Rules of Engagement

FIX 4.2 PROTOCOL SPECIFICATIONS

16/04/2020

Document Control

Date	Synopsis of Change
20/05/2015	Review of the buy-side RoE
22/10/2015	Added a few previously undocumented fields
20/02/2017	Added example sequences of messages
21/09/2017	Added MiFID II requirements
02/05/2018	Added individual execution identifier (SecondaryExecID) to Execution report message

1 Purpose

This document defines the rules of engagement for clients wishing to connect to RFQ-hub electronically via FIX (Financial Information Exchange) protocol for the communication of orders and executions.

2 Scope

This document defines the rules of engagement for RFQ-hub at the Application Level.

- The application messages supported by RFQ-hub
- The tags within each message that are sent and expected
- The range of values that are supported for each tag

This document does NOT include session level message information. Standard FIX 4.2 session-level messages will be used.

3 FIX Version

RFQ-hub supports the following FIX version:

- FIX Version 4.2

RFQ-hub conforms to standard message Header and Trailer as defined by the FIX specification for FIX 4.2.
Please refer to www.fixprotocol.org for the definition of mandatory fields.

4 MiFID II

4.1 Identification of the parties

Customers accessing the POSIT RFQ venue directly will be required to send additional tags to identify the parties to the order.
Virtu will support clients sending the following additional information upon order submission:

- Client Identification Code (LEI)
- Investment Decision Maker - this can be an LEI (for a firm), National ID (for an individual) or Algo ID (for an algorithm)
- Execution Decision Maker - this can be an LEI (for a firm), National ID (for an individual) or Algo ID (for an algorithm)

Virtu will support the sending of this information as short codes. The purpose of the short code is to reduce the amount of sensitive data handled by the trading system and to minimise any latency impact with smaller message sizes. These short codes will each represent an identifier such as an LEI, Algo ID or national person. Clients will need to provide Virtu with short to long code mappings by end of each trading day in order to facilitate accurate transaction reporting.
POSIT RFQ venue will send events timestamps with millisecond granularity.

4.2 Trade Reporting

For trades executed on POSIT RFQ MTF, tag 30 (LastMkt) will be set to XRFQ in the execution reports.
For trades executed via a Systematic Internaliser (SI) and reported as such in tag 2524 (TradeReportingIndicator), the MIC of the SI will be captured in tag 30 (LastMkt) in the execution reports.
For trades executed outside POSIT RFQ MTF but executed on a Venue and reported as such in tag 2524 (TradeReportingIndicator), the MIC of the Venue will be captured in tag 30 (LastMkt) in the execution reports.
When executed on POSIT RFQ MTF, TradingVenueRegulatoryTradeID (TVTIC) will be provided in the Trade Capture Report Message. If this type of message is not supported, please note that we will provide an End Of Day file that will include TVTIC as well.

4.3 Timestamps

POSIT RFQ venue will send events timestamps with millisecond granularity.

5 Instruments Supported

- Futures
- Options
- **ETFs**
- Convertibles
- VarSwaps
- TotalReturnSwaps
- Swaption

6 Symbology

RFQ-hub uses IDSource, SecurityID, and Symbol to identify a security. Primary identifier for a security is the IDSource and its associated value in SecurityID. RFQ-hub supports the following IDSource:

- 1 = CUSIP
- 2 = SEDOL
- 4 = ISIN
- 5 = Ric Code
- 8 = Exchange Symbol
- A = Bloomberg Symbol

Bloomberg symbols could however be used in tag Symbol.
Primary exchange of a security dictates what IDSource RFQ-hub will handle.

7 Application Messages Supported

7.1 Messages list

Below are the following application messages RFQ-hub supports:

Tag 35	Application Message
8	Execution Report
9	Order Cancel Reject
D	New Order Single
F	Order Cancel Request
G	Order Cancel / Replace Request
H	Order Status Request
Q	Don't Know Trade

7.2 Messages descriptions

7.2.1 New Order Single

Direction	From Client to RFQ-hub
Purpose	Electronic submission of securities order to RFQ-hub for quotes request and execution.
Sent in response to	N/A
Possible responses	Acknowledge Order, Reject Order

Tag		Field Name	Req'd	Comments
		Standard Header	Y	MsgType = D
11		ClOrdID	Y	Unique identifier of the order assigned by the buy-side Example: 11=105112-233190-0
109		ClientID	N	Firm identifier used in third party-transactions (should not be a substitute for OnBehalfOfCompID/DeliverToCompID)
1		Account	N	Account identifier
78		NoAllocs	N	
=>	79	AllocAccount	N	The code for the account
=>	80	AllocShares	N	Quantity to be allocated to specific sub-account
64		SettlDate	N	Specific date of trade settlement.
21		HandlInst	Y	Instructions for order handling on sell-side's trading floor. RFQ-hub supports: 1 = Automated Execution Order Private No Broker Intervention 3 = Manual Order Best Execution
18		ExecInst	N	Can contain multiple instructions, space delimited.
100		ExDestination	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange the reference price is taken from. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
2704		ExDestinationType	N	MiFID II RFQ-hub supports: 0 = No Restriction 1 = Can Be Traded Only On A Trading Venue 2 = Can Be Traded Only On A Systematic Internaliser 3 = Can Be Traded On A Trading Venue Or Systematic Internaliser
55		Symbol	Y	Ticker or alternate security identifier
65		SymbolSfx	N	Additional information about the security
48		SecurityID	N	RFQ-hub uses this tag as the value of tag 22
22		IDSource	N	RFQ-hub supports: 1 = Cusip 2 = Sedol 4 = Isin Number 5 = Ric Code 8 = Exchange Symbol A = Ticker

