

# Liquidnet Canada Broker Integration Specification



FIX Message Workflow  
Version 4.8

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# 1 Introduction

This document describes the use of the Financial Information eXchange™ (FIX) protocol as it is deployed by Canadian Brokers (Brokers) and Liquidnet to integrate with each other. A sound knowledge of the FIX Protocol is assumed as this document does not cover the behavior in detail. Please refer to <http://fixprotocol.org/> for further details.

To accomplish this integration, the following are detailed:

- **Orders:** In order to access the liquidity, Brokers send a New Order – Single (NOS) message to Liquidnet with an actionable limit price or a market order and a Time in Force code of Immediate or Cancel (IOC) or Fill or Kill (FOK). Time in Force equal to “DAY” is supported for those Brokers certified for Blocks.
  - **Conditional Orders:** Brokers can access additional liquidity by sending a conditional order to Liquidnet. Conditional orders are a good representation of the firm order. Any updates on the firm order should be reflected by the Brokers on the conditional order. The conditional orders apply only for Liquidnet Canada Broker Block orders. Conditional Canada Broker Block orders are marked with custom tag 9127 equal to ‘Y’. When Liquidnet finds a suitable match for the conditional order, Liquidnet will cancel the conditional order by sending a Done For Day message to the Broker. The Done for Day message will specify the quantity available for execution in tags 9129 and 9130. Brokers will respond with a firm Broker Block order and reference the order id of conditional order in tag 9128. The firm Broker Block order may be sent as a Day or IOC order.
- **Acknowledgements and Executions:** Liquidnet responds immediately to NOS messages with an Execution Report to acknowledge the receipt of an order. In the event of a trade, Liquidnet sends Execution Reports corresponding to the state of the order until it is filled, canceled, or the market closes. An Execution Report is always sent, even if the order cannot be filled.
- **Cancel Replace:** A Broker may edit an order by sending Liquidnet a Cancel Replace Request. If the request can be processed, Liquidnet replies with an execution report (Status = Pending Cancel) followed by an execution report (Status = Replaced) indicating the successful replacement of the order. Liquidnet will subsequently send an execution report(s) indicating the partial or complete fill of the order. If the Cancel Replace request cannot be processed, Liquidnet sends an Order Cancel Reject message with the appropriate status.
- **Cancel Requests and Replies:** A Broker may cancel a Liquidnet Broker Block order by sending Liquidnet a Cancel Request. If the request can be processed, Liquidnet replies with a UROut (Execution Report with order status = CANCELED). If the request cannot be processed, Liquidnet sends a Cancel Reject message with the corresponding reason code.

- **Error handling:** As error conditions and exceptions arise during the course of normal operation, LPs can send Don't Know (DK) and Reject messages to cancel transactions in an invalid state. As noted later in this specification, these instances are resolved through a manual process.
- **Sample Message Workflows:** Workflow examples indicating how FIX is used within the integration between a Broker and Liquidnet.

**Note:** Liquidnet supports both versions 4.0 and 4.2 of the FIX protocol (with a strong preference for 4.2). This specification covers both versions, identifying where the FIX Message workflow is different for each version.

## 2 Orders, Acknowledgements, and Executions

Brokers should send a FIX New Order - Single message to Liquidnet when they wish to access the liquidity. Liquidnet supports three types of orders: IOC, FOK and DAY.

- **For IOC orders:** Liquidnet responds immediately with an Execution Report (Status = NEW) followed by an additional Execution Report indicating if the order has been completely filled, partially filled, or if the order has not been filled at all.
- **For FOK orders:** Liquidnet responds immediately with an Execution Report (Status = NEW) followed by an additional Execution Report indicating if the order has been completely filled or if the order has not been filled at all. An order with a TIF of FOK will not be partially filled.
- **For DAY orders:** Brokers must be approved for trading Broker Blocks. Liquidnet responds immediately with an Execution Report (Order Status = NEW), indicating that the order has been acknowledged. Subsequent Execution Reports indicate the status of the order (PARTIALLY FILLED or FILLED) until the order is filled, canceled, or until the market closes. If the order is canceled or the market closes before the order is filled, Liquidnet can send an Execution Report (Status = DONE FOR DAY or CANCELED) upon request.
  - **Conditional Orders:** In the case of conditional Broker Blocks, Liquidnet will send an Execution Report with Status = DONE FOR DAY when a match for a conditional order is found in Liquidnet and therefore cancelled in Liquidnet. The DONE FOR DAY Execution Report will also specify the quantity available for execution.

### 2.1 New Order - Single Messages

Structure of the order message follows:

- Valid Time in Force (TIF) codes are IOC, FOK and Day (provided the Broker is enabled for Broker Blocks trading). All orders containing any other TIF values will be rejected.
- The OrdType for IOC/FOK orders can be Market or Limit. OrdType for Day orders can be Market or Limit/Pegged to Mid with a Price specified. An order with an OrdType other than Market, Limit or Pegged will be rejected.
- The OATS Order ID must be reported in either Tag 11 or Tag 109. Required for US orders only. Conditional orders or any actions on conditional orders (cancel replace, cancel, acks etc.) are not OATS reportable.
- DAY orders must satisfy the per symbol minimum order quantity. Orders with quantities less than this threshold will be rejected. Day Orders are subject to additional restrictions listed in Appendix A.



- All DAY orders will be canceled in the Liquidnet System if the session is ended abruptly or a logout is received.
- For non-US orders, Liquidnet requires the following fields to resolve the security and its market:
  - A currency code in tag 15
  - The Security ID in tag 48
  - The ID Source in tag 22
  - The exchange code in tag 100 for FIX 4.0 or in tag 207 for FIX 4.2 sessions Orders will be rejected if the security cannot be uniquely resolved.
- Conditional Orders are identified with Tag 9127 = 'Y'.
- Firm Orders are DAY or IOC orders sent in response to a DONE FOR DAY will reference order id of conditional order in Tag 9128.
- Support for MinQty (Tag 110) is only implemented for DAY orders. Tag 110 will be ignored if received in a NOS with TIF other than DAY.

Liquidnet processes the following fields in a New Order Single message:

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = D
11	<b>ClOrdID</b>	Y	Y	Unique identifier for the order can also be used as OATS Order ID for US orders.
1	<b>Account</b>	N	N	Account, as assigned by institution and if present, will be echoed back.
21	<b>HandlInst</b>	Y	Y	Liquidnet requests a value of 3.
55	<b>Symbol</b>	Y	Y	Reuters Standard Ticker Symbol, RIC, or ILX Standard Ticker Symbol. For non-US orders, this field should contain the RIC or the Security ID type that is preferred by the LP.
48	<b>SecurityID</b>	N	Y	Unique Identifier for Security. Required only for non-US orders and identified through the value in tag 22.
22	<b>IDSource</b>	N	Y	Required for non-US orders. Liquidnet will accept one of the following: 1 = CUSIP 2 = SEDOL 4 = ISIN Number 5 = RIC Code



Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
54	Side	Y	Y	Liquidnet will accept one of the following: 1= Buy 2= Sell 5= Sell Short
114	LocateReqd	N	Y	Required for short sell and short sell exempt orders. Value must = 'N'
38	OrderQty	Y	Y	The number of shares to be executed with Liquidnet.
40	OrdType	Y	Y	1 = Market 2 = Limit. (Day orders must be limit types.) P = Pegged Order ( Only for TIF of "Day")
44	Price	N	Y	Required for limit and Pegged OrdTypes.
18	ExecInst	Y	Y	"M" Required when <40>=P
15	Currency	N	Y	A message without a value in the Currency field is interpreted as US dollars. Required for non-US orders.
59	TimeInForce	N	Y	All orders must be designated type "0" for Day, type "3" for Immediate or Cancel (IOC) or type "4" for Fill or Kill (FOK). The absence of this field indicates a Day order.
60	TransactTime	Y	Y	The time of the message. Required for FIX 4.2 sessions.
207	SecurityExchange	N	Y	Identifies the exchange of the security and is required for non-US orders for FIX 4.2 sessions only.
100	ExecDestination	N	Y	Identifies the exchange of the security and is required for non-US orders for FIX 4.0 sessions only.
110	MinQty	N	N	Minimum quantity of an order to be executed Supported only for orders with TIF=DAY
50	UMIRUserID	N	Y	Executing trader's UMIRUserID should be provided in tag 50 on all NOS messages. NOS omitting this info, or including invalid information will be rejected.
6763	TSXRegulationID	N	N	Identification marker for UMIR-specific designation to orders and trades: IA = InsiderAccount NA = Not Applicable SS = Significant Shareholder Note: Tag 6763 can be omitted if disclosure does not apply to the NOS.



Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
6750	UMIRAccountType	N	Y	Required for Canadian regulatory reporting. CL=Client (Default) NC=Non-Client ST=Specialist IN=Inventory OF = Options firm account OT = Options market maker BU = Bundled (Tag 581 Value = 101 = Bundled) MC = Multiple Client Effective 14-Sept-2017. <i>Note: If unspecified, Default is applied.</i>
8027	Customer LEI	N	N	Encrypted LEI of client of Canadian broker
8028	IIROC Dealer Member LEI	N	N	LEI of Canadian broker
9127	Conditional	N	N	<b>Populated only for conditional orders.</b> Indicates the order is conditional. Liquidnet will accept one of the following: Y = Order is a conditional order N = Order is not a conditional order  Absence of this tag indicates that this order is not a conditional order
9128	ConditionalID	N	N	<b>Populated only for firm orders</b> sent in response to a Firm Order Request. References Order Id (tag 37) from the execution report (Ack, DFD etc.) sent from Liquidnet to LP.
	<b>Standard Trailer</b>	Y		

## 2.2 Execution Reports

Execution Report messages are sent for the following reasons:

- To inform a Broker that an order has been received by Liquidnet. These are sent both on the conditional and firm orders. This is used as an acknowledgement and it is an optional configuration (i.e. LPs can specify whether or not Acknowledgement messages are required), tag 39 OrdStatus=New.
- To inform a Broker that the order is completely filled, tag 39 OrdStatus = Filled.
- To inform a Broker that the order is partially filled (IOC only), tag 39 OrdStatus = Partial.
- To inform a Broker that no further executions are expected for their IOC/FOK order. For IOC orders, this message would immediately follow a partial execution report. This message can contain tag 39 OrdStatus=DoneForDay or OrdStatus=Cancel.



- To inform a Broker that their Block (or Day) order is canceled at their request. This is also known as a “UROut” message, tag 39 OrdStatus = Cancel.
- To inform a Broker that the order does not meet business validation and as such is rejected by Liquidnet, tag 39 OrdStatus = Rejected.
- To inform a Broker that a match and potential trade has been found for the conditional order; and that the conditional order has been cancelled.

Commission:

- For certain order types and or markets, Liquidnet may charge a commission to the Broker upon execution.
- For executions where a commission is applicable, tags 12 & 13 will be included. If a commission is not applicable, tags 12 & 13 will be omitted.

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = 8
37	<b>OrderID</b>	Y	Y	The Order ID sent by Liquidnet will be unique for the day.
11	<b>ClOrdID</b>	N	Y	Sent By Liquidnet and refers to the ClOrdId that Broker sends in the New Order - Single message.
76	<b>ExecBroker</b>	N	Y	Liquidnet uses broker codes such as: "LQNT" for US , "LNEL" for Europe, "LNAL" for Asia, "LNJP" for Japan, "LNCA" for Canada, "LNAU" for Australia.
17	<b>ExecID</b>	Y	Y	ID for execution report message which is always unique within the span of a single trading day.
20	<b>ExecTransType</b>	Y	Y	Liquidnet always specifies "0 = New Execution" message.
150	<b>ExecType</b>	Y	Y	Indicates the status of the execution. Liquidnet sends Execution report messages with one of the following status codes: 0 = New 1 = Partial Fill 2 = Fill 3 = Done for Day 4 = Canceled 8 = Rejected Required for FIX 4.2 sessions.
39	<b>OrdStatus</b>	Y	Y	Indicates the status of the order. Liquidnet sends execution report messages with one of the following status codes: 0 = New 1 = Partial Fill 2 = Fill 3 = Done for Day 4 = Canceled 8 = Rejected
1	<b>Account</b>	N	Y	Liquidnet will echo the value received in NOS message
55	<b>Symbol</b>	Y	Y	Liquidnet will echo the value received in NOS message
65	<b>SymbolSfx</b>	N	Y	Liquidnet will echo the value received in NOS message
48	<b>SecurityID</b>	N	Y	Liquidnet will echo the value received in NOS message
22	<b>IDSource</b>	N	Y	Liquidnet will echo the value received in NOS message

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
54	<b>Side</b>	Y	Y	Liquidnet will echo the value received in NOS message
38	<b>OrderQty</b>	Y	Y	Liquidnet will echo the value received in NOS message
40	<b>OrdType</b>	N	Y	Liquidnet will echo the value received in NOS message
44	<b>Price</b>	N	Y	Liquidnet will echo the value received in NOS message
18	<b>ExecInst</b>	N	Y	Liquidnet will echo the value received in NOS message
15	<b>Currency</b>	N	Y	Liquidnet will echo the value received in NOS message
59	<b>TimeInForce</b>	N	Y	Liquidnet will echo the value received in NOS message
32	<b>LastShares</b>	Y	Y	The quantity of shares traded in this fill.
31	<b>LastPx</b>	Y	Y	The quantity of shares traded in this fill.
151	<b>LeavesQty</b>	Y	Y	The quantity of shares open for further execution. Required for FIX 4.2 sessions.
14	<b>CumQty</b>	Y	Y	The cumulative quantity of shares executed for the referenced order.
6	<b>AvgPx</b>	Y	Y	The cumulative quantity of shares executed for the referenced order.
12	<b>Commission</b>	N	Y/N	Commission amount will only be sent on applicable executions. If not applicable for the execution, this tag will be omitted.  Note: If CommType is percentage, Commission of 5% should be represented as .05.
13	<b>CommType</b>	N	Y/N	Commission Type will only be sent on applicable executions. If not applicable for the execution, this tag will be omitted.  Commission type valid values: 1 = per share 2 = percentage
60	<b>TransactTime</b>	N	Y	The time of the execution. Required for FIX 4.2 sessions.

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
110	<b>MinQty</b>	N	Y	Liquidnet will echo the value received in NOS message
58	<b>Text</b>	N	Y	Liquidnet will use this field to supply order reject reason, i.e. "Order must be a limit type (tag 40)"
9129	<b>MinConditionalAvailQty</b>	N	Y	Liquidnet will use this field to indicate the minimum quantity required from Broker for execution when sending a DONE FOR DAY to the Broker in response to a conditional order match. Broker has to send a firm order that meets the minimum quantity requirements in order for the execution to occur. Firm orders that do not meet the minimum quantity requirements will not result in an execution
9130	<b>MaxConditionalAvailQty</b>	N	Y	Liquidnet will use this field to indicate the maximum quantity available for execution when sending a DONE FOR DAY to the Broker in response to a conditional order match.
	<b>Standard Trailer</b>	Y	Y	

## 3 Cancel Request and Response

In the event that a Broker wishes to cancel an outstanding Broker Block (Day) order or conditional order with Liquidnet, they may do so by sending a Cancel Request. If the cancel is successfully processed, Liquidnet responds with an execution report (Status = Pending Cancel) followed by execution report (Status = Canceled) indicating the final number of shares filled. If the cancel request cannot be processed, Liquidnet sends a Cancel Request Reject message and processing continues.

### 3.1 Cancel Request

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = F
41	<b>OrigClOrdID</b>	Y	Y	ClOrdId of the order to be canceled.
11	<b>ClOrdID</b>	Y	Y	Unique ID of the cancel request as assigned by the Broker.
55	<b>Symbol</b>	Y	Y	Ticker symbol.
54	<b>Side</b>	Y	Y	For example, Buy, Sell, Short
60	<b>TransactTime</b>	Y	Y	Time of request. Required for FIX 4.2 sessions.
	<b>Standard Trailer</b>	Y	Y	

### 3.2 Cancel Response (Canceled)

If the request is successfully processed, Liquidnet will respond with an Execution Report OrdStatus = Canceled as indicated in section 3.2 of this document, with tag 39=4.

