of the TagValue element
OptionTag	1	1	Numeric	Identifies the option (see Appendix B)
OptionValue	2	Variable	Variable	Value of the option

The set of optional attributes are set on an order via an options appendage. Each of the individual options formatted as a TagValue element, and the options appendage is then constructed by concatenating together the selected set of options. See [Appendix B](#) for more details.

1.3 Fault Redundancy

A single OUCH Account can be bound to multiple physical OUCH machines. These OUCH machines then act as mirrors of each other for fault redundancy. In this configuration, both machines are able to accept orders and cancel requests, and any outbound messages would be simultaneously generated by both physical OUCH hosts.

2 Inbound Messages

Inbound messages are sent from the participant's application to the OUCH host. They are not sequenced. All Inbound Messages may be repeated benignly. This gives the client the ability to re-send any Inbound message if it is uncertain whether Nasdaq Canada received it in the case of a connection loss or an application error.

The idea of benign inbound message retransmission with end-to-end acknowledgement is fundamental to Nasdaq Canada's failover redundancy. If your connection ever fails, there is no way for you to know if pending messages actually made it over the link before the failure. A robust OUCH client can safely resend any pending messages over a mirrored link without worrying about generating duplicates. This applies to Nasdaq Canada's disaster fail over capability as well; if Nasdaq Canada ever needs to fail over to the backup site, some messages sent at the moment of the failure may be lost. A robust application can simply resend the pending messages, making the fail over seamless to the end user.

All inbound messages on an OUCH port are processed sequentially. This guarantees that if two orders are entered consecutively on the same connection, the first order entered will always be accepted first.

2.1 Type O – Enter Order

Name	Offset	Len	Value	Notes
Type	0	1	'O'	Enter Order Message
UserRefNum	1	4	UserRefNum	As described above in Data Types. UserRefNum must be day-unique and strictly increasing for each OUCH account
OrderQty	5	4	Numeric	Total number of shares
Price	9	8	Numeric	Maximum 999,999. A price of 0 will be treated as a market order.
Side	17	1	Alpha	1 = Buy 2 = Sell 5 = Sell Short
Symbol	18	10	Alpha	Local/exchange symbol only
Time In Force	28	1		0 = Day

				<p>3 = Immediate or Cancel – As much of the order as possible must be executed immediately. Any part of the order that is not executed immediately gets canceled.</p> <p>6 = Good Till Date (GTD) – Date must be today’s trading date. This field must be used in conjunction with ExpireTime.</p> <p>8 = Stream Or Kill (SOK) – Order is paired in a stream immediately or is cancelled. (CXD PureStream only)</p> <p>P = Post-Only Order</p>
ExDestination	29	1	Alpha	<p>Indicates how the order should be routed, and should be one of the following</p> <p>C = CXC</p> <p>2 = CX2</p> <p>D = CXD</p> <p>S = Smart Order Router (requires RoutingStrategy)</p>
UMIRAccountType	30	2	Alpha	<p>Required for Canadian regulatory reporting</p> <p>CL = Client</p> <p>NC = Non-Client</p> <p>ST = Specialist</p> <p>IN = Inventory</p> <p>OF = Options firm account</p> <p>OT = Options market maker</p> <p>BU = Bundled</p> <p>MC = Multiple clients</p>
UMIRUserID	32	8	Alpha	<p>Required for Canadian regulatory reporting, and represents the trading system’s user ID for the trader</p>
Appendage Length	40	2	Numeric	<p>The length of the remaining Optional Appendage Field</p>
Optional Appendage	42	var	TagValue	<p>The available options supported on this message are:</p> <ul style="list-style-type: none"> UserRefIdx Account PegType MinQtyType MinQty MaxFloor ExpireTime PegOffset TargetStrategy OrderOrigination RoutingArrangementIndicator BasketTrade ProgramTrade Jitney GEFEligible Anonymous UMIRRegulationID Bypass TSXNCIB NoTradeFeat NoTradeKey ShortMarkingExempt POComment DisplayRange CustomerAccount AlgorithmID CustomerLEI BrokerLEI ConditionalOrder AllowConditional FirmUpID

				CXDDConnect PureStreamConnect MinRate MaxRate RoutingStrategy HandInst
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2.2 Type U – Replace Order Request

The Replace Order Message allows you to alter most of the attributes of an order in a single message. This is more efficient than canceling an existing order and immediately succeeding it with a new order.

There are two Order UserRefNums in the Replace Order Message. The first must be filled out with the Order UserRefNum of the existing order; the second must be a new Order UserRefNum for the replacement. The replacement Order UserRefNum must be unique in the same way as Order UserRefNums are in the Enter Order Message, and replacement Order UserRefNums may not be the same as the UserRefNum sent in Enter Order Messages. Any replacement Order UserRefNum that has already been used in another Enter Order Message or Replace Order Message will be ignored.