167	SecurityType	N	RFQ-hub supports: CS = Common Stock (value to use for ETF) MF = Mutual Fund (will also be treated as ETF)
207	SecurityExchange	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange on which the order should be executed. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
107	SecurityDesc	N	Can be used to provide an optional textual description for a financial instrument.
54	Side	Y	RFQ-hub supports: 1 = Buy 2 = Sell 5 = Sell Short
60	TransactTime	Y	Time this order request was initiated/released by the trader or trading system.
38	OrderQty	N	Number of instruments ordered.
40	OrdType	Y	RFQ-hub supports: 1 = Market 2 = Limit 3 = Stop 4 = Stop Limit 5 = Market On Close (will be interpreted as Market) 7 = Limit Or Better 8 = Limit With Or Without B = Limit On Close (will be interpreted as Limit)
44	Price	N	Conditionally required when OrdType = *Limit*, *Stop Limit*, *Limit On Close*, *Limit Or Better* or *Limit With Or Without*
99	StopPx	N	Conditionally required when OrdType = *Stop* or *Stop Limit*
15	Currency	N	Identifies currency used for price. Absence of this field is interpreted as the default for the security.
59	TimeInForce	N	RFQ-hub supports: 0 = Day 1 = Good Till Cancel 2 = At The Opening 3 = Immediate Or Cancel 6 = Good Till Date 7 = At The Close
432	ExpireDate	N	Relevant when TimeInForce = *Good Till Date*
126	ExpireTime	N	Conditionally required when TimeInForce = *Good Till Date* and ExpireDate is not set
47	Rule80A	N	Also known as OrderCapacity RFQ-hub supports: A = Agency Single Order P = Principal Y = Program Order Nonindex Arb For Other Agency (interpreted as Agency)

528	OrderCapacity	N	MiFID II Replaces tag 47 RFQ-hub supports: A = Agency P = Principal
58	Text	N	Text comments
203	CoveredOrUncovered	N	RFQ-hub supports: 0 = Covered 1 = Uncovered
5697	BrokerRestrictionTagValidation	N	RFQ-hub supports: 0 = Require Broker Restriction List
5698	BrokerRestriction	N	When omitted, BrokerRestrictionList is interpreted as black-list. RFQ-hub supports: 1 = Broker Restriction Restricted (BrokerRestrictionList is a black-list) 2 = Broker Restriction Directed (BrokerRestrictionList is a white-list)
5699	BrokerRestrictionList	N	Either a while-list or black-list (depending on the value of tag 5698) of broker codes, separated by a pipe character (|). Conditionally required when BrokerRestrictionTagValidation = *Require Broker Restriction List*
20003	PartyIDClientID	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Where using an explicit client identifier, use Parties component - existing from 4.3 with fields as follows: Where the order is for a single client who is a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = N (LEI) or P (Short code identifier) Where the order is for a single client who is not a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = P (Short code identifier)
20012	PartyIDExecutingTrader	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Parties component - existing from 4.3 with fields PartyRole(452) = 3 (Client ID) PartyIDSource(447) = P (Short code identifier)
20013	PartyIDOrderOriginationFirm	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Where using an explicit client identifier, use Parties component - existing from 4.3 with fields as follows: Where the order is for a single client who is a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = N (LEI) or P (Short code identifier) Where the order is for a single client who is not a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = P (Short code identifier)

20122	PartyIDInvestmentDecisionMaker	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Parties component - existing from 4.3 (PartyRoleQualifier from 5.0) with fields as follows: Where this is a trader: PartyRole(452) = 122 (Investment decision maker) PartyIDSource(447) = P (Short code identifier) PartyRoleQualifier(2376) = 24 (Natural person) Where this is an algorithm: PartyRole(452) = 122 (Investment decision maker) PartyIDSource(447) = D (Proprietary / Custom code) or P (Short code identifier) PartyRoleQualifier(2376) = 22 (Algorithm)
453	NoPartyIDs	N	MiFID II Repeating group below should contain unique combinations of PartyID, PartyIDSource, PartyRole, PartyRoleQualifier
=> 448	PartyID	Y	MiFID II The value representing the client or decision maker represented by this block. Data corresponding to a short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules. For clients, the following values are reserved for applicable use: Applicable to PartyRole value 3: 0 = NONE (No Client for this order) 1 = AGGR (An aggregation of multiple client orders) 2 = PNAL (Clients are pending allocation) Applicable to PartyRole value 12: 3 = CLIENT (Time and venue of the order instructed by the client of the Participant)
=> 447	PartyIDSource	Y	RFQ-hub supports: B = Bic C = Generally Accepted Market Participant Identifier D = Proprietary Custom Code N = Legal Entity Identifier O = Interim Identifier P = Short Code Identifier
=> 452	PartyRole	Y	MiFID II Identifies the type or role of the Party ID (e.g. Executing Broker). RFQ-hub supports: 1 = Executing Firm 3 = Client Id 11 = Order Origination Trader 12 = Executing Trader 13 = Order Origination Firm 53 = Trader Mnemonic 66 = Market Maker 76 = Desk Id 122 = Investment Decision Maker
=> 2376	PartyRoleQualifier	N	MiFID II RFQ-hub supports: 22 = Algorithm 23 = Firm Or Legal Entity 24 = Natural Person
2593	NoOrderAttributes	N	MiFID II