### 3.3 Cancel Response (Cancel Rejected)

If the Cancel Request cannot be processed (e.g., too late to cancel), Liquidnet responds with the following message:

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = 9
37	<b>OrderID</b>	Y	Y	The Order ID supplied in the NOS message.
11	<b>ClOrdID</b>	Y	Y	Unique ID of the Cancel Request as assigned by the Broker.
41	<b>OrigClOrdID</b>	Y	Y	ClOrdId of the order to be canceled.
39	<b>OrdStatus</b>	Y	Y	Status of the order after the cancel reject is applied (i.e., New, Partial Fill).
434	<b>CxlRejResponseTo</b>	N	Y	Identifies the type of request this message is responding to (i.e., 1 - CancelRequest). Required for FIX 4.2 sessions.
58	<b>Text</b>	N	Y	Liquidnet will use this field to supply the order reject reason.



Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<i>Standard Trailer</i>	Y	Y	

## 4 Cancel Replace and Response

In the event that a Broker wishes to change an outstanding Broker Block (Day) order or conditional order with Liquidnet, they may do so by sending a Cancel/Replace request. If the Cancel/Replace is successfully processed, Liquidnet responds with an execution report (Status = Pending Replace) followed by an execution report (Status = Replaced) indicating the successful replacement of the order. Liquidnet will subsequently send an execution report(s) indicating the partial or complete fill of the order. If the Cancel/Replace request cannot be processed, Liquidnet sends a Replace Reject message with the appropriate status.

Note that a Cancel/Replace request that attempts to modify a conditional order to a firm order will be rejected.

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = G
41	<b>OrigClOrdID</b>	Y	Y	ClOrdId of the order to be Replaced.
11	<b>ClOrdID</b>	Y	Y	Unique ID of the cancel/replace request as assigned by the Broker.
40	<b>OrdType</b>	Y	Y	Can be edited to Market, Limit or Pegged
55	<b>Symbol</b>	Y	Y	Must match original Symbol
21	<b>HandlInst</b>	Y	Y	Must match original HandlInst
38	<b>OrderQty</b>	N	Y	Can be edited up or down to 1 share above current quantity
44	<b>Price</b>	N	Y	Can be edited
54	<b>Side</b>	Y	Y	Must match original side.
110	<b>MinQty</b>	N	N	Can be edited down or up to the OrderQty. If exceeds OrderQty, Cancel Replace will be rejected.
50	<b>UMIRUserID</b>	N	Y	Executing trader's UMIRUserID should be provided in tag 50 on all NOS messages. NOS omitting this info, or including invalid information will be rejected.
6763	<b>TSXRegulationID</b>	N	N	Identification marker for UMIR-specific designation to orders and trades: IA = InsiderAccount NA = Not Applicable SS = Significant Shareholder Note: Tag 6763 can be omitted if disclosure does not apply to the NOS.



Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
6750	<b>UMIRAccountType</b>	N	Y	Required for Canadian regulatory reporting. CL=Client (Default) NC=Non-Client ST=Specialist IN=Inventory OF = Options firm account OT = Options market maker BU = Bundled (Tag 581 Value = 101 = Bundled). Effective 14-Sept-2017. Note: If unspecified, Default is applied
60	<b>TransactTime</b>	Y	Y	Time of request. Required for FIX 4.2 sessions.
	<b>Standard Trailer</b>	Y	Y	

## 4.1 Cancel/Replace Response (Cancel/Replace Rejected)

If the Cancel/Replace request cannot be processed (e.g., the order has been filled or too late to cancel), Liquidnet responds with the following message:

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = 9
37	<b>OrderID</b>	Y	Y	The Order ID supplied in the NOS message.
11	<b>ClOrdID</b>	Y	Y	Unique ID of the Cancel Request as assigned by the Broker.
41	<b>OrigClOrdID</b>	Y	Y	ClOrdID of the order to be canceled.
39	<b>OrdStatus</b>	Y	Y	Status of the order after the cancel reject is applied (i.e., New, Partial Fill).
60	<b>TransactTime</b>	N	Y	Time of execution creation expressed in UTC
434	<b>CxlRejResponseTo</b>	N	Y	Identifies the type of request this message is responding to (i.e., 2 - Cancel/Replace Request). Required for FIX 4.2 sessions.
58	<b>Text</b>	N	Y	Liquidnet will use this field to supply the order reject reason.
	<b>Standard Trailer</b>	Y	Y	

# 5 Exception Handling

## 5.1 Don't Know Trade (DK)

Should Liquidnet receive a DK message on an execution, Liquidnet Member Services will contact the Broker for manual reconciliation. Liquidnet does not electronically process DK messages.

An Execution Report can be rejected for the following reasons:

- The Execution Report cannot be matched to a valid, open order.
- The symbol is unknown.
- The side of the order is incorrect.
- The quantity executed exceeds the quantity ordered.
- The price exceeds the limit of the order.

Liquidnet will read the following fields in the DK message:

Tag	Field Name	Req'd by FIX	Req'd by Liquidnet	Comments
	<b>Standard Header</b>	Y	Y	MsgType = Q
37	<b>OrderID</b>	N	Y	Broker's Order ID identified on the problem execution. Required for FIX 4.2 sessions.
17	<b>ExecID</b>	N	Y	Execution ID of problem execution. Required for FIX 4.2 sessions.
127	<b>DKReason</b>	Y	Y	A = Unknown symbol B = Wrong Side C = Quantity exceeds order D = No matching order E = Price exceeds limit Z = Other
55	<b>Symbol</b>	Y	Y	Should match symbol from NOS.
54	<b>Side</b>	Y	Y	The side of the order. 1 = Buy 2 = Sell 5 = Sell Short 6 = Sell Short Exempt (only for US orders)
38	<b>OrderQty</b>	Y	Y	Quantity of shares ordered.
32	<b>LastShares</b>	Y	Y	Quantity of shares traded in the execution that is rejected in this message.
31	<b>LastPx</b>	Y	Y	Price of shares traded in the execution that is rejected in this message.
58	<b>Text</b>	N	N	If Tag 127 = Z, please define DK reason in this field.
	<b>Standard Trailer</b>	Y	Y	

## 5.2 Reject Messages

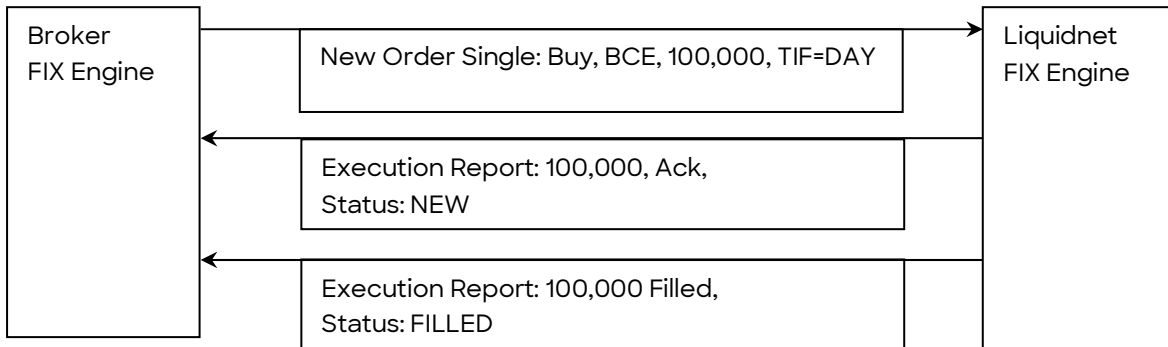
Occasionally FIX messages are sent/received that might be malformed. In these instances, Liquidnet will send and expects to receive a Session Level reject message as per the FIX Protocol standards.

# 6 Sample Message Workflows

The following workflow examples indicate how FIX is used within the integration between a Broker and Liquidnet.

