London Stock Exchange

London Stock Exchange

MIT203 - Native Trading Gateway

Issue 13.2

3 July 2020

London Stock Exchange Group

Contents

Disclaimer

London Stock Exchange has taken reasonable efforts to ensure that the information contained in this publication is correct at the time of going to press, but shall not be liable for decisions made in reliance on it. London Stock Exchange will endeavour to provide notice to customers of changes being made to this document, but this notice cannot be guaranteed. Therefore, please note that this publication may be updated at any time. The information contained in this publication and any other publications referred to herein are for guidance purposes only.

1.0Introduction

London Stock Exchange provides a Native Trading Gateway as a low latency connectivity solution.

The interface is a point-to-point service based on the TCP/IP standard.

1.1 Purpose

The purpose of this document is to provide an overview of the full range of services via the Native Trading Gateway Interface available on the Millennium Exchange.

1.2 Readership

This document outlines how to connect to the Native Trading Gateway and the detailed message types and fields used.

When read in conjunction with the message specifications it is intended that these documents provide all of the details directly connected London Stock Exchange customers require to develop to the new services.

This document is particularly relevant to trading and technical staff within the Exchange's member firms and other market participants interested in developing to London Stock Exchange Native Trading Gateway.

1.3 Document series

This document is part of series of documents providing a holistic view of full trading and information services available from London Stock Exchange post the migration to Millennium Exchange.

The current series of documents are set out below:

- MIT201 – Guide to the New Trading System
  - MIT202 – FIX Trading Gateway Specification (FIX 5.0)
  - **MIT203 – Native Trading Gateway Specification (this document)**
  - MIT204 – Post Trade Gateway (FIX 5.0) Specification
  - MIT205 – Drop Copy Gateway (FIX 5.0) Specification
- MIT301 – Guide to Market Data Services
  - MIT303 – MITCH Message Specification
  - MIT304 – Regulatory News Service Specification
- MIT401 – Reference Data Service Specification
- MIT501 – Guide to the Customer Testing Services
- MIT502 – Guide to Application Certification
- MIT503 – Certification Report
- MIT601 – Guide to Trading Services Disaster Recovery
- MIT701 - Guide to Sponsored Access

- MIT801 – Reject Codes

This series principally covers non-regulatory information. It does not override or supersede the Rules of the London Stock Exchange, the AIM Rules or Admission and Disclosure Standards and is intended to be read in conjunction with these Rules documents and the Millennium Exchange Parameters documents.

The latest version of this document series can be found at the following link:

http://www.londonstockexchange.com/products-and-services/millennium-exchange/technicalinformation/technicalinformation.htm

1.4 Document history

This document has been through the follow iterations:

Issue	Date	Description
8.0	23 May 2011	Eighth issue of this document published via London Stock Exchange's website and distributed to customers.
8.1	15 June 2011	Missed Message Request Ack Description on page 42, Value 2 Meaning has been changed from 'Invalid App ID or Service is unavailable' to 'Invalid App ID'.
9.0	23 September 2011	Ninth issue of this document published via London Stock Exchange's website and distributed to customers.
9.1	5 December 2011	Introduction of the third partition.
10.0	15 December 2011	Tenth issue of this document published via London Stock Exchange's website and distributed to customers.
10.1	20 December 2011	Change field length in Reserve Field (offset 135) on page 55.
10.2	28 September 2012	Amended to include new PassiveOnlyOrder and PriceDifferential fields and additional information in Data Types section .
10.3	1 November 2012	Added Connectivity Policy section, changed wording of Reserved Field Handling in Data Types section and added additional guidance for Passive Only Orders and Price Differential fields.
10.4	22 March 2013	Amended to reflect the latest Millennium enhancements.
10.4	18 April 2013	8.4.6 – Enum 3 added to Restatement reason field in ER.