Nasdaq Canada may respond to the Replace Order Message in several ways:

1. If the order for the existing Order UserRefNum is no longer live or if the replacement Order UserRefNum was already used, the replacement will be silently ignored. The replacement Order UserRefNum will not be consumed and may be reused in this case.
2. If the order for the existing Order UserRefNum is live but the details of the replace are invalid (e.g.: new Shares >= 1,000,000), a Cancel Order Message will take the existing order out of the book. The replacement Order UserRefNum will not be consumed, and may be reused in this case.
3. If the order for the existing Order UserRefNum is live but the existing order cannot be canceled, there will be an Order Reject Message. This reject message denotes that no change has occurred to the existing order; the existing order remains fully intact with its original instructions. The Order Reject Message consumes the replacement Order UserRefNum, so the replacement Order UserRefNum may not be reused.
4. If the order for the existing Order UserRefNum is live and can be replaced, you will receive either a Replaced Message or an Atomically Replaced and Canceled Message.

Replace Order Messages may be chained together, so that a single order is replaced over and over again. There is no limit to the number of replaces; however no single order/replace chain may execute more than 999,999 shares cumulatively.

The Shares on the replace denote the total number of shares liable for the whole chain. Here is an example:

Enter Order Message for 500 shares

Accepted Message for 500 shares

Executed Message for 100 shares

At this point, you decide to replace the order. If you want to be exposed for

- a. the remaining 400 shares, send the Replace Order Message with 500 Shares. This 500 equals the 400 exposed plus the 100 previously executed.
- b. a new 500 shares, send the Replace Order Message with 600 Shares. This 600 equals the 500 new shares plus the 100 previously executed.

This may seem a bit confusing at first, but it inhibits the risk of double-liability throughout the order/replace chain.

Name	Offset	Len	Value	Notes
Type	0	1	'U'	Identifies this message as Replace
OrigUserRefNum	1	4	UserRefNum	This must be filled out with the Order UserRefNum sent on the Enter Order Message or last Replace Order Message
UserRefNum	5	4	UserRefNum	As described above in Data Types. The replacement order UserRefNum must be day-unique and strictly increasing for each OUCH account
OrderQty	9	4	Numeric	Total number of shares
Price	13	8	Numeric	Maximum 999,999. A price of 0 will be treated as a market order.
Side	21	1	Alpha	1 = Buy 2 = Sell 5 = Sell Short
Time In Force	22	1		0 = Day 3 = Immediate or Cancel – As much of the order as possible must be executed immediately. Any part of the order that is not executed immediately gets canceled. 6 = Good Till Date (GTD) – Date must be today's trading date. This field must be used in conjunction with ExpireTime. 8 = Stream Or Kill (SOK) – Order is paired in a stream immediately or is cancelled. (CXD PureStream only) P = Post-Only Order
Appendage Length	23	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	25	var	TagValue	The available options supported on this message are: UserRefIdx MinQtyType PegType MinQty MaxFloor ExpireTime PegOffset TargetStrategy OrderOrigination RoutingArrangementIndicator UMIRRegulationID Anonymous DisplayRange CustomerAccount AlgorithmID CustomerLEI BrokerLEI AllowConditional CXDConnect PureStreamConnect MinRate MaxRate HandInst

2.3 Type X – Cancel Order Request

The Cancel Order Message is used to request that an order be canceled or reduced. In the Cancel Order Message, you must

specify the new "intended order size" for the order. The "intended order size" is the maximum number of shares that can be executed in total after the cancel is applied.

Note that the Appendage Length and Optional Appendage fields are optional on this message type.

Name	Offset	Len	Value	Notes
Type	0	1	'X'	Cancel Order Request Message
UserRefNum	1	4	UserRefNum	The Order UserRefNum as was originally transmitted in an Enter Order Message
OrderQty	5	4	Numeric	This is the new intended order size. The limits the maximum number of shares that can potentially be executed in total after the cancel is applied. Entering a zero here will cancel any remaining open shares on this order
Appendage Length	9	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	11	var	TagValue	The available options supported on this message are: UserRefIdx

2.4 Type Q – Account Query Request

The Account Query Request message can be used when recovering state to request the next available UserRefNum that can be used for identifying new transactions.

Note that the Appendage Length and Optional Appendage fields are optional on this message type.

Name	Offset	Len	Value	Notes
Type	0	1	'Q'	Account Query Request Message
Appendage Length	1	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	3	var	TagValue	The available options supported on this message are: UserRefIdx

3 Outbound Messages

3.1 Type S – System Event

System Event Messages signal events that affect the entire Nasdaq Canada system:

Name	Offset	Len	Value	Notes
Type	0	1	'S'	System Event Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
Event Code	9	1	Alpha	S = Start of Day , indicating that the exchange is open and is ready to accept orders

E = End of Day, indicating that the exchange is closed and will no longer accept new orders. Note that it is still possible to receive breaks and cancels after this event.

3.2 Type A – Order Accepted

This message acknowledges the receipt and acceptance of a valid Enter Order Message. The data fields from the Enter Order Message are echoed back in this message. Note that the accepted values may differ from the entered values for some fields. Accepted Messages normally come before any Executed Messages or Canceled Messages for an order. However, when the Order State field of an Accepted Message is Order Dead (“D”), no additional messages will be received for that order, as Order Dead means that the order was accepted and automatically canceled.