=>	2594	OrderAttributeType	N	MiFID II RFQ-hub supports: 0 = Aggregated Order 1 = Pending Allocation 2 = Liquidity Provision Activity Order
=>	2595	OrderAttributeValue	N	MiFID II
		Standard Trailer	Y	

7.2.2 Order Cancel Request

Direction	From Client to RFQ-hub
Purpose	To request the cancellation of the outstanding balance of an existing order.
Sent in response to	N/A
Possible responses	Pending Cancel, Cancel, Cancel Reject

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = F
41	OrigClOrdID	Y	ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order. Example: 11=105112-233190-0
37	OrderID	N	Unique identifier of most recent order as assigned by RFQ-hub.
11	ClOrdID	Y	Unique identifier of the order assigned by the buy-side Example: 11=105112-233190-1
1	Account	N	Account identifier
55	Symbol	Y	Ticker or alternate security identifier
48	SecurityID	N	RFQ-hub uses this tag as the value of tag 22
22	IDSource	N	RFQ-hub supports: 1 = Cusip 2 = Sedol 4 = Isin Number 5 = Ric Code 8 = Exchange Symbol A = Ticker
167	SecurityType	N	RFQ-hub supports: CS = Common Stock (value to use for ETF) MF = Mutual Fund (will also be treated as ETF)
207	SecurityExchange	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange on which the order should be executed. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
107	SecurityDesc	N	Can be used to provide an optional textual description for a financial instrument.
54	Side	Y	RFQ-hub supports: 1 = Buy 2 = Sell 5 = Sell Short
60	TransactTime	Y	Time this cancel request was initiated/released by the trader or trading system.
38	OrderQty	N	Number of instruments ordered.
100	ExDestination	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange the reference price is taken from. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.

	Standard Trailer	Y	

7.2.3 Order Cancel / Replace Request

Direction	From Client to RFQ-hub
Purpose	To request a change of quantity or price of existing order.
Sent in response to	N/A
Possible responses	Pending Cancel, Cancel, Cancel Reject

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = G
37	OrderID	N	Unique identifier of most recent order as assigned by RFQ-hub.
41	OrigClOrdID	Y	ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order. Example: 11=105112-233190-0
11	ClOrdID	Y	Unique identifier of the order assigned by the buy-side Example: 11=105112-233190-1
1	Account	N	Account identifier
21	HandlInst	Y	Instructions for order handling on sell-side's trading floor. RFQ-hub supports: 1 = Automated Execution Order Private No Broker Intervention 3 = Manual Order Best Execution
100	ExDestination	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange the reference price is taken from. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
2704	ExDestinationType	N	MiFID II RFQ-hub supports: 0 = No Restriction 1 = Can Be Traded Only On A Trading Venue 2 = Can Be Traded Only On A Systematic Internaliser 3 = Can Be Traded On A Trading Venue Or Systematic Internaliser
55	Symbol	Y	Ticker or alternate security identifier
65	SymbolSfx	N	Additional information about the security
48	SecurityID	N	RFQ-hub uses this tag as the value of tag 22
22	IDSource	N	RFQ-hub supports: 1 = Cusip 2 = Sedol 4 = Isin Number 5 = Ric Code 8 = Exchange Symbol A = Ticker
167	SecurityType	N	RFQ-hub supports: CS = Common Stock (value to use for ETF) MF = Mutual Fund (will also be treated as ETF)

207	SecurityExchange	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange on which the order should be executed. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
107	SecurityDesc	N	Can be used to provide an optional textual description for a financial instrument.
54	Side	Y	RFQ-hub supports: 1 = Buy 2 = Sell 5 = Sell Short
60	TransactTime	Y	Time this cancel/replace request was initiated/released by the trader or trading system.
38	OrderQty	N	Number of instruments ordered.
40	OrdType	Y	RFQ-hub supports: 1 = Market 2 = Limit 3 = Stop 4 = Stop Limit 5 = Market On Close (will be interpreted as Market) 7 = Limit Or Better 8 = Limit With Or Without B = Limit On Close (will be interpreted as Limit)
44	Price	N	Conditionally required when OrdType = *Limit*, *Stop Limit*, *Limit On Close*, *Limit Or Better* or *Limit With Or Without*
99	StopPx	N	Conditionally required when OrdType = *Stop* or *Stop Limit*
15	Currency	N	Identifies currency used for price. Absence of this field is interpreted as the default for the security.
59	TimeInForce	N	RFQ-hub supports: 0 = Day 1 = Good Till Cancel 2 = At The Opening 3 = Immediate Or Cancel 6 = Good Till Date 7 = At The Close
432	ExpireDate	N	Relevant when TimeInForce = *Good Till Date*
126	ExpireTime	N	Conditionally required when TimeInForce = *Good Till Date* and ExpireDate is not set
47	Rule80A	N	Also known as OrderCapacity RFQ-hub supports: A = Agency Single Order P = Principal Y = Program Order Nonindex Arb For Other Agency (interpreted as Agency)
58	Text	N	Text comments
203	CoveredOrUncovered	N	RFQ-hub supports: 0 = Covered 1 = Uncovered
5697	BrokerRestrictionTagValidation	N	RFQ-hub supports: 0 = Require Broker Restriction List