11.0	5 July 2013	Amended to reflect the latest Millennium enhancements.
11.1	26 July 2013	Further amendments to reflect the latest Millennium enhancements.
11.2	2 June 2014	Further amendments to reflect the latest Millennium enhancements. Sections 3.2.1.1; 3.2.4; 8.4.1; 8.4.3 and 8.4.6 updated.
11.3	31 October 2014	Amended to reflect rebranding ITCH to MITCH.
11.4	21 January 2015	The following sections have been amended or added to support the new Cross Order functionality and additional amendments. 8.4 Submission of a Cross /BTF order and cancellation of a Committed Cross/BTF order added to Order handling. 3.2.1 New order types for the Cross Order functionality. 3.2.2.2 & 3.2.2.3 Cancellation behaviour for the new Cross/BTF orders. 3.2.2.4 Amendment behaviour for the new Cross/BTF orders. 3.2.5 New value added in the Containers table for Cross/BTF orders. 3.8.1.11 Clarification on how usage of the Cancel on Disconnect functionality is managed at the end of the day. 3.8.1.12 Additional information on cross order cancellations. 4.6 Cancel on Disconnect/Logout not applicable to Cross Orders/BTF. 8.1.2.1 New client-initiated messages for the Cross Order functionality. 8.4.6 Clarification on the value provided in the Client Order ID field in response to a Cancel or Cancel/Replace. New value, “11 Cross Order”, added in the Container field. Clarification on the value in the Trade Liquidity Indicator field for Cross Order trades. 8.4.9 Description of the New Order Cross message. 8.4.10 Description of the new Cross Order Cancel Request message. 9.1.2 New Event Model for Cross Orders.

		See MIT902 – Cross Orders Message Change Guidelines for full details on all changes.
11.5	16 June 2015	The following sections have been amended or added to clarify existing behaviour and also to support changes related to Release 8.7: 3.2.1 – Included description of new Minimum Execution Size (MES) for pegged and pegged limit order types. Also change in behaviour for pegged limit orders where limit orders no longer get cancelled if limit price is worse than midpoint. 3.2.2.2, 3.2.2.3 and 3.2.2.4 – Clarification of system behaviour if an order is cancelled or modified by a different user to the submitter. 3.2.3, 3.2.4 – Correction to Exec Type H description. Corrected the position of the order status and exec type tables. 3.3.2.1 – Corrected description as LSE do not support single sided quotes. 3.5.2 – Added note that customer responsible for cross/BTF trade cancellation. 3.8.1.1 – Improved the wording of the paragraph. 3.8.1.6 – Removed price differential. 3.8.1.7 – Improved/combined the two sections describing TIF amendment limitations. 4.5 – Standardised the section on message throttling. 4.6 – Wording correction and clarification of system mass cancel behaviour if a client logs out or disconnects after post close session. 5.1 – Clarification to description of system behaviour if additional client messages are sent before the exchange of logon messages. 6.2 – Added details of where to find system limit information. 8.4.1, 8.4.3, 8.4.6 – New field to support minimum execution size (MES) for enhanced pegged order functionality. 8.4.6 – Price differential no longer available. 8.4.9 Clarified the system validation of Cross IDs.

11.6	16 September 2015	The following sections have been amended to clarify existing behaviour and the behaviour of the Minimum Quantity Tag (MES): 3.10 – Clarified the description of Field value validations. 3.2.1 – Clarified the behaviour of Pegged and Pegged Limit Orders. 3.8.1.7 – Added a matrix to clarify TIF amendment behaviour. 4.5 – Clarified message throttling behaviour. 8.4.1, 8.4.3 – Clarified that MES is not applicable to pegged IOC/FOK orders and only applicable to pegged DAY/GTT orders. 8.4.1, 8.4.2, 8.4.3, 8.4.4, 8.4.5 – Client Order ID field is now mandatory rather than optional. 8.5.1 – Improved the description of transact time for a business reject.
11.7	16 August 2016	The following sections have been amended to aid clarity and also to reflect the changes introduced in the Millennium 9.1 upgrade: 3.1.8.3 & 3.1.8.4, 3.2.4, 8.4.6, 8.4.9 – Removed references to the Container field since it has been removed from the Execution Report and is made a reserved field. 3.2.2.2 – Clarified Cancellation behaviour. 3.2.4 – Removed reference to the CPP session since it has been removed. 3.2.5 Removed Containers table. 3.5.2 – Clarified Trade Cancellation behaviour. 3.10 – TIF is now a reserved field. 3.10, 4.1.1 – Clarified that system doesn't generate a Reject message for an incorrect NewPassword (925) request. Clarified that Reject Reason = 3 will be stamped in the Logon Reply message if a user fails to set a new Password correctly. 5.1 – Clarified rapid login/logout safety mechanism. 6.2 – Clarified Missed Message Request behaviour. 8.1.3 – Added new messages for the RFQ functionality.