Name	Offset	Len	Value	Notes
Type	0	1	'A'	Accepted Order Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	As described above in Data Types. UserRefNum must be day-unique and strictly increasing for each OUCH account
OrderQty	13	4	Numeric	Total number of shares
Price	17	8	Numeric	Maximum 999,999. A price of 0 will be treated as a market order.
Side	25	1	Alpha	1 = Buy 2 = Sell 5 = Sell Short
Symbol	26	10	Alpha	Local/exchange symbol only
Time In Force	36	1		0 = Day 3 = Immediate or Cancel – As much of the order as possible must be executed immediately. Any part of the order that is not executed immediately gets canceled. 6 = Good Till Date (GTD) – Date must be today’s trading date. This field must be used in conjunction with ExpireTime. 8 = Stream Or Kill (SOK) – Order is paired in a stream immediately or is cancelled. (CXD PureStream only) P = Post-Only Order
ExDestination	37	1	Alpha	Indicates how the order should be routed, and should be one of the following C = CXC 2 = CX2 D = CXD S = Smart Order Router (requires RoutingStrategy)
UMIRAccountType	38	2	Alpha	Required for Canadian regulatory reporting CL = Client NC = Non-Client ST = Specialist IN = Inventory OF = Options firm account OT = Options market maker BU = Bundled MC = Multiple clients

UMIRUserID	40	8	Alpha	Required for Canadian regulatory reporting, and represents the trading system's user ID for the trader
Order Reference Number	48	8	Numeric	The day-unique Order Reference Number assigned by Nasdaq Canada to this order
Order State	56	1	Alpha	L = Order Live D = Order Dead
Appendage Length	57	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	59	var	TagValue	The available options supported on this message are: UserRefIdx Account PegType MinQtyType MinQty MaxFloor ExpireTime PegOffset TargetStrategy OrderOrigination RoutingArrangementIndicator BasketTrade ProgramTrade Jitney GEFEligible Anonymous UMIRRegulationID Bypass TSXNCIB NoTradeFeat NoTradeKey ShortMarkingExempt POComment DisplayRange CustomerAccount AlgorithmID CustomerLEI BrokerLEI ConditionalOrder AllowConditional FirmUpID CXDConnect PureStreamConnect MinRate MaxRate RoutingStrategy HandInst

3.3 Type U – Order Replaced

This message acknowledges the receipt and acceptance of a valid Replace Order Message. The data fields from the Replace Order Message are echoed back in this message. Note that the accepted values may differ from the entered values for some fields. You will receive one and only one of these two for each replacement. Like Accepted Messages, Replaced Messages use the Order State field to denote that a replace was accepted and then automatically canceled when the Order State is Order Dead (“D”). No further Executed Messages nor Canceled Messages will be received for the replaced order unless the Order State is not Order Dead. The Shares field on the replace indicates how many shares were left exposed when the replacement completed. E.g.:

- Enter Order Message for 500 shares
- Accepted Message for 500 shares
- Executed Messages for 100 shares
- Replace Order Message for 500 shares
- Replaced Messages with 400 shares

The 400 shares in the Replace Message indicate that 400 shares exist on the book. This same scenario could happen if the execution was in flight back to you while the Replace Order Message was traveling to Nasdaq Canada as follows:

- Enter Order Message for 500 shares
- Accepted Message for 500 shares
- Replace Order Message for 500 shares
- Executed Messages for 100 shares on original order

Name	Offset	Len	Value	Notes
Type	0	1	'U'	Identifies this message as Replace
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
OrigUserRefNum	9	4	UserRefNum	This must be filled out with the Order UserRefNum sent on the Enter Order Message or last Replace Order Message
UserRefNum	13	4	UserRefNum	As described above in Data Types. The replacement order UserRefNum must be day-unique and strictly increasing for each OUCH account
OrderQty	17	4	Numeric	Total number of shares
Price	21	8	Numeric	Maximum 999,999. A price of 0 will be treated as a market order.
Side	29	1	Alpha	1 = Buy 2 = Sell 5 = Sell Short
Time In Force	30	1		0 = Day 3 = Immediate or Cancel – As much of the order as possible must be executed immediately. Any part of the order that is not executed immediately gets canceled. 6 = Good Till Date (GTD) – Date must be today's trading date. This field must be used in conjunction with ExpireTime. 8 = Stream Or Kill (SOK) – Order is paired in a stream immediately or is cancelled. (CXD PureStream only) P = Post-Only Order
Order Reference Number	31	8	Numeric	The day-unique Order Reference Number assigned by Nasdaq Canada to this order
Order State	39	1	Alpha	L = Order Live D = Order Dead
Appendage Length	40	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	42	var	TagValue	The available options supported on this message are: UserRefIdx MinQtyType PegType MinQty MaxFloor ExpireTime

				PegOffset TargetStrategy OrderOrigination RoutingArrangementIndicator UMIRRegulationID Anonymous DisplayRange CustomerAccount AlgorithmID CustomerLEI BrokerLEI AllowConditional CXDConnect PureStreamConnect MinRate MaxRate HandInst
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3.4 Type C – Order Canceled

A Canceled Message informs you that an order has been reduced or canceled. This could be acknowledging a Cancel Order Message, or it could be the result of the order timing out or being canceled automatically. Please note that a Canceled Message does not necessarily mean the entire order is dead; some portion of the order may still be alive.