5698	BrokerRestriction	N	When omitted, BrokerRestrictionList is interpreted as black-list. RFQ-hub supports: 1 = Broker Restriction Restricted (BrokerRestrictionList is a black-list) 2 = Broker Restriction Directed (BrokerRestrictionList is a white-list)
5699	BrokerRestrictionList	N	Either a while-list or black-list (depending on the value of tag 5698) of broker codes, separated by a pipe character (|). Conditionally required when BrokerRestrictionTagValidation = *Require Broker Restriction List*
20003	PartyIDClientID	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Where using an explicit client identifier, use Parties component - existing from 4.3 with fields as follows: Where the order is for a single client who is a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = N (LEI) or P (Short code identifier) Where the order is for a single client who is not a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = P (Short code identifier)
20012	PartyIDExecutingTrader	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Parties component - existing from 4.3 with fields PartyRole(452) = 3 (Client ID) PartyIDSource(447) = P (Short code identifier)
20013	PartyIDOrderOriginationFirm	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Where using an explicit client identifier, use Parties component - existing from 4.3 with fields as follows: Where the order is for a single client who is a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = N (LEI) or P (Short code identifier) Where the order is for a single client who is not a legal entity: PartyRole(452) = 3 (Client ID) or 13 (Order origination firm) PartyIDSource(447) = P (Short code identifier)
20122	PartyIDInvestmentDecisionMaker	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Parties component - existing from 4.3 (PartyRoleQualifier from 5.0) with fields as follows: Where this is a trader: PartyRole(452) = 122 (Investment decision maker) PartyIDSource(447) = P (Short code identifier) PartyRoleQualifier(2376) = 24 (Natural person) Where this is an algorithm: PartyRole(452) = 122 (Investment decision maker) PartyIDSource(447) = D (Proprietary / Custom code) or P (Short code identifier) PartyRoleQualifier(2376) = 22 (Algorithm)
453	NoPartyIDs	N	MiFID II Repeating group below should contain unique combinations of PartyID, PartyIDSource, PartyRole, PartyRoleQualifier

=>	448	PartyID	Y	MiFID II The value representing the client or decision maker represented by this block. Data corresponding to a short code must have been previously supplied, or will be supplied by the end of the calendar day, per our Rules. For clients, the following values are reserved for applicable use: Applicable to PartyRole value 3: 0 = NONE (No Client for this order) 1 = AGGR (An aggregation of multiple client orders) 2 = PNAL (Clients are pending allocation) Applicable to PartyRole value 12: 3 = CLIENT (Time and venue of the order instructed by the client of the Participant)
=>	447	PartyIDSource	Y	RFQ-hub supports: B = Bic C = Generally Accepted Market Participant Identifier D = Proprietary Custom Code N = Legal Entity Identifier O = Interim Identifier P = Short Code Identifier
=>	452	PartyRole	Y	MiFID II Identifies the type or role of the Party ID (e.g. Executing Broker). RFQ-hub supports: 1 = Executing Firm 3 = Client Id 11 = Order Origination Trader 12 = Executing Trader 13 = Order Origination Firm 53 = Trader Mnemonic 66 = Market Maker 76 = Desk Id 122 = Investment Decision Maker
=>	2376	PartyRoleQualifier	N	MiFID II RFQ-hub supports: 22 = Algorithm 23 = Firm Or Legal Entity 24 = Natural Person
2593		NoOrderAttributes	N	MiFID II
=>	2594	OrderAttributeType	N	MiFID II RFQ-hub supports: 0 = Aggregated Order 1 = Pending Allocation 2 = Liquidity Provision Activity Order
=>	2595	OrderAttributeValue	N	MiFID II
		Standard Trailer	Y	

7.2.4 Execution Report

Direction	From RFQ-hub to Client
Purpose	Confirm receipt or change of an order. Relay order status information, relay fill information, or reject orders.
Sent in response to	New Order Single, Order Cancel Request, Order Cancel / Replace Request, Order Status Request
Possible responses	Don't Know Trade

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 8
37	OrderID	Y	Unique identifier assigned by RFQ-hub. OrderID is required to be unique for each chain of orders.
11	ClOrdID	Y	Unique identifier of the order assigned by the buy-side.
527	SecondaryExecID	N	Unique identifier assigned by RFQ-hub for each execution on each individual leg.
41	OrigClOrdID	N	ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order. Conditionally required when ExecType = *Pending Cancel*, *Replace* or *Canceled*
76	ExecBroker	N	Broker Code of the sell-side counterparty that executed the order.
17	ExecID	Y	Must be unique for each Execution Report message.
2489	PackageID	N	MiFID II Identifier assigned to a collection of trades so that they can be analyzed as one atomic unit for risk assessment and clearing.
2524	TradeReportingIndicator	N	MiFID II RFQ-hub supports: 0 = Trade Has Not Been Reported 1 = Trade Has Been Or Will Be Reported By A Trading Venue As An On Book Trade 2 = Trade Has Been Or Will Be Reported As A Systematic Internaliser Seller Trade 3 = Trade Has Been Or Will Be Reported As A Systematic Internaliser Buyer Trade 4 = Trade Has Been Or Will Be Reported As A Non Systematic Internaliser Seller Trade 5 = Trade Has Been Or Will Be Reported Under A Sub Delegation Arrangement By An Investment Firm To A Reporting Facility 6 = Trade Has Been Or Will Be Reported 7 = Trade Has Been Or Will Be Reported As A Non Systematic Internaliser Buyer Trade 8 = Trade Has Been Or Will Be Reported By A Trading Venue As An Off Book Trade 9 = Trade Is Not Reportable
851	LastLiquidityInd	N	MiFID II Indicator to identify whether this fill was a result of a liquidity provider providing or liquidity taker taking the liquidity. RFQ-hub supports: 2 = Removed Liquidity