		8.3.3 – Clarified Client Order ID behaviour. 8.4.1 – Clarified behaviour of ExpireDateTime. 8.4.3 – Clarified behaviour of the Expire Date Time field. TIF is now a reserved field. 8.4.1-8.4.5, 8.4.7-8.4.10 – Clarified Client Order ID behaviour. 8.4.4 – Clarified Original Client Order ID behaviour. Added a new field called RFQ ID. 8.4.6 – Clarified Client Order ID and Minimum Quantity behaviour. 8.4.7 – Clarified Order ID behaviour. Added a new field RFQ ID. 8.4.11- 8.4.17 – Added new messages for the RFQ functionality. 8.5.1 – Clarified App ID behaviour. 9.3 – Added this section for the RFQ Event Model. 10.0 – Corrected Telnet access time.
	15 November 2016	The following sections have been updated to include the change in RFQ execution policy from 'Best Execution' to 'Select and Match'. 8.4.16, 9.3.15 – Reserved fields at offset 49, 58 and 70 have now been converted to Cover Price, Bid ID and Offer ID.
11.8	07 April 2017	The following sections have been amended to aid clarity and also to reflect the changes introduced in the Millennium 9.2 (MiFID II compliant) upgrade: 3.5.1 – Clarified Order Cancellation by Market Operations behaviour. 3.12.1, 8.4.6 – Introduced Waiver Flags to the Order Execution Report. Replaced the Reserve Field at Offset 87 with the Waiver Flags field. 3.12.2, 3.2.1.2, 8.4.1, 8.4.2, 8.4.6, 8.4.9, 8.4.16, 8.4.17, 9.3.7, 9.3.15, 9.3.18, 9.3.27, 9.3.30 – Clarified Order Capacities. 3.12.1, 8.4.14, 8.4.16, 8.4.17, 9.3.16, 9.3.17, 9.3.29 – Introduced Waiver Flags to RFQ Execution Report. Increased the length of the message by adding a new 'Waiver Flags' field at offset 127.

		3.12.3, 8.4.15 – Clarified Bid ID and Offer ID behaviour. 3.12.4 – Added a section on Order Record Keeping Information. 5.1 – Clarified Establishing a connection behaviour. 6.3 – Clarified Terminating the recovery session behaviour. 8.4.1, 8.4.2, 8.4.11, 8.4.14 – Extended the length of the New Order, RFQ Quote, Quote Request, New Quote messages by adding new fields: 'Client ID', 'Investment Decision Maker', 'Executing Trader', 'MiFID Flags' and 'PartyRoleQualifiers'. 8.4.9 – Added 'Buy MiFID Flags', 'Buy Client ID', 'Buy Investment Decision Maker', 'Buy Executing Trader', 'Buy PartyRoleQualifiers', 'Sell MiFID Flags', 'Sell Client ID', 'Sell Investment Decision Maker', 'Sell Executing Trader' and 'Sell PartyRoleQualifiers' to the message. Re-ordered existing fields.
11.8.1	27 June 2017	The following sections have been updated to aid clarity: 6.3 – Clarified Terminating the recovery session behaviour. 8.4.6 – Clarified Counterparty and Waiver Flags behaviour 8.4.12, 8.4.15 – Clarified Bid ID and Offer ID behaviour
11.8.2	14 July 2017	The following sections have been corrected to aid clarity: 3.12.2, 8.4.1, 8.4.2, 8.4.6, 8.4.9, 8.4.14, 8.4.16, 8.4.17, 9.3 – Corrected enum values for the Capacity field
11.8.3	09 August 2017	The following sections have been corrected to aid clarity: 3.3.2.3 – Clarified Mass Cancelling quotes behaviour 10 – Clarified that Telnet and Login access are only available until 17:32.
11.8.4	15 August 2017	The following sections have been corrected to aid clarity: 3.2.5 – Clarified Client Order ID behaviour 3.8.18 – Added the limitation 3.12.4 – Removed entry 12 from the table