Name	Offset	Len	Value	Notes
Type	0	1	'C'	Order Canceled Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The Order UserRefNum as was originally transmitted in an Enter Order Message
OrderQty	13	4	Numeric	The number of shares being decremented from the order. This number is incremental, not cumulative.
Reason	17	4	Alpha	Reasons the order was reduced or canceled. See Appendix C for the available reasons
Appendage Length	21	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	23	var	TagValue	The available options supported on this message are: UserRefIdx

3.5 Type D – STP Canceled

Name	Offset	Len	Value	Notes
Type	0	1	'D'	STP Canceled Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The Order UserRefNum as was originally transmitted in an Enter Order Message
Decrement Shares	13	4	Numeric	Total quantity of the order cancelled due to STP
Reason	17	4	Alpha	Reason the order was reduced or canceled.
Quantity Prevented from Trading	21	4	Numeric	Shares that would have executed if the trade would have occurred. Depending on the STP type and the sizes of orders in question, the

				value for this field could differ from that in the Decrement Shares field. For example, with "Cancel Oldest", the two fields will differ if the incoming order is smaller than the resting order.
Price	25	8	Price	The price at which the trade would have occurred
Liquidity Flag	33	1	Alpha	Liquidity flag the order received. See Appendix E
Appendage Length	34	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	36	var	TagValue	The available options supported on this message are: UserRefIdx

3.6 Type E – Order Executed

An Executed Order Message informs you that all or part of an order has been executed.

Name	Offset	Len	Value	Notes
Type	0	1	'E'	Order Executed Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The Order UserRefNum as was originally transmitted in an Enter Order Message
Quantity	13	4	Numeric	The incremental number of shares just executed
Price	17	8	Price	The price at which the shares were executed
Liquidity Flag	25	1	Alpha	Liquidity flag the order received. See Appendix E
MatchNumber	26	8	Numeric	Assigned by the exchange to identify the trade. Both the buy and sell executions participating in the trade will have the same match number
ExecBroker	34	1	Alpha	See Appendix F
Contra Broker	35	4	Numeric	TSX Broker Number on the opposite side of the trade. Will be set to 0 if the contra order is anonymous
Appendage Length	39	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	41	var	TagValue	The available options supported on this message are: UserRefIdx ExecuteMatch SecondaryOrderID BrokerPref PrincipalTrade WashTrade CumRate

3.7 Type B – Corrected Trade

A Broken Trade Message informs you that an execution has been broken. The trade is no longer good and will not clear. The reason for the break is given. You will always get an Executed Order Message prior to getting a Broken Trade Message for a given execution. For the Broken Trade message, Appendage Length and Optional Appendage fields are both optional and will

be absent unless this message results from the incoming message specifying non zero userRefIdx field, in which case that same userRefIdx field will be communicated among the Appendage fields.

Name	Offset	Len	Value	Notes
Type	0	1	'B'	Corrected
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being corrected
MatchNumber	13	8	Numeric	The MatchNumber being corrected
Quantity	21	4	Numeric	Adjusted trade quantity
Price	25	8	Price	Adjusted trade price
Appendage Length	33	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	35	var	TagValue	The available options supported on this message are: UserRefIdx

3.8 Type J – Rejected

A Rejected Message may be sent in response to an Enter Order Message or Replace Order Message if the order or replace cannot be accepted at this time. The reason for the rejection is given. The Order UserRefNum of a Rejected Message cannot be re-used.

Name	Offset	Len	Value	Notes
Type	0	1	'J'	Rejected Order Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being rejected
Reason	13	4	Alpha	The reason the order was rejected. See Appendix D
Appendage Length	17	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	19	var	TagValue	The available options supported on this message are: UserRefIdx

3.9 Type I – Cancel Reject

Name	Offset	Len	Value	Notes
Type	0	1	'I'	Cancel Reject Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being rejected
Reason	13	4	Alpha	The reason the order was rejected. See Appendix D
Appendage Length	17	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	19	var	TagValue	The available options supported on this message are:

				UserRefIdx
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3.10 Type R – Order Restated

The Order Restated Message is sent to indicate that the system has modified an order as part of its order management.

Name	Offset	Len	Value	Notes
Type	0	1	'R'	Order Restated Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
UserRefNum	9	4	UserRefNum	The UserRefNum of the order being restated
Reason	13	1	Alpha	The reason for this order being restated O = Stream On X = Stream Off R = Conditional order firm-up request
Appendage Length	14	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	16	var	TagValue	The available options supported on this message are: UserRefIdx FirmUpID

3.11 Type Q – Account Query Response

The Account Query Response message is sent in response to an Account Query Request to indicate the next available UserRefNum that can be used to identify new transactions.