20	ExecTransType	Y	RFQ-hub supports: 0 = New 1 = Cancel 2 = Correct 3 = Status
19	ExecRefID	N	Conditionally required when ExecTransType = *Cancel* or *Correct*
150	ExecType	Y	Describes the specific Execution Report while OrdStatus will always identify the current order status. RFQ-hub supports: 0 = New 1 = Partial Fill 2 = Fill 4 = Canceled 5 = Replace 6 = Pending Cancel (e.g. result of Order Cancel Request) 8 = Rejected E = Pending Replace (e.g. result of Order Cancel / Replace Request)
39	OrdStatus	Y	Identifies current status of the order. RFQ-hub supports: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replaced 6 = Pending Cancel (e.g. result of Order Cancel Request) 8 = Rejected E = Pending Replace (e.g. result of Order Cancel / Replace Request)
1	Account	N	Account identifier
55	Symbol	Y	Ticker or alternate security identifier
48	SecurityID	N	RFQ-hub uses this tag as the value of tag 22
22	IDSource	N	RFQ-hub supports: 1 = Cusip 2 = Sedol 4 = Isin Number 5 = Ric Code 8 = Exchange Symbol A = Ticker
167	SecurityType	N	RFQ-hub supports: CS = Common Stock (value to use for ETF) MF = Mutual Fund (will also be treated as ETF)
207	SecurityExchange	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange on which the order should be executed. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
107	SecurityDesc	N	Can be used to provide an optional textual description for a financial instrument.
54	Side	Y	RFQ-hub supports: 1 = Buy 2 = Sell 5 = Sell Short
38	OrderQty	N	Number of instruments ordered.

40	OrdType	N	RFQ-hub supports: 1 = Market 2 = Limit 3 = Stop 4 = Stop Limit 5 = Market On Close (will be interpreted as Market) 7 = Limit Or Better 8 = Limit With Or Without B = Limit On Close (will be interpreted as Limit)
44	Price	N	Conditionally required when OrdType = *Limit*, *Stop Limit*, *Limit On Close*, *Limit Or Better* or *Limit With Or Without*
99	StopPx	N	Conditionally required when OrdType = *Stop* or *Stop Limit*
15	Currency	N	Identifies currency used for price. Absence of this field is interpreted as the default for the security.
59	TimeInForce	N	RFQ-hub supports: 0 = Day 1 = Good Till Cancel 2 = At The Opening 3 = Immediate Or Cancel 6 = Good Till Date 7 = At The Close
432	ExpireDate	N	Relevant when TimeInForce = *Good Till Date*
126	ExpireTime	N	Conditionally required when TimeInForce = *Good Till Date* and ExpireDate is not set
18	ExecInst	N	Can contain multiple instructions, space delimited.
32	LastShares	N	Quantity of instruments bought/sold on this (last) fill. When required, should be 0 for non-fills ("fill" defined as ExecType = Partial Fill or Fill) unless noted below. Conditionally required except when ExecTransType = *Status*
31	LastPx	N	Price of this (last) fill. When required, should be 0 for non-fills ("fill" defined as ExecType = Partial Fill or Fill) unless noted below. Conditionally required except when ExecTransType = *Status*
30	LastMkt	N	Venue where the transaction is executed. When TradeReportingIndicator = 2 or 3, it should indicate the MIC code of the systematic internaliser. When TradeReportingIndicator = 1 or 8 and ExDestination is not XRFQ, it should reflect the MIC of the execution venue.
29	LastCapacity	N	RFQ-hub supports: 1 = Agent 4 = Principal
151	LeavesQty	Y	Amount of instruments open for further execution. If the OrdStatus is Canceled or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty - CumQty.
14	CumQty	Y	Amount of instruments executed so far for this chain of orders.
6	AvgPx	Y	Calculated average price of all fills on this order.
60	TransactTime	Y	Time the transaction represented by this ExecutionReport occurred.
21	HandlInst	N	Instructions for order handling on sell-side's trading floor. RFQ-hub supports: 1 = Automated Execution Order Private No Broker Intervention 3 = Manual Order Best Execution