11.8.5	8 September 2017	The following sections have been corrected to aid clarity: 3.2.4 – Reference to order being amended by Market Operations has been removed 3.12.4 – PartyRoleQualifier is removed for Client ID =1 (AGGR), 2 (PNAL), 0 (None) since it is not required 8.4.6 – Description for Restatement Reason is updated to aid clarity. The reference to the auction call for the enum 100 is removed since it is also valid for iceberg replenishment during Regular Trading. 8.4.6 – Updated the description of the Display Qty
11.9	13 August 2018	4.6 – Elaborated on possible scenarios in which server or client-initiated disconnections can happen 8.4.4 – Update to Client Order Id description 8.4.6 – Updated the description of the 'Counterparty' field 8.4.6 – Updated the description of the "Execution Report Ref ID" 8.4.6 – Updated description of Executed Price for both Execution Report & RFQ Execution Report 8.4.11 – The following new fields have been added to the Quote Request:- • OrderCapacity • QuoteRequestType • Price • AccountType • RFQExecutionDelay • RFQMinQuotes • RFQDiscloseSide • 2 sub-sections have been added to separate client and server initiated messages and the above fields have been added to section 8.4.11.1 – Client initiated Request for Quote ony 8.4.11.1 – Updated the description of side 8.4.11.1 – Updated the description of RFQDiscloseSide (to indicate that it is only valid for auto RFQs) 8.4.11.1 – Updated Limit Price – specified that "A value of 0 will be interpreted as limit price unspecified" in the Price field 8.4.12 – Updated Quote MsgID introduced to reserved field (offset 9)

		8.4.14 – Updated Clearing Account & Capacity to not be applicable in the server-initiated message 8.4.16 – Removed the following QuoteRespType – Contra Side(12), Withdrawn (14) 8.4.16 – Updated the QuoteMsgId to be a mandatory field 8.4.16 – Update the description of the the following fields to support RFQ Amendments • Quote Msg ID • RFQ ID • Quote Resp Type • Order Quantity • Cover Price • Clearing Account • Capacity 8.4.17 – Updated the 'Contra Firm' 8.4.17 Add new field 'Execution Report Ref ID' 8.4.17 – Updated description of Executed Price for both Execution Report & RFQ Execution Report 9.3. – Removal of 'Quote handling – RFQ Event Model'
11.10	19 May 2019	3.2.2.3 – Description amended to include mass cancellation of a client specified group of orders. 3.2.2.4 – Group ID is included as an amendable attribute of the order. 8.4.5 – Introduced the new mass cancellation types 56, 57 and 58 and the new field 'Group ID' in Order Mass Cancel Request. 8.4.1 – Introduced the new field 'Group ID' in New Order 8.4.3 – Introduced the new field 'Group ID' in Order Cancel/Replace Request. 8.4.6, 8.4.17 – Clarified which of the fields is the Trading Venue Transaction Identification Code (TVTIC), the unique ID to identify the trade. 8.4.6 – 'Type Of Trade' = 2 for aggressive side of trades, RFQ trades and auction trades.

12.0	5 June 2019	8.1.1 – Specified that message n (System Status) is valid in the real-time channel as well 8.3.9 – Specified that message n (System Status) is valid in the real-time channel as well. 8.4.11.1 & 8.4.11.2 – Introduced new field AutoRFQExecution Strategy and a Reserved field to the Quote Request 8.4.14 – Introduced a Reserved Field to the RFQ Quote 8.4.15 – Included the limitation on stamping only the Offer ID for dual sided RFQ Quote rejections at the matching engine on the Quote Ack message 8.4.16 – Introduced a Reserved Field to the Quote Response 8.4.16.1 Updated QuoteRespType set 'Cancelled' to 'End Trade' 8.4.16.2 – Updated QuoteRespType remove 'End Trade' 8.4.17 – Introduced new field Contra Order Book and a Reserved field to the RFQ Execution Report 8.4.17 – Included AvgPx to the RFQ Execution Report 8.4.17 – Updated the field description to specify that the AvgPx will be populated for all RFQs with an execution
12.1	12 July 2019	8.4.6 – 'LastMarket' field is added (reserved field is reused) 8.4.17 – 'LastMarket' field is added (reserved field is reused)
12.2	2 Aug 2019	8.4.11 – NumOfCompetitors field is added 8.4.11 – Reserved field length updated 8.4.11 – RFQ Disclose side updated to specify – 1 (Disclose) is not allowed for Auto RFQ Execution Strategy 'Sub LIS Auction RFQ with Order Book Sweep'
12.3	11 October 2019	8.4.6, 8.4.17- LastMkt (30) – Description is updated to state 'The value in this field should be disregarded if Exec Type is not Trade (F)'
13	25 March 2020	3.2.1 – Offset order type was added 3.2.1.3 – Example for Offet order was added 3.2.2.4 – clarification was added on what amendments are not allowed