Account Query message will only have the Appendage Length and Optional Appendage fields present if the Appendage Length was specified on the inbound message.

Name	Offset	Len	Value	Notes
Type	0	1	'Q'	Account Query Request Message
Timestamp	1	8	Timestamp	Expressed as nanoseconds since midnight
NextUserRefNum	9	4	UserRefNum	The next available UserRefNum
Appendage Length	13	2	Numeric	The length of the remaining Optional Appendage Field
Optional Appendage	15	var	TagValue	The available options supported on this message are: UserRefIdx

4 Appendix A – Revision History

Revision #	Date	Change
1.0	2026-02-04	Initial version

1.1	2026-03-10	Size correction for MinRate, MaxRate, CumRate from 3 to 2
1.2	2026-05-06	Housekeeping: Size correction for BasketTrade in Appendix B from 5 to 1, added (CXD only) reference to OptionTag 29 and removed reference to LS orders in OptionTag 34. Cleanup of Order Reject Reasons in Appendix D. Correct Restatement reason length from 4 to 1, adjust offsets, and Account Query Response offset for Appendage Length and Optional Appendage. Change order reject reason Type from Numeric to Alpha. Add new reject reason IVEX. Clarification added in STP Canceled Message "Decrement Shares" Note.

5 Appendix B – Optional Fields

OptionTag	Option	Size	Type	Notes	Default
1	Account	15	Alpha		
2	PegType	1	Alpha	M = Midpoint Peg R = Primary Peg x = Minimum Price Improvement S = Seek Price Improvement L = M-ELO (CXC Only) o = Odd Lot Liquidity Providing (OLP) (CXD Only)	
3	MinQtyType	1	Alpha	N = MAQ m = MAQ at touch (CXD only) t = MQ at touch (CXD only) z = Minimum Quantity (MQ) NOTE: Minimum Quantity (MQ) allows for the quantity provided in MinQty to be met in aggregate; Minimum Acceptable Quantity (MAQ) demands that MinQty be met on every partial execution.	N
4	MinQty	4	Numeric	Works in conjunction with MinQtyType. Order will be rejected if Bypass=Y is combined with MinQty.	0 (zero), no minimum quantity
5	MaxFloor	4	Numeric	Represents the portion of the order to be displayed. (0=Hidden)	Max Floor=OrderQty
6	ExpireTime	4	Numeric	Seconds to live. Must be less than 86400 (number of seconds in a day)	0 (zero), no expire time
7	PegOffset	8	Signed Price	Offset amount for the pegged value	0 (zero), no peg offset
8	TargetStrategy	2	Numeric	1000 = Liquidity Rate 5-15% 1001 = Liquidity Rate 5-30% 1002 = Mach Two 10 - 200% 1003 = Custom Liquidity Rate	
9	OrderOrigination	1	Char	Broker/Dealer needs to report, as specified by the customer 5 = Order received from direct access customer (DEA) 6 = Order received from foreign dealer equivalent (FDE) 7 = Order received from an execution-only service (OEO)	
10	RoutingArrangement Indicator	1	Alpha	0 = No routing arrangement in place 1 = Routing arrangement in place	
11	BasketTrade	1	Alpha	N = No Y = Yes	N (No)
12	ProgramTrade	1	Alpha	N = No Y = Yes	N (No)
13	PrincipalTrade	1	Alpha	N = No Y = Yes	N (No)
14	Jitney	3	Alpha	To mark an order as being executed on behalf of another broker: TSX Broker Number, 3 digit numbers	

15	GEFEligible	1	Alpha	N = No Y = Yes	N (No)
16	Anonymous	1	Alpha	N = No Y = Yes	N (No)
17	UMIRRegulationID	2	Alpha	IA = Insider Account SS = Significant Shareholder	
18	Bypass	1	Alpha	Order market that indicates the order should only trade with displayed quantity N = No Y = Yes	N (No)
19	TSXNCIB	1	Alpha	Identifies Normal-Course Issuer Bid (NCIB) orders N = No Y = Yes	N (No)
20	NoTradeFeat	1	Alpha	Defines the behavior of self-trade prevention when using NoTradeKey. N = Cancel Newest O = Cancel Oldest D = Decrement and Cancel E = Execute Trade If option E is selected, resulting trades are suppressed on public market data, and ExecuteMatch appendage will be returned to entry firm	N (Cancel Newest)
21	NoTradeKey	6	Alpha	Participant-generated key prevents the order from trading against orders with the same key value	
22	ShortMarkingExempt	1	Alpha	0 = SME	
23	POComment	32	Alpha	A free-form pass-through field for use by the participants	
24	DisplayRange	4	Numeric	Quantity assigned to max floor orders indicating the range in which the displayed quantity will randomly increase or decrease.	
25	CustomerAccount	20	Alpha	Account number for clients not eligible to obtain an LEI	
26	AlgorithmID	20	Alpha	Unique identifier for the end-client (orders automatically generated on a predetermined basis)	
27	CustomerLEI	52	Alpha	LEI for clients eligible to obtain an LEI including LEI of the foreign dealer equivalent (Encryption Required)	
28	BrokerLEI	20	Alpha	Non-PO IIROC Dealer Member (Correspondent Broker)	
29	ConditionalOrder	1	Alpha	C = Conditional Order (CXD only) X = eXtended Firm-up Time (XFT) conditional order (CXD only)	
30	AllowConditional	1	Alpha	N = No Y = Yes	N (No)
31	FirmUpID	8	Numeric	Unique firm up ID for a Conditional match	
32	CXDConnect	1	Alpha	Y = Yes N = No	N (No)
33	PureStreamConnect	1	Alpha	Y = Yes N = No	N (No)
34	MinRate	2	Numeric	Minimum rate for CXD PureStream Customer Reference Rate Range. Specified in percent as integer	1 (1%)
35	MaxRate	2	Numeric	Required maximum rate for CXD PureStream Custom Reference Rate Range orders. Specified in percent as integer. Should be between 1% and 500%.	