8016	TradingVenueRegulatoryTradeID	N	MiFID II Trading Venue Transaction Identification Code (TVTIC) - used to indicate the unique execution id per execution. RFQ-hub will send one uniqueID per leg, per execution fill
10009	NoReceivedQuotes	N	Repeating group of competing quotes received
=> 10010	ReceivedQuoteBroker	Y	Id of the broker. Uses the same codes as ExecBroker tag.
=> 10011	ReceivedQuote	Y	Bid price or Offer price, depending on the side of the deal.
=> 10012	ReceivedQuoteType	N	Legacy field for compatibility with some OMS, constant value of '2'. Should not be used.
22005	CustomUnderlyingEndPrice	N	The final reference price, if applicable to this workflow.
20001	PartyIDExecutingFirm	N	MiFID II If repeating groups are unavailable, this field contains the same information as: Parties component - existing from 4.3 with fields PartyRole(452) = 1 (Executing Firm) PartyIDSource(447) = N (LEI) or P (Short code identifier)
23009	CustomNavDate	N	Date on which the Net Asset Valuation of the ETF (NAV) will be calculated.
	Standard Trailer	Y	

7.2.5 Order Cancel Reject

Direction	From RFQ-hub to Client
Purpose	To reject a Cancel Request or Cancel / Replace Request.
Sent in response to	Order Cancel Request, Order Cancel / Replace Request
Possible responses	N/A

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = 9
37	OrderID	Y	Unique identifier assigned by RFQ-hub. OrderID is required to be unique for each chain of orders.
11	ClOrdID	Y	Unique identifier of the order assigned by the buy-side.
41	OrigClOrdID	Y	ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order.
39	OrdStatus	Y	OrdStatus value after this cancel reject is applied. RFQ-hub supports: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled
1	Account	N	Account identifier
60	TransactTime	Y	Time of execution/order creation (expressed in GMT).
434	CxlRejResponseTo	Y	Identifies the type of request that a Cancel Reject is in response to. RFQ-hub supports: 1 = Order Cancel Request 2 = Order Cancel Replace Request
102	CxlRejReason	Y	Code to identify reason for cancel rejection. RFQ-hub supports: 0 = Too Late To Cancel 1 = Unknown Order 2 = Broker Option 3 = Already Pending 99 = Other
	Standard Trailer	Y	

7.2.6 Order Status Request

Direction	From Client to RFQ-hub
Purpose	To request the current order status of an order.
Sent in response to	N/A
Possible responses	Execution Report

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = H
37	OrderID	Y	Unique identifier of the order as assigned by RFQ-hub.
11	ClOrdID	Y	Unique identifier of the order assigned by the buy-side.
1	Account	N	Account identifier
55	Symbol	Y	Ticker or alternate security identifier
48	SecurityID	N	RFQ-hub uses this tag as the value of tag 22
22	IDSource	N	RFQ-hub supports: 1 = Cusip 2 = Sedol 4 = Isin Number 5 = Ric Code 8 = Exchange Symbol A = Ticker
167	SecurityType	N	RFQ-hub supports: CS = Common Stock (value to use for ETF) MF = Mutual Fund (will also be treated as ETF)
207	SecurityExchange	N	RFQ-hub supports: Reuters Exchange Mnemonics ISO MIC Codes RFQ-hub will use tag 100 to determine the exchange on which the order should be executed. If tag 100 is not specified, tag 207 will be used. If both tags 100 and 207 are empty, the order will be created with no exchange specified, and will need to be amended on the platform.
107	SecurityDesc	N	Can be used to provide an optional textual description for a financial instrument.
	Standard Trailer	Y	

7.2.7 Don't Know Trade

Direction	From Client to RFQ-hub
Purpose	To notify RFQ-hub that an execution report has been rejected.
Sent in response to	Execution Report
Possible responses	N/A

Tag	Field Name	Req'd	Comments
	Standard Header	Y	MsgType = Q
37	OrderID	Y	Order Id as identified on problem execution.
17	ExecID	Y	Execution Id of problem execution.
127	DKReason	Y	Reason of the reject. RFQ-hub supports: A = Unknown Symbol B = Wrong Side C = Quantity Exceeds Order D = No Matching Order E = Price Exceeds Limit Z = Other
55	Symbol	Y	Ticker or alternate security identifier
54	Side	Y	RFQ-hub supports: 1 = Buy 2 = Sell 5 = Sell Short
38	OrderQty	N	Number of instruments ordered.
32	LastShares	N	LastShares of problem execution.
31	LastPx	Y	LastPx of problem execution.
58	Text	N	Textual comments regarding the reject.
	Standard Trailer	Y	

8 Summary of RFQ-hub Specifications FIX 4.2

8.1 Summary - Incoming and outgoing messages

Outgoing Messages (from Client to RFQ-hub):

- Order Single (35=D)
- Order Cancel Request (35=F)
- Order Modification Request (35=G)
- Order Status Request (35=H)
- Don't Know Trade (35=Q)

Incoming Messages (from RFQ-hub to Client):

- Execution Report (35=8)
- Order Cancel Reject (35=9)

8.2 Summary - Not required by FIX / Required/Set by RFQ-hub (Execution Report)

- Tag 22/48 ID Source / Security ID
- Tag 38 Order Qty
- Tag 44 Price
- Tag 59 Time In Force
- Tag 126 Expire Time (set if specified on the order)
- Tag 29 LastCapacity
- Tag 30 LastMkt

8.3 Summary - Additional fields not supported in FIX 4.2

- Tag 22 : value "A" is only supported in FIX 4.3 but we use in in FIX 4.2

8.4 Summary - User-Defined tags

- Tag 5697: BrokerRestrictionTagValidation
- Tag 5698: BrokerRestriction
- Tag 5699: BrokerRestrictionList
- Tag 10009: NoReceivedQuotes
- Tag 10010: ReceivedQuoteBroker
- Tag 10011: ReceivedQuote
- Tag 10012: ReceivedQuoteType