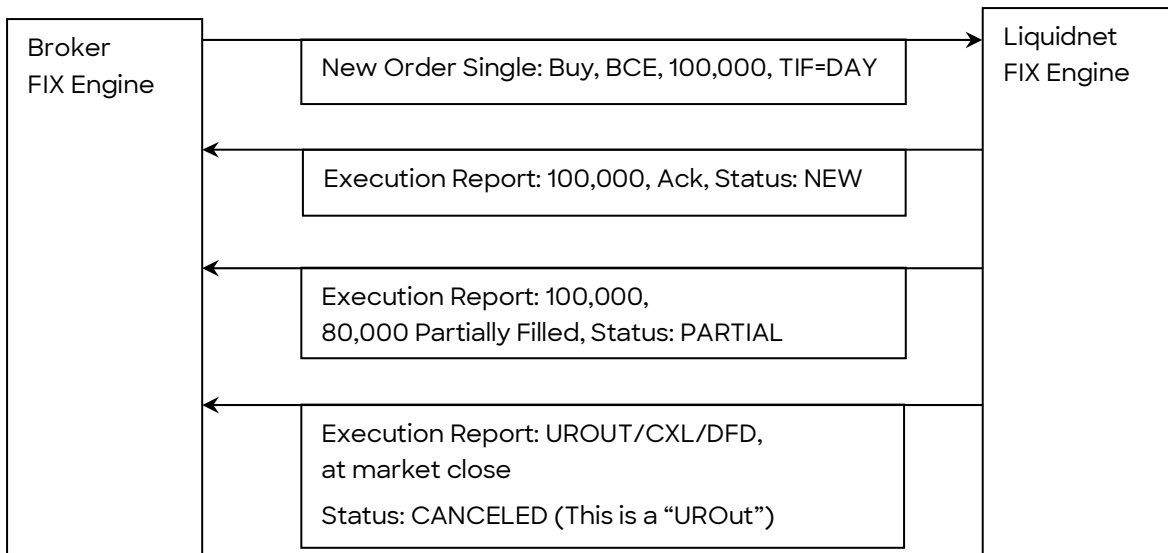
## 6.1 Day Order, Full Execution

The Broker configured for Broker Blocks places a day order for 100,000 shares of BCE. Liquidnet acknowledges and fills the order.



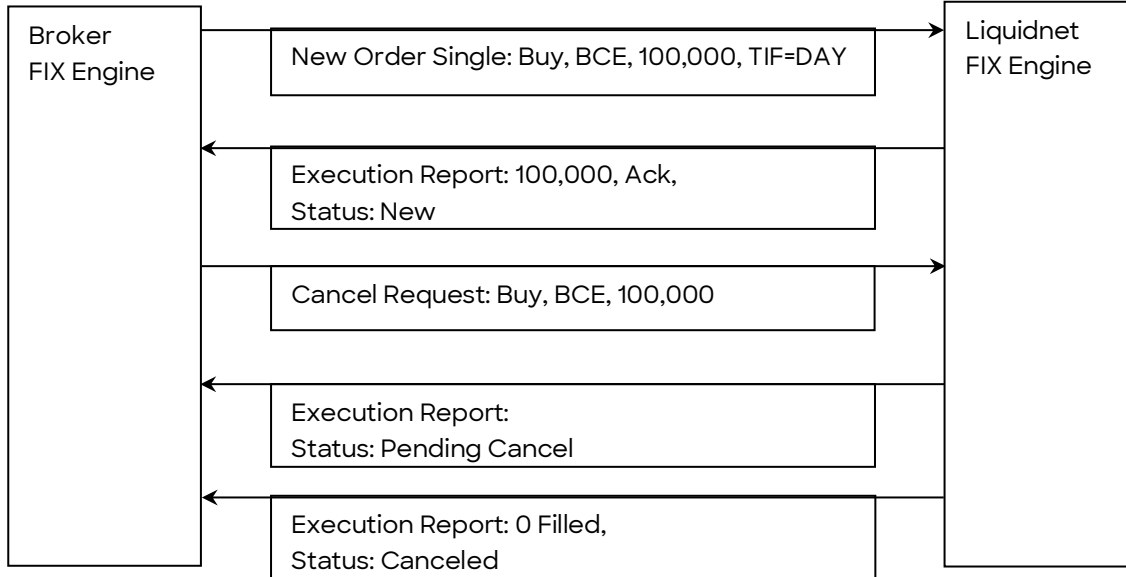
## 6.2 Day Order, Partial Execution, UROut

The Broker configured for Broker Blocks places a day order to Buy 100,000 shares of BCE. Liquidnet acknowledges. 80,000 shares are available and Liquidnet partially fills the order. The Broker Block (Day) order remains open on the Liquidnet system until it is either canceled or the market closes at which point a UROut (an unsolicited cancel) will be sent.



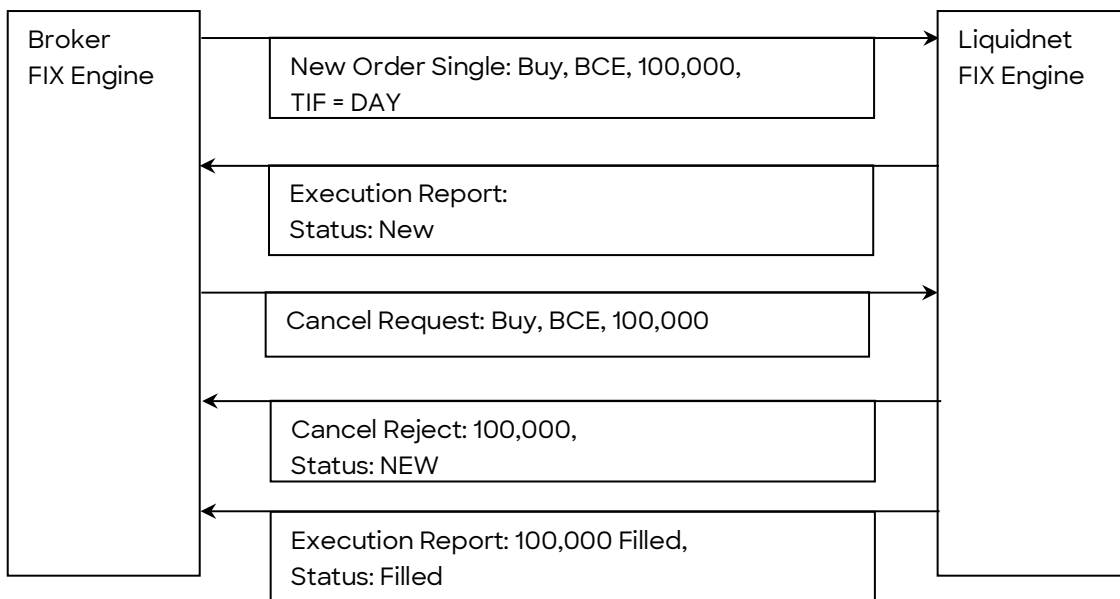
### 6.3 Day Order, No Execution, Cancel Request, Canceled

The Broker configured for Broker Blocks places a day order to Buy 100,000 shares of BCE. The Broker cancels the order and Liquidnet returns an Execution Report acknowledging the cancel.



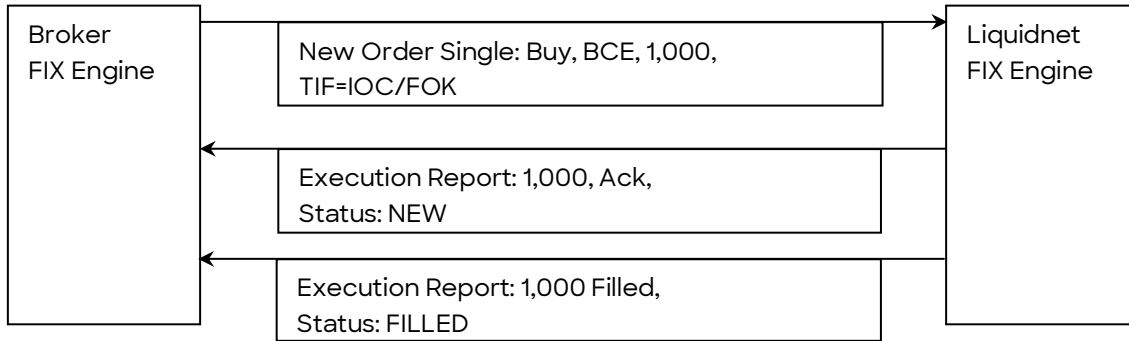
### 6.4 Day Order, Cancel Request, Too Late To Cancel

The Broker configured for Broker Blocks places a day order to Buy 100,000 shares of BCE. The Broker transmits a request to cancel the order, but the order has already been filled in Liquidnet. Liquidnet rejects the Cancel Request and then returns an Execution Report for the FILL.