36	CumRate	2	Numeric	The current cumulative streaming rate the order is achieving. Includes multiple streams, if applicable.	
37	UserRefIdx	1	Numeric	User Reference Index – identifies the channel within the given port	
38	ExecuteMatch	1	Alpha	Y = Yes N = No Indicates that the trade was matched and suppressed due to no self-trade.	N (No)
39	RoutingStrategy	15	Alpha	Routing Strategy provided by Nasdaq Canada	
40	SecondaryOrderID	8	Numeric	When present, Nasdaq Canada order number as reported in the market data feed.	
41	WashTrade	1	Alpha	Y = Yes N = No	N (No)
42	BrokerPref	1	Alpha	Y = Yes N = No	N (No)
43	HandInst	1	Alpha	f = DAO 1 = OPR Reprice 5 = OPR Cancel	1

6 Appendix C – Order Cancel Reasons

Reason	Explanation
0	Default value
#ADM	ADMIN CANCEL
#IOC	CANCELLED
#STP	CANCELLED
#TME	CANCELLED
#DNR	Cancelled to prevent lock/cross
#MKT	Market Closed
#DST	Destination Matcher Closed
#PGF	Pending GEF
#GEF	GEF
OTHR	CANCELLED
#COD	Cancelled on Disconnect
USER	CANCELLED
TLTC	Too Late To Cancel
RISK	RISK
EMPT	Cancelled due to Market Place Threshold
EREP	Exceeded Reprice Threshold
rADM	SOR:AdminAction
rDNA	SOR:DestNotAvailable
rDQM	SOR:DestQuantityMismatch
rDRJ	SOR:DestReject
rMPA	SOR:MaxPostAttempts
rOAD	SOR:OrderAlreadyDead
rOOS	SOR:OutOfSync
rTLR	SOR:TooLateToReplace
ODDD	NO ODDLOT DEALER
OSTP	CANCELLED
SYNO	SYMBOL NOT OPEN FOR TRADING
LCMK	MARKET LOCKED OR CROSSED
LMTD	INVALID ORDER PRICE
#MLO	M-ELO Order No Longer Valid
#BLS	CANCELLED
OLPQ	OLP order qty does not meet the required minimum

CNTG	In Contingency mode
CDEX	CANCELLED
FUDN	CANCELLED
RSTD	Order Restated
#TIF	Cancelled by time restriction
MCLO	Market Closed
HLTS	SYMBOL NOT OPEN FOR TRADING

7 Appendix D – Order Reject Reasons

Reason	Explanation
none	REJECTED
SYMB	UNKNOWN SYMBOL
SYMD	SYMBOL NOT ALLOWED TO TRADE ON DESTINATION
HLTD	SYMBOL HALTED ON DESTINATION
TLTC	TOO LATE TO CANCEL
TLTR	TOO LATE TO REPLACE
ADMC	ADMIN CANCELED
ADRJ	ADMIN REJECTED
HLTS	SYMBOL HALTED
VMIN	VISIBLE MIN QTY
BIOC	NON-IOC BYPASS
PDUP	POSSDUPE SET
MRTE	MISSING OR INVALID EXDESTINATION SPECIFIED
USRB	MISSING/UNKNOWN TAG UMIRUSERID
CRED	TERMINAL HAS NO CREDIT
SMEB	SHORT MARKER EXEMPT NOT SUPPORTED FOR VALUE:
MKTP	INVALID MARKET ORDER SHOULD NOT HAVE PRICE
LMTP	INVALID ORDER PRICE
MCLO	MARKET NOT OPEN
ODDB	INVALID ORDQTY, MUST BE A MULTIPLE OF STANDARD TRADING UNIT
ODDD	INVALID ORDQTY, MUST BE A MULTIPLE OF STANDARD TRADING UNIT [NO ODDLOT DEALER]
ODDI	INVALID ORDQTY, MUST BE A MULTIPLE OF STANDARD TRADING UNIT [TIF NOT IOC OR DAY]
ODDP	INVALID ORDQTY, MUST BE A MULTIPLE OF STANDARD TRADING UNIT [NO PRIM PEG]
ODDM	INVALID ORDQTY, MUST BE A MULTIPLE OF STANDARD TRADING UNIT [MINQTY SPECIFIED]
ODDR	INVALID ORDQTY, CANNOT REPLACE ODDLOT TO ROUND/MIXED LOT OR VICE VERSA
OSTP	REJECTED
NORD	ORDER NOT FOUND
PENR	PENDING REPLACE
PENC	ORDER PENDING CANCEL
SYMM	SYMBOL MISMATCH
USRM	UMIR USER ID MISMATCH
SIDM	SIDE MISMATCH
DESM	DESTINATION MISMATCH
ISOM	CANNOT CONVERT TO ISO ORDER.
INVT	INVALID TAG:
GTDE	EXPIRY REQUIRED FOR GOOD TILL DATE(GTD) ORDER
EMPT	ORDER EXCEEDED MKTPLACE THRESHOLD
BDRK	BYPASS ORDERS NOT VALID ON DARK POOL
DCDT	USER NOT PERMISSIONED ON DESTINATION
PEGB	PEG TYPE NOT SPECIFIED FOR PEG ORDTYPE
MPIB	MPI ORDERS ONLY FOR CXD