9 Example Sequences

Simple RFQ - Single final levels

Buy-side		**RFQ-hub**
Client sends an order	NewOrderSingle (RFQ Day) *35=D 59=0* →	
OR	**OR**	
	ExecutionReport New *35=8 150=0 39=0* ←	RFQ-hub acknowledges the reception of the RFQ
	OR	**OR**
The RFQ is sent to Dealers, quoted, traded, and fully executed with a single fill		
OR		
	ExecutionReport Fill *35=8 150=2 39=2* ←	Final levels are validated on the platform

Simple RFQ - Multiple final levels

Buy-side		**RFQ-hub**
Client sends an order	NewOrderSingle (RFQ Day) *35=D 59=0* →	
OR	**OR**	
	ExecutionReport New *35=8 150=0 39=0* ←	RFQ-hub acknowledges the reception of the RFQ
	OR	**OR**
The RFQ is sent to Dealers, quoted, traded, and fully executed with multiple fills		
OR		
	ExecutionReport PartialFill *35=8 150=1 39=1* ←	Partial final levels are validated on the platform
	OR	**OR**
	ExecutionReport PartialFill *35=8 150=1 39=1* ←	Partial final levels are validated on the platform
	OR	**OR**
	ExecutionReport Fill *35=8 150=2 39=2* ←	Last final levels are validated on the platform

RFQ canceled before final levels validated

Buy-side		**RFQ-hub**
Client sends an order	NewOrderSingle (RFQ Day) *35=D 59=0*	
OR	**OR**	
	ExecutionReport New *35=8 150=0 39=0*	RFQ-hub acknowledges the reception of the RFQ
	OR	**OR**
	The RFQ has not been executed yet	
OR		
Client wants to cancel this RFQ	OrderCancelRequest *35=F*	
OR	**OR**	
	ExecutionReport Canceled *35=8 150=4 39=4*	RFQ has been canceled

Request for cancel after traded and final levels validated

Buy-side		**RFQ-hub**
Client sends an order	NewOrderSingle (RFQ Day) *35=D 59=0*	
OR	**OR**	
	ExecutionReport New *35=8 150=0 39=0*	RFQ-hub acknowledges the reception of the RFQ
	OR	**OR**
	The RFQ is sent to Dealers, quoted, traded, and fully executed	
OR		
	ExecutionReport Fill *35=8 150=2 39=2*	Final levels are validated on the platform
	OR	**OR**
Client wants to cancel this RFQ	OrderCancelRequest *35=F*	
OR	**OR**	
	OrderCancelReject *35=9 102=0*	The Cancel of RFQ has been rejected when the final levels are already validated

Done for Day after partial final levels

Buy-side		**RFQ-hub**
Client sends an order	NewOrderSingle (RFQ Day) *35=D 59=0* →	
OR	**OR**	
	ExecutionReport New *35=8 150=0 39=0* ←	RFQ-hub acknowledges the reception of the RFQ
	OR	**OR**
The RFQ is sent to Dealers, quoted, traded, and partially executed		
OR		
	ExecutionReport PartialFill *35=8 150=1 39=1* ←	Partial final levels are validated on the platform
	OR	**OR**
	ExecutionReport DoneForDay *35=8 150=3* ←	Sales / Trader sends a "Done for day"

10 Sample FIX messages

These samples show a full RFQ to execution workflow. All prices are expressed in euros as specified in the currency FIX tags.

10.1 New Order Single (35=D) with DEAL capacity

RFQ characteristics:

- Instrument: `Lyxor Euro Stoxx 50`
- Contracts: `10`
- Side/Direction: `Buy`
- ExecutionDestinationType: `Only Venue`
- Order Capacity: `DEAL`
- ExecutionDecisionMaker: `EDMShortCode`
- InvestmentDecisionMaker: `IDMShortCode`
- OrderOriginationFirm: `OrderOriginationFirmLEI`

```
8=FIX.4.2 9=289 35=D 34=1 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 11=987319862 21=1 22=5 40=1
48=MSE.PA 55=MSE FP 59=1 54=1 38=10 15=EUR 60=20200216-09:37:16 100=PA 107=Lyxor Euro Stoxx 50P
2704=1 528=P 453=3 448=EDMShortCode 447=P 452=11 448=IDMShortCode 447=P 452=122
448=OrderOriginationFirmLEI 447=N 452=13 10=234
```

10.2 New Order Single (35=D) with AOTC capacity

RFQ characteristics:

- Instrument: `Lyxor Euro Stoxx 50`
- Contracts: `10`
- Side/Direction: `Buy`
- ExecutionDestinationType: `Only Venue`
- Order Capacity: `AOTC`
- ExecutionDecisionMaker: `EDMShortCode`
- UnderlyingClientId: `ClientLEI`
- OrderOriginationFirm: `OrderOriginationFirmLEI`

```
8=FIX.4.2 9=289 35=D 34=1 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 11=987319862 21=1 22=5 40=1
48=MSE.PA 55=MSE FP 59=1 54=1 38=10 15=EUR 60=20200216-09:37:16 100=PA 107=Lyxor Euro Stoxx 50P 2704=1
528=A 453=3 448=EDMShortCode 447=P 452=11 448=ClientLEI 447=N 452=3 448=OrderOriginationFirmLEI
447=N 452=13 10=234
```