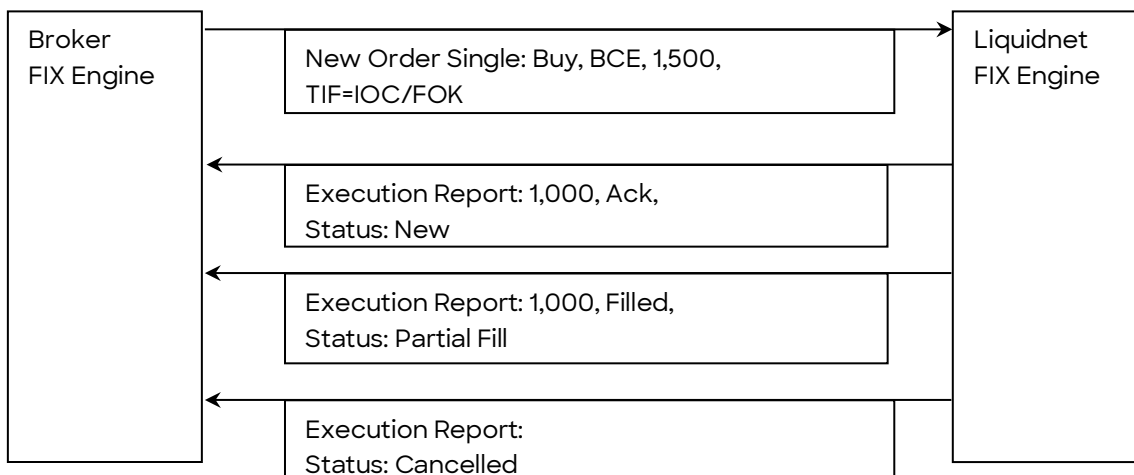
## 6.5 IOC/FOK Order, Full Execution

The Broker places an order for 1,000 shares of BCE, Immediate or Cancel (IOC) or Fill or Kill (FOK). Liquidnet fills the order.



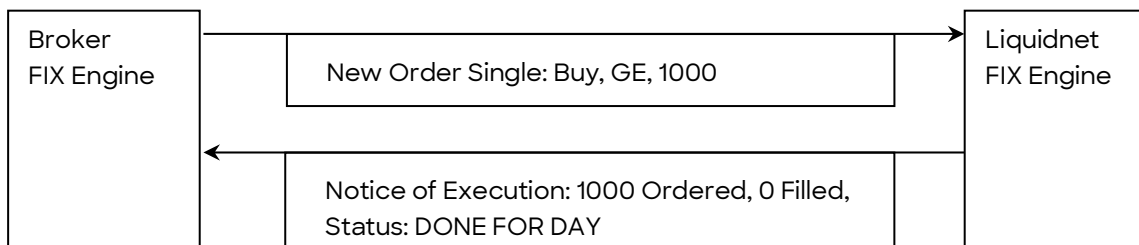
## 6.6 IOC Order, Partial Execution

The Broker places an order to sell 1,500 shares of BCE, Immediate or Cancel. Only 1000 shares are available, so Liquidnet partially fills the order and cancels the remaining quantity of 500 shares of the order.



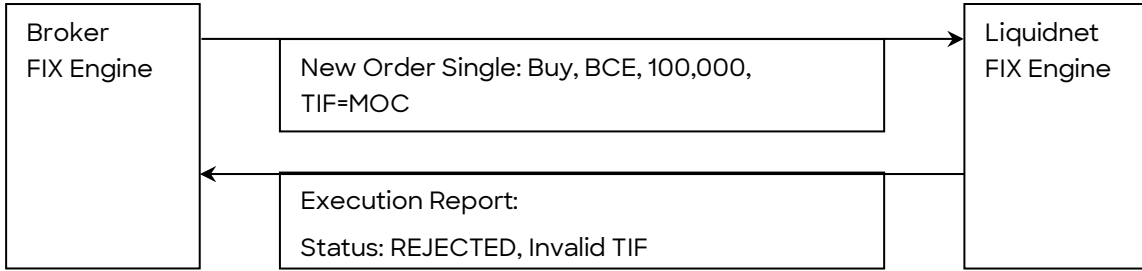
## 6.7 IOC/FOK Order, No Execution

The Broker places an order to buy 1000 shares of GE. Liquidnet does not have any coverage for this side/symbol. Liquidnet acknowledges the order but no execution is sent. The order is then implied to be canceled because it was not filled immediately.



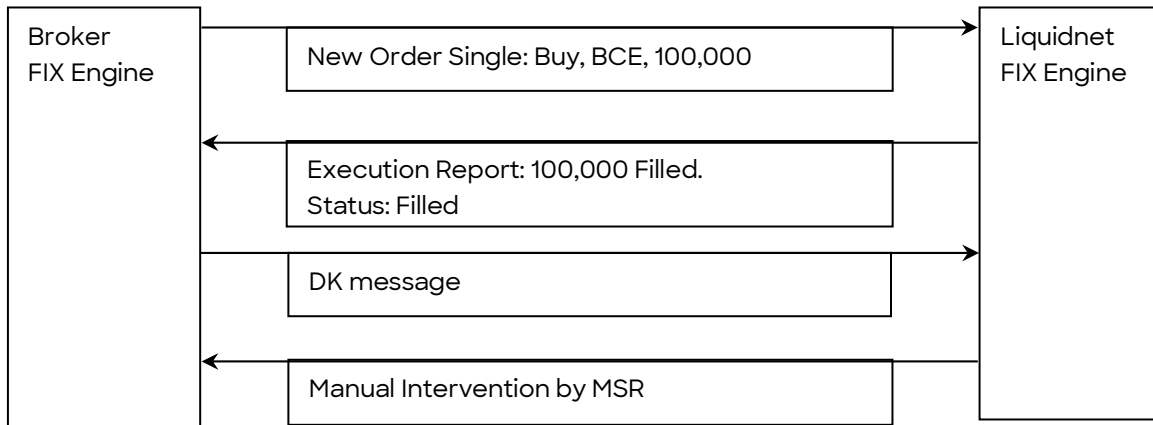
## 6.8 Day/IOC/FOK Order, Reject

The Broker sends an order to Liquidnet containing data that does not conform to business rules (e.g., invalid TIF or unknown symbol). Liquidnet rejects the order.