ACSO	AT CLOSE ORDERS ONLY FOR SOR ORDERS
INVM	DISPLAYED QUANTITY MUST BE OF STANDARD TRADING UNIT(STU)
INVD	DISPLAY RANGE MUST BE OF STANDARD TRADING UNIT(STU)
MINB	MINQTY MUST BE OF STANDARD TRADING UNIT(STU)
OFFB	INVALID PEGOFFSET FOR PEG TYPE
STRM	REJECTED
CAPD	ORDER FAILED CAPLIMIT - NO DEFAULT LIMIT FOUND
CAPS	ORDER EXCEED SHARE LIMITS:
CAPN	ORDER EXCEED NOTIONAL LIMITS:
CLOP	PEGGED ORDERS UNAVAILABLE AFTER HOURS
CTYP	ATC MUST HAVE ORDRTYPE OF LIMIT OR MARKET
PTYP	INVALID ORDRTYPE FOR PEGGED ORDER
MIST	MISSING REQUIRED TAGS
QTYB	ORDERQTY MUST BE GREATER THAN 0
NMKT	NO MARKET
LCMK	MARKET LOCKED OR CROSSED
CUMQ	NEW ORDER QUANTITY LESS THAN CUMQTY
OTHR	REJECTED
RIOC	NO REPLACE ON IOC ORDER
GWRJ	GATEWAY REJECT
DNMQ	CXD NOT ACCEPTING MIN QTY ORDERS
dSDN	DESTINATION SYSTEM DOWN
dNAO	DESTINATION NOT ACCEPTING ORDERS
dNPO	DESTINATION DOES NOT SUPPORT POST ONLY
dSTP	DESTINATION DOES NOT SUPPORT STP FEATURE SPECIFIED
dPEG	DESTINATION DOES NOT SUPPORT PEG TYPE
dFOK	DESTINATION DOES NOT SUPPORT FOK
dHID	DESTINATION DOES NOT SUPPORT HIDDEN ORDERS
dMQY	DESTINATION DOES NOT SUPPORT MINQTY
dAON	DESTINATION DOES NOT SUPPORT AON
dCLO	DESTINATION DOES NOT SUPPORT CLOSING ORDERS
dIOC	DESTINATION DOES NOT SUPPORT IOC TIME IN FORCE
dBYP	DESTINATION DOES NOT SUPPORT BYPASS FLAG
dRUO	DESTINATION REPLACE FOR UNACK ORDER
dTYP	DESTINATION DOES NOT SUPPORT ORDER TYPE
dMET	DESTINATION DOES NOT SUPPORT MAQ AT THE TOUCH ORDERS
dMQT	DESTINATION DOES NOT SUPPORT MQ AT THE TOUCH ORDERS
dSPI	DESTINATION DOES NOT SUPPORT SEEK PRICE IMPROVEMENT
dOLP	DESTINATION DOES NOT SUPPORT ODD LOT BOOK ORDERS
sTIF	INVALID TIF FOR SPI ORDER. TIF MUST BE IOC
aTIF	INVALID TIF FOR MAQ AT THE TOUCH. TIF MUST BE IOC
qTIF	INVALID TIF FOR MQ AT THE TOUCH. TIF MUST BE IOC
AONQ	AON NOT ALLOWED FOR MAQ AT THE TOUCH OR MQ AT THE TOUCH
PEGQ	PEG NOT ALLOWED FOR MAQ AT THE TOUCH OR MQ AT THE TOUCH
MQYB	INVALID MINQTY. MUST BE A MULTIPLE OF STANDARD TRADING UNIT FOR MAQ AT THE TOUCH OR MQ AT THE TOUCH
SPIP	PEGGING NOT ALLOWED WITH SEEKPRICEIMPROVEMENT
SPII	CSO NOT ALLOWED WITH SEEKPRICEIMPROVEMENT
SPIM	MINPRICEIMPROVEMENT NOT ALLOWED WITH SEEKPRICEIMPROVEMENT
NSTP	STOP ORDER NOT SUPPORTED
CRTE	CHIX ROUTE - MARKET NOT FOUND
BOPG	CHIX ROUTE - OPG ORDERS NOT VALID AFTER STOCK OPEN
NGTC	CHIX ROUTE - GTC ORDERS NOT SUPPORTED
CMCL	CHIX ROUTE - MKT ORDER NOT SUPPORTED AFTER CLOSE
rXBO	SOR CROSSED BEST BID ASK
rIQT	SOR INSUFFICIENT QUANTITY