		3.9 'MITCH' was updated with 'GTP' 3.9.1 – Added the conversion logic from decimal number Native/GTP TVTIC to FIX TVTIC. 8.4.1 – Order Sub Type – New Value 55 (Offset) was added 8.4.1 - Offset (offset 105) - New field was added 8.4.1- Reserved field (offset 109) – New field was added for future use 8.4.3 - Offset – Existing Reserved Field (offset 103) was splitted into two fields Offset (offset 103) and Reserved field (offset 107) 8.4.3 - Limit Price – clarification was added on how this tag should be populated for the offset orders (Order Sub Type =55). 8.4.6 – Type Of Trade – The description was updated to specify the behaviour during sessions other than continuous trading/ CPX. 8.4.6 – Executed Price – clarification was added 8.4.16.1 – Quote Resp Type – New value 'Make RFQ quotes public' (102) was added for the Requestor to make RFQ quotes public 8.4.16.1 - Limit Price – Clarification of the usage of this field was added 8.4.16.2 – Quote Resp type – value 1 is removed as it is only applicable for a client-intitiated message (8.4.16.1), missing value 7 is added , New value 'Executable' was added to inform Market Makers that RFQ quotes are now executable
13.1	1 May 2020	8.4.3. Limit Price field behaviour in Order Cancel/Replace Request for offset order - Clarification in case a negative value is sent by mistake. 8.4.1, 8.4.3 Mandated sending zero in the offset field in New Order request and Order Replace request when Order Sub Type is not 55.
13.2	3 July 2020	3.2.2.4 Section corrected to remove reference to amendment from fully visible to iceberg and vice versa, such amendment is allowed.

Within this document, where amendments have been made to the previous issue, these changes will be identified by highlighting the changes in Red.

1.5 Enquiries

Please contact either the Technical Account Management Team or your Technical Account Manager if you have any questions about the Millennium Exchange services outlined in this document: Client Technology Services (UK) can be contacted at:

- Telephone: +44 (0)20 7797 3939
- Email: londontam@lseg.com

2.0 Service overview

London Stock Exchange offers a low latency native trading interface which allows member firms to send and manage their trading interest. The interface enables clients to perform the following activities.

(a) Order handling

(i) Submit an order

(ii) Cancel an order

(iii) Mass cancel orders

(iv) Cancel/replace an order

(v) Submit a Cross/BTF order

(vi) Cancel a Committed Cross/BTF order

(b) Quote handling

(vii) Submit and update a 'Request For Quote' (RFQ)

(viii) Submit and update a quote

(ix) Cancel a quote

(x) Mass cancel quotes

The interface is a point-to-point service based on the TCP/IP standard.

3.0 Service description

3.1 System architecture

The Native Trading Gateway consists of two channels. A Real Time Channel which provides the main order management functionality and a Recovery Channel that allows clients to subscribe to missed messages due to disconnection from the Real Time Channel.

3.2 Order handling

3.2.1 Order types

Clients may submit the order types outlined below via the New Order message.