## 6.9 Day/IOC/FOK Order, Execution, DK

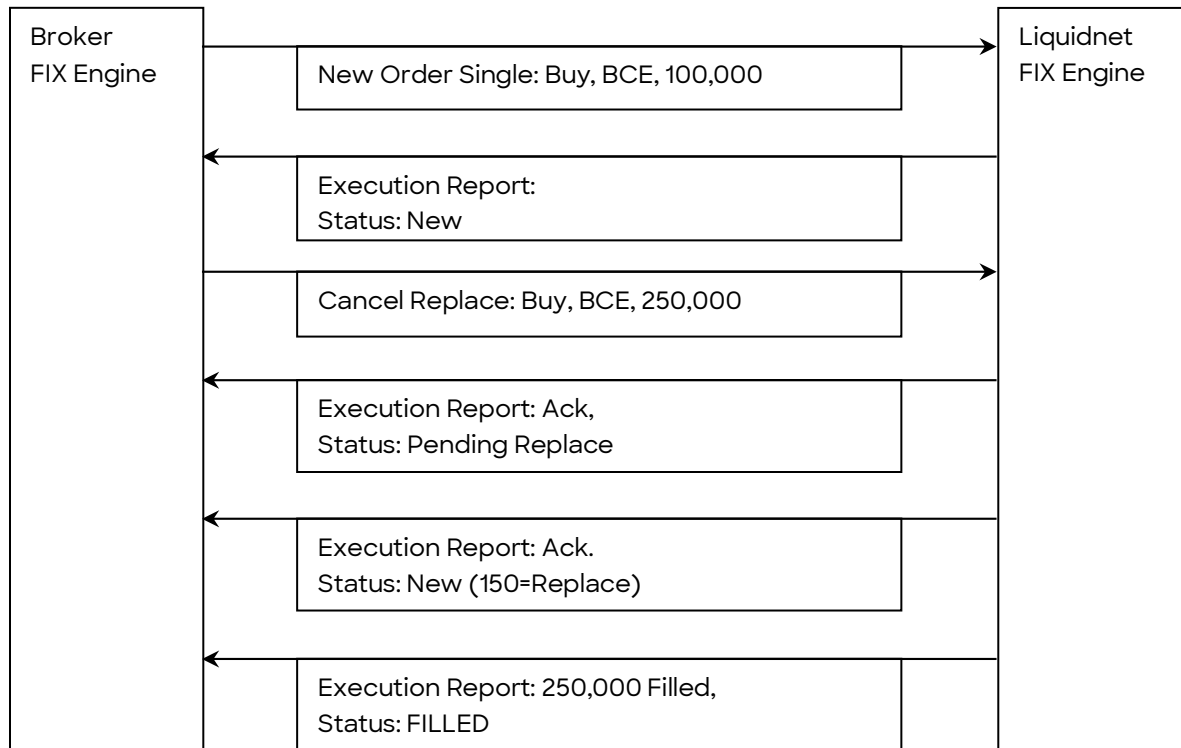
The Broker sends an order to Liquidnet that is valid. Liquidnet responds with an Execution Report that contains bad data or otherwise does not match the order sent by the Broker. The Broker rejects the Execution Report using a DK message. At this point Liquidnet Member services will contact Broker to resolve.





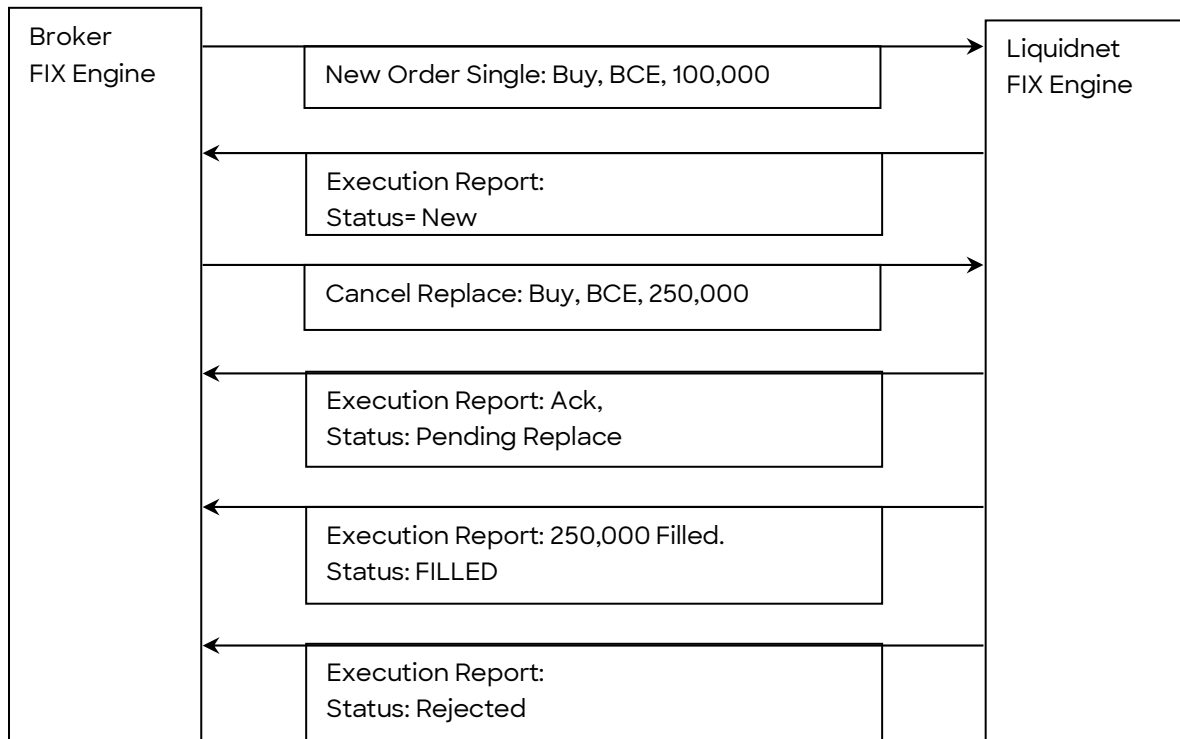
## 6.10 Day Order, Cancel Replace, Order Fill

The Broker sends a valid order to Liquidnet. Liquidnet responds with an Execution Report status of new. The Broker sends a Cancel replace order to Liquidnet. Liquidnet responds with an order status of NEW and an exectype of REPLACE.



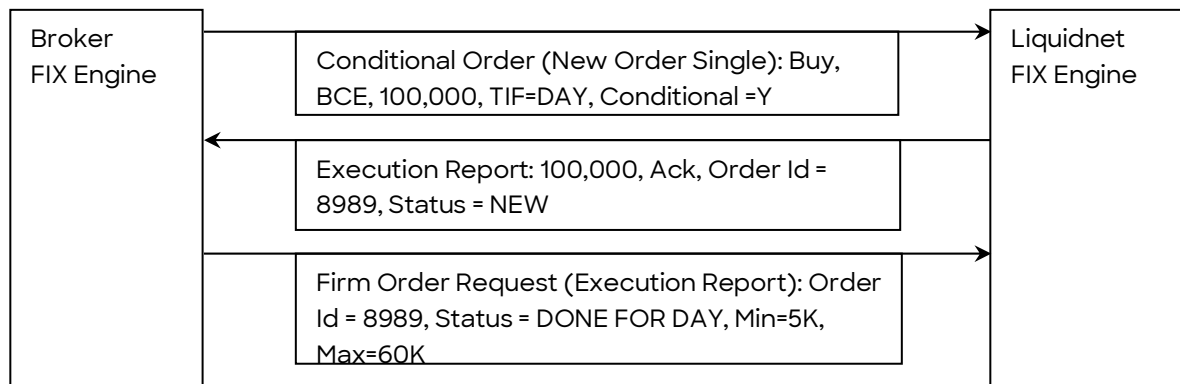
## 6.11 Day Order, Cancel Replace, Order Fill, Reject

The Broker sends a valid order to Liquidnet. Liquidnet responds with an Execution Report status of new. The Broker sends a Cancel replace order to Liquidnet. Liquidnet responds with an order status of NEW and an exectype of REPLACE.



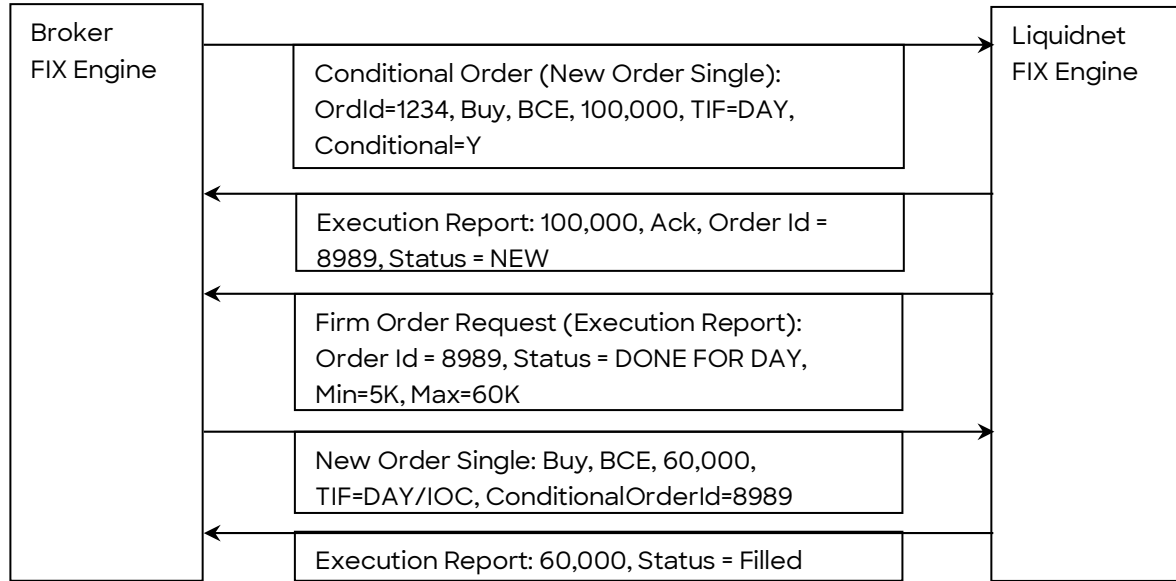
## 6.12 Conditional Day Order, Firm Order Request

Broker places a conditional day order for 100,000 shares of GOOG. Liquidnet acknowledges the order. Liquidnet sends a Done for Day upon finding a match and potential execution for the conditional order and will specify the min and max quantities available for execution in the Done For Day message.