rIBO	SOR INVALID BEST BID ASK
rIBB	REJECTED
rIBA	SOR INVALID BEST ASK
rPNR	SOR Protected Venue Not Routable
rUKS	UNKNOWN STRATEGY FOR ROUTER
AONI	AON CANNOT BE COMBINED WITH IOC OR FOK
GEFD	INVALID DEST FOR MEMBER GEF VOL CHANGE
GEFS	INVALID SIDE FOR MEMBER GEF VOL CHANGE
GEFU	INVALID UMIR USER FOR MEMBER GEF VOL CHANGE
GEFQ	INVALID VOLUME FOR MEMBER GEF VOL CHANGE
MLNA	NOT ACCEPTING M-ELO ORDERS
MLTI	INVALID TIF FOR M-ELO ORDER
MLBY	BYPASS NOT ALLOWED FOR M-ELO ORDERS
MLRE	CANNOT CHANGE M-ELO TO NON-M-ELO OR VICE VERSA
MLDA	DAO NOT ALLOWED FOR M-ELO ORDERS
MLOP	OPR CANCEL NOT ALLOWED FOR M-ELO ORDERS
MLOQ	INVALID QTY FOR M-ELO ORDER
IVSD	INVALID SIDE
IVTF	INVALID TIF
IVOT	INVALID ORDERTYPE
NOJT	JITNEY NOT ALLOWED
OLPN	DESTINATION NOT ACCEPTING ODD LOT BOOK ORDERS
OLPQ	OLP ORDER QTY DOES NOT MEET THE REQUIRED MINIMUM
OLPR	CANNOT CHANGE OLP TO NON-OLP OR VICE VERSA
OLPL	OLP ORDER LIMIT EXCEEDED
PSNA	DESTINATION NOT ACCEPTING PURESTREAM ORDERS
PSST	INVALID TARGET STRATEGY
PSRT	INVALID MINRATE OR MAXRATE
PSQT	QTY DOES NOT MEET BOARDLOT OR NOTIONAL REQUIREMENT
PSNV	NOMINAL VALUE UNDER REQUIREMENT
PSTF	INVALID TIF FOR PURESTREAM
PSPG	PEGGING NOT ALLOWED FOR PURESTREAM
PSSP	SEEK PRICE IMPROVEMENT NOT ALLOWED FOR PURESTREAM
PMQY	MINQTY/ALL-OR-NONE NOT ALLOWED FOR THE SPECIFIED PURESTREAM STRATEGY
PSRE	CANNOT CHANGE PURESTREAM ORDER TO NON-PURESTREAM ORDER OR VICE VERSA
PSVI	STREAM REQUIREMENT VIOLATED FOR THE STOCK. PURESTREAM ORDERS NOT ALLOWED FOR REST OF DAY
PSML	ORDER CANNOT BE BOTH M-ELO AND PURESTREAM
CDVI	FIRM-UP REQUIREMENT VIOLATED FOR THE STOCK. CONDITIONALS NOT ALLOWED FOR REST OF DAY
CDFU	ORDER IS NOT EXPECTING A FIRM-UP RESPONSE
CDTP	INVALID CONDITIONAL TYPE
CDOR	UNDERLYING ORDER DOES NOT QUALIFY AS A CONDITIONAL ORDER
CDTF	INVALID TIF FOR CONDITIONAL ORDER
CDRE	CANNOT CHANGE CONDITIONAL ORDER TO FIRM ORDER AND VICE VERSA
CNTG	SYSTEM IN CONTINGENCY MODE. ORDERS ARE NOT BEING ACCEPTED
IVEX	INVALID EXPIRY TIME

8 Appendix E – Liquidity Codes

Flag	Value
A	Order added liquidity

R	Order removed liquidity
a	Order added hidden liquidity
r	Order removed hidden liquidity
d	Order added hidden liquidity at-the-touch
D	Order removed hidden liquidity at-the-touch
g	Order added GEF liquidity
G	Order removed GEF liquidity
C	Market On Close
S	Displayed, liquidity-adding order improves the NBBO
O	Opening/Closing Auction
E	Last Sale Trading Session (TSX/TSXV)
L	M-ELO
P	CXD PureStream rate-based execution
M	CXD PureStream LS mid-point block removed liquidity
F	XFT

9 Appendix F – Exec Brokers

Flag	Value
Space	unspecified
A	CHIX
B	CX2
C	CXD
D	TSX
E	PURE
F	ALPH
G	MATCH
H	OMGA
I	LYNX
J	AEQN
K	AEQL
L	CSE2
M	ALPX
N	ALPD
O	ICX