10.3 Order acknowledgement and fill with Execution Report (35=8)

Acknowledge:

```
8=FIX.4.2 9=303 35=8 34=1 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 11=987319862 14=0 15=EUR 17=42001-
CJWUEODQF-N 20=0 21=1 22=5 29=1 31=0 32=0 37=I-987319862 38=10 39=0 40=2 41=987319862 48=MSE.PA 54=1
55=MSE FP 60=20200216-09:37:16 150=0 151=10 167=OPT 200=202009 201=1 202=54 205=15 207=EUX 10=220
```

Fill characteristics:

- Price: `28.92`
- TradeReportingIndicator: `ReportedByTradingVenue`
- TradingVenueRegulatoryTradeID: `1234` (Tvtic generated by RFQ-hub)
- PartyIDExecutingFirm: `ExecutingFirmLEI`

```
8=FIX.4.2 9=310 35=8 34=9 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 6=28.92 11=987319862 14=10 15=EUR
17=42001-CJWUEODQG-P 20=0 21=1 22=5 29=1 31=28.92 32=0 37=I-987319862 38=10 39=2 40=2 41=987319862
48=MSE.PA 54=1 55=MSE FP 60=20200216-09:37:16 150=2 151=0 2524=1 8016=1234 20001=ExecutingFirmLEI
10=065
```

10.4 Order cancellation with Order Cancel request (35=F) and Execution Report (35=8)

Order Cancel request:

```
8=FIX.4.2 9=319 35=F 34=456 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 11=987319871 14=10 15=EUR 21=1
22=5 37=I-987319871 38=10 40=2 41=987319869 48=MSE.PA 54=1 55=MSE FP 59=0 60=20200216-09:37:16 77=0
114=N 150=2 10=054
```

Execution Report (pending cancel):

```
8=FIX.4.2 9=310 35=8 34=459 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 6=0 11=987319871 14=10 15=EUR
17=99054-CBYFZYRDB-PR 20=0 21=1 22=5 29=1 31=0 32=0 37=I-987319871 38=9 39=6 40=2 41=987319869
48=MSE.FP 54=1 55=MSE FP 60=20200216-09:37:16 150=E 151=10 10=249
```

Execution Report (cancelled):

```
8=FIX.4.2 9=310 35=8 34=459 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 6=0 11=987319871 14=0 15=EUR
17=99054-CBYFZYRDB-NR 20=0 21=1 22=5 29=1 31=0 32=0 37=I-987319871 38=9 39=4 40=2 41=987319869 44=0.54
48=MSE.FP 54=1 55=MSE FP 60=20200216-09:37:16 150=5 151=10 10=249
```

10.5 Order replacement with Order Cancel-Replace request (35=G) and Execution Report (35=8)

Order Cancel Replace request:

```
8=FIX.4.2 9=319 35=G 34=456 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 11=987319871 14=10 15=EUR 21=1
22=5 37=I-987319871 38=10 40=2 41=987319869 48=MSE.PA 54=1 55=MSE FP 59=0 60=20200216-09:37:16 77=0
114=N 150=2 10=054
```

Execution Report (pending replace):

```
8=FIX.4.2 9=310 35=8 34=459 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 6=0 11=987319871 14=10 15=EUR
17=99054-CBYFZYRDB-PR 20=0 21=1 22=5 29=1 31=0 32=0 37=I-987319871 38=10 39=E 40=2 41=987319869
48=MSE.FP 54=1 55=MSE FP 60=20200216-09:37:16 150=E 151=10 10=249
```

Execution Report (replaced):

```
8=FIX.4.2 9=310 35=8 34=459 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 6=0 11=987319871 14=0 15=EUR
17=99054-CBYFZYRDB-NR 20=0 21=1 22=5 29=1 31=0 32=0 37=I-987319871 38=10 39=0 40=2 41=987319869 44=0.54
48=MSE.FP 54=1 55=MSE FP 60=20200216-09:37:16 150=5 151=10 10=249
```

10.6 Order cancel reject (35=9)

```
8=FIX.4.2 9=133 35=9 49=RFQHUB 52=20200216-09:37:16 56=TESTAM 11=987319878 37=R-987319878 39=2
41=987319878 60=20200216-09:37:16 102=0 434=1 10=197
```

10.7 Order Status Request (35=H)

```
8=FIX.4.2 9=216 35=H 34=850 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 11=987319871 37=R-987319871 22=5
48=MSE.FP 55=MSE FP 54=1 10=206
```

10.8 Don't Know (35=Q)

```
8=FIX.4.2 9=223 35=Q 34=800 49=TESTAM 52=20200216-09:37:16 56=RFQHUB 17=98544-NZBWBSEA-F 37=R-987319879
22=5 38=10 31=19.35 32=10 127=C 55=MSE FP 58=The fill of 10 would cause cumulated quantity 20 to exceed
the order quantity 10 10=197
```

11 Miscellaneous

We are connected on the following FIX networks:

- ITGNET (CompID = ITGGDS)
- Fidessa (CompID = RFQHUB)
- AutEx (CompID = RFQPROD)
- ULNET (CompID = RFQHUB)
- NyFIX (CompID = RFQ42)

Our UAT link is available 24/7 and can be used to test RFQ generation from FIX orders and execution reports.

12 Technical Contact Information

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