Order Type	Description

Market	An order that will execute at the best available prices until it is fully filled. Any remainder will be expired.
Limit	An order that will execute at or better than the specified price. The remainder, if any, is added to the order book or expired in terms of its TimeInForce.
Stop	A market order that remains inactive until the market reaches a specified stop price.
Stop Limit	A limit order that remains inactive until the market reaches a specified stop price.
Fixed Peak Iceberg	An order that contains a disclosed quantity which will be the maximum quantity displayed in the order book. Once the displayed quantity is reduced to zero, it will be replenished by the lower of the disclosed quantity and the remainder.
Random Replenished Iceberg	An order that contains a disclosed quantity which will be the maximum quantity displayed in the order book. Once the displayed quantity is reduced to zero, the replenishment quantity will be randomly determined within a pre-defined percentage
Hidden	An order that contains no displayed quantity and is not displayed in the order book.
Pegged	A hidden market order pegged to the mid-point of the best bid and offer price for instrument. Persistent order TIFs may be configured by the user with a Minimum Execution Size (MES).
Pegged Limit	A hidden limit order pegged to the mid-point of the best bid and offer price for instrument. Persistent order TIFs may be configured by the user with a Minimum Execution Size (MES).
Named	An order for which the identity of the submitting member is disclosed in the pre-trade market data feed.

Offset	An order with ATC TIF that will execute at or better than the specified price during Closing Auction.The price should be specified as an offset (in basis points) to the Dynamic Reference price and will be calculated at the point of electing the order to the book. Positive offset denotes aggressive pricing on the DRP and negative offset, conservative pricing on the DRP. Zero offset will be priced at DRP. See the example in section 3.2.1.3 If both Hard Limit Price and Offset are specified in the order, the conservative price between two will be used.

Clients may submit the order types outlined below via the New Order Cross message.

Order Type	Description
Internal Cross	A dual sided order that will execute with each other side at a price between visible best bid & visible best offer (including extremes)
Internal BTF	A dual sided order that will execute with each other side at a price between visible best bid - % & visible best offer + % (including extremes)
Committed Cross	A single sided order that will execute with the other side of cross at a price between visible best bid & visible best offer (including extremes)
Committed BTF	A single sided order that will execute with the other side of BTF at a price between visible best bid - % & visible best offer + % (including extremes)

3.2.1.1 Time in Force (TIF)

The server recognizes the following TIFs.

Time in Force	Description
Day	An order that will expire at the end of the day.
Immediate or Cancel (IOC)	An order that will be executed on receipt and the remainder, if any, immediately cancelled.
Fill or Kill (FOK)	An order that will be fully executed on receipt or immediately cancelled.

At the Open (OPG)	An order that may only be executed in the opening auction.
At the Close (ATC)	A market order that may only be executed in the closing auction.
Good Till Time (GTT)	An order that will expire at a specified time during the current day.
Good Till Date (GTD)	An order that will expire at the end of a specified day. Maximum 90 business day duration
Good For Auction (GFA)	An order that may only be executed in the next auction
Good For Intraday Auction (GFX)	An order that may only be executed in the next EDSP Auction.
Closing Price Crossing (CPX)	An order that is intended for closing price crossing session.
Good for next scheduled auction(GFS)	An order that will only be triggered during scheduled auctions. (i.e. it will not be triggered by a Re-opening Auction Call).GFS orders will not be triggered during EDSP Auction call.

3.2.1.2 Order capacity

Clients are responsible for indicating the capacity an order is submitted under. If a New Order – Single message does not contain the Order Capacity field, it will be rejected. Further details can be found in section 3.12.2.

3.2.1.3 Price calculation for Offset order

The limit price for offset orders will be be calculated as follows

- BUY order (offset is positive): Calculated Price = DRP + DRP * Offset (Decimal form)
- BUY order (offset is negative): Calculated Price = DRP - DRP * Offset (Decimal form)
- SELL order (offset is positive): Calculated Price = DRP - DRP * Offset (Decimal form)
- SELL order (offset is negative): Calculated Price = DRP + DRP * Offset (Decimal form)

Example

DRP = 200

Offset (in Basis point)	Percentage form	Decimal form	Calculated price (BUY)	Calculated price (SELL)
1	0.01 %	0.0001	= 200 + (200*0.0001)= 200.02	= 200 – (200*0.0001)= 199.98
0	0	0	200	200
-1	-0.01 %	-0.0001	= 200 – (200*0.0001)= 199.98	= 200 + (200*0.0001)= 200.02

3.2.2 Order management

3.2.2.1 Order ownership

Orders are the legal responsibility of the user specified in the logon message which initiates the session. A user is unable to input