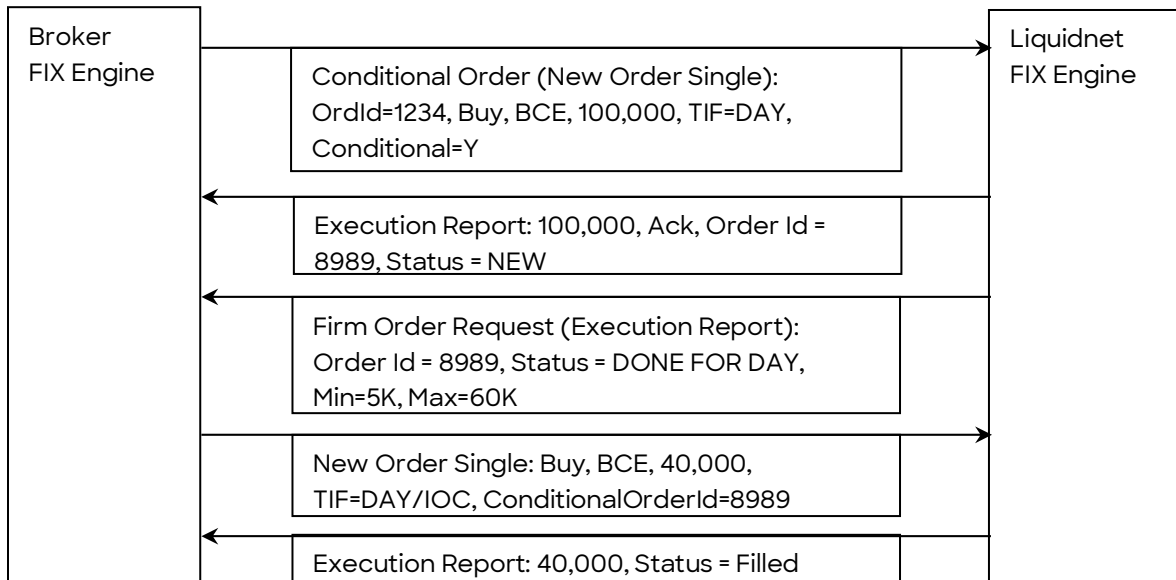


## 6.13 Conditional Day Order, Firm Order Request, Firm Order, Full Execution

Broker places a conditional day order for 100,000 shares of BCE. Liquidnet acknowledges the order. Liquidnet sends a Done for Day upon finding a match and potential execution for the conditional order and will specify the min and max quantities available for execution in the Done For Day message. Broker will respond with a firm DAY or IOC order for 60,000.

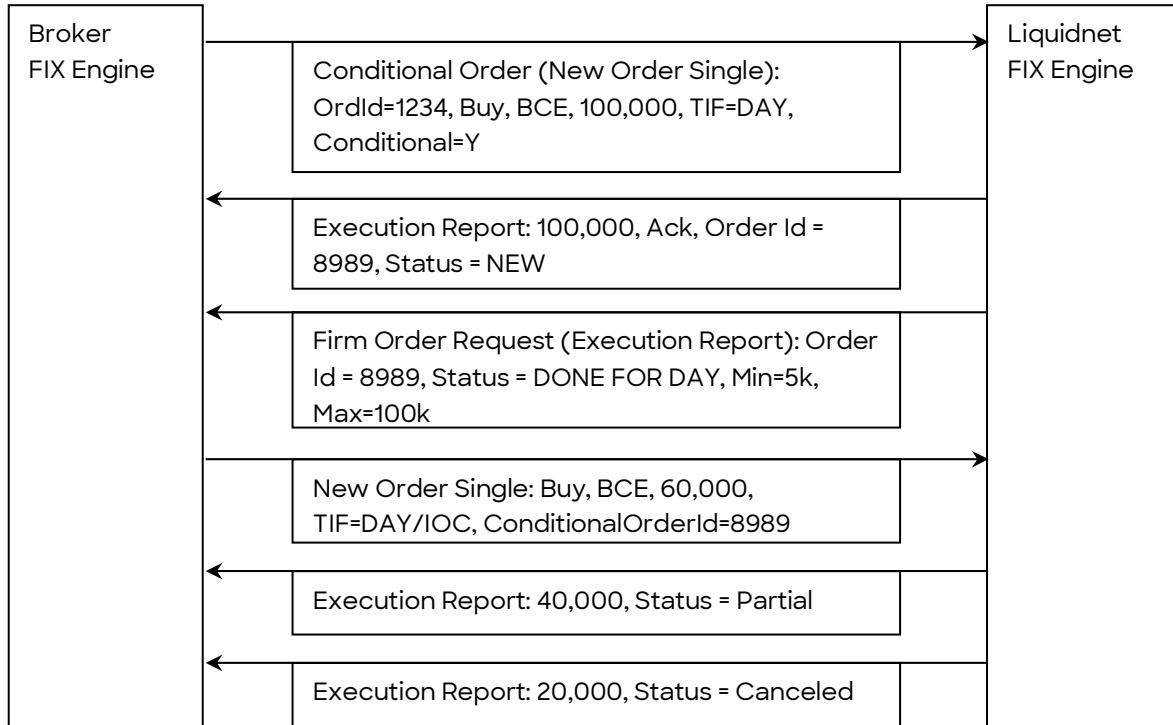


Broker places a conditional day order for 100,000 shares of BCE. Liquidnet acknowledges the order. Liquidnet sends a Done for Day upon finding a match for the conditional order and will specify the quantity available for execution in the Done For Day message. Broker will respond with a firm DAY or IOC order for a smaller amount e.g. 40,000.



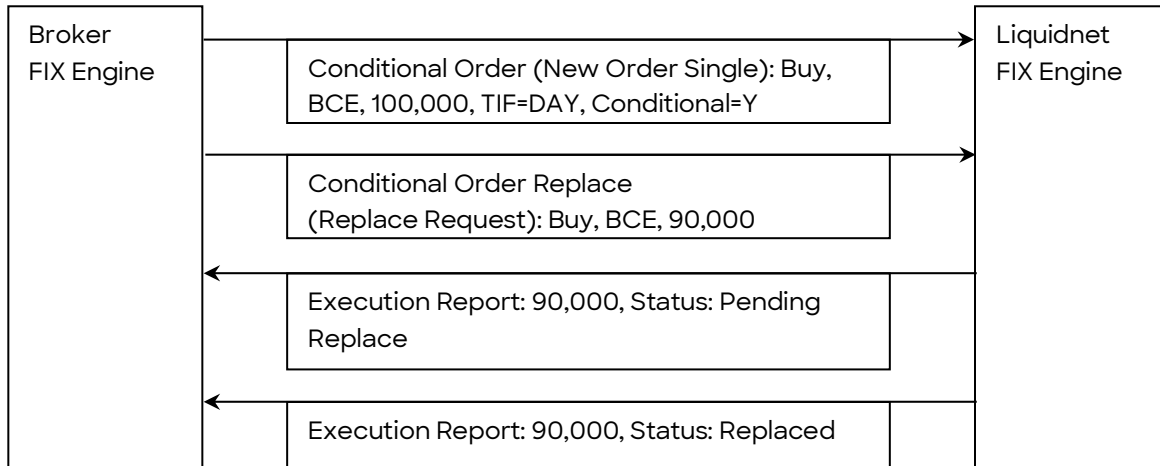
## 6.14 Conditional Day Order, Firm Order Request, Firm Order, Partial Execution

Broker places a conditional day order for 100,000 shares of BCE. Liquidnet acknowledges the order. Liquidnet sends a Done for Day upon finding a match for the conditional order and will specify the min and max quantities available for execution in the Done For Day message. Broker will respond with firm DAY or IOC order for 60,000. Liquidnet is only able to fill 40,000 of the order; Liquidnet will cancel out the remaining 20,000.



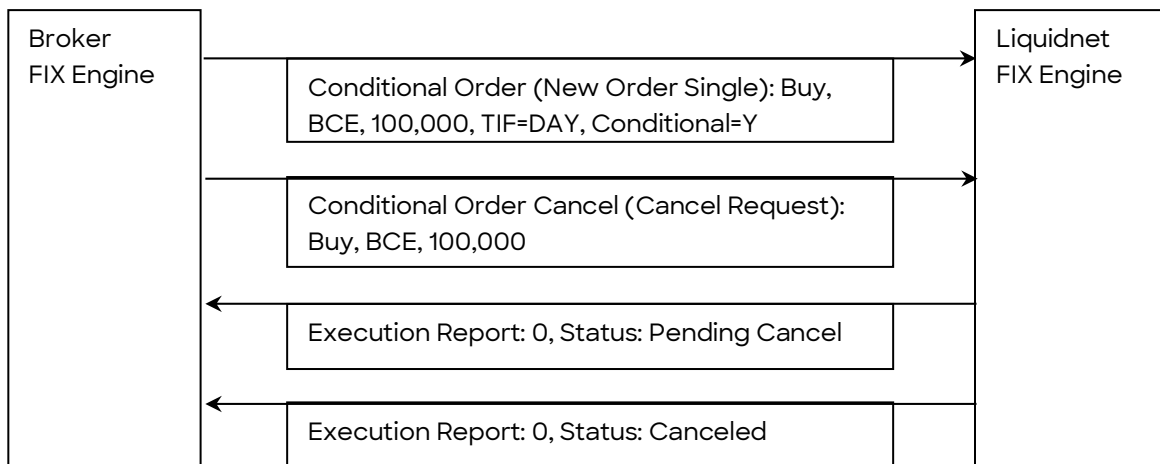
## 6.15 Conditional Day Order, Cancel Replace

Broker places a conditional day order for 100,000 shares of BCE. Liquidnet acknowledges the order. Broker sends a cancel replace to edit down the conditional order quantity to 90,000



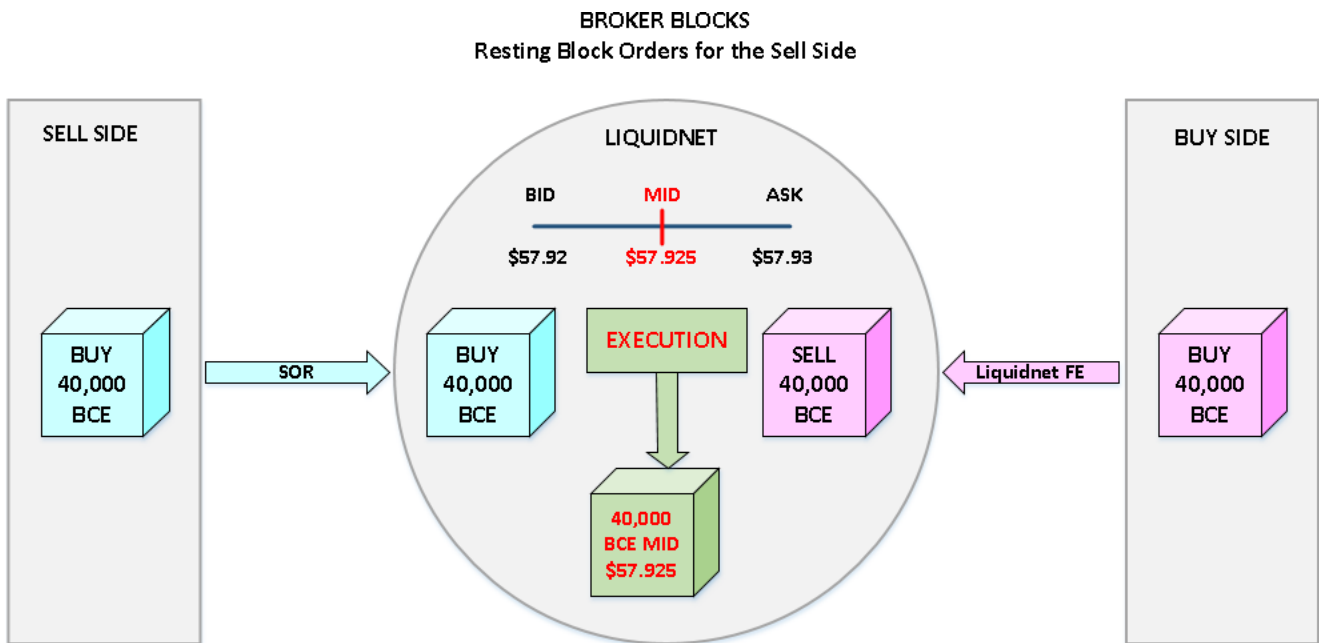
## 6.16 Conditional Day Order, Cancel

The Broker configured for Broker Blocks and Conditional orders places a conditional day order for 100,000 shares of BCE. Liquidnet acknowledges the order. Broker cancels the conditional order.



# Appendix A: Broker Blocks Requirements

- Broker Blocks orders are orders with a time in force of “Day”.
- Liquidity Partners (LPs) are held to sending a minimum order quantity of:
  - CA: 10,000 shares or \$100,000 CAD in value
- Brokers are required to post Broker Blocks in the Liquidnet System for a period of 30 seconds, after which time they are permitted to cancel the order.
- The minimum Member block size required to execute against a Broker Block order is:
  - CA: 5,000 shares
- Day orders execute @ Midpoint (*Protected CBBO - CBBOP*).



## Appendix B: Canadian Regulatory Requirements

All Canadian domiciled brokers will be required to provide the following information as appropriate:

- Regulation ID: “IA”, InsiderAccount or “SH” Significant Shareholder disclosure must be provided on NOS messages where applicable, using tag 6763. Tag 6763 can be omitted if disclosure does not apply to the NOS.
- Executing trader’s StampID should be provided in tag 50 on all NOS messages. NOS omitting this info, or including invalid information will be rejected. Please contact Liquidnet for additional options if you are unable to provide this information on tag 50.
- Executing Broker information will be associated with the FIX session, meaning all NOS message over a specified session will be attributed to the same broker number.

Tag	Field Name	Req'd	Comments
6763	TSXRegulationID	N	Identification marker for UMIR-specific designation to orders and trades: IA = InsiderAccount NA = Not Applicable SS = Significant Shareholder
6750	UMIRAccountType	Y	Required for Canadian regulatory reporting. CL=Client (Default) NC=Non-Client ST=Specialist IN=Inventory OF = Options firm account OT = Options market maker BU = Bundled (Tag 581 Value = 101 = Bundled). Effective 14-Sept- 2017. MC = Multiple Client Note: If unspecified, Default is applied
6751	UMIRUserID	Y	Required for Canadian regulatory reporting, the trading system’s user ID for the trader.
6774	BrokerNumber	N	TSX Broker Number, 3 digit numeric.
8027	Customer LEI	N	Encrypted LEI of client of Canadian broker.
8028	IIROC Dealer Member LEI	N	LEI of Canadian broker

## Appendix C: Testing of the Connection

Steps to Connect to Test Environment:

- Call Liquidnet QTS support hotline at +1 646 660 8445 or email [qts\\_support@liquidnet.com](mailto:qts_support@liquidnet.com) to request new test FIX session.
- We will provide you will IP, port, and CompID's of test session.
- You will need to provide Liquidnet with your internet known-as address to add to our firewall.
- Turnaround time is usually 24 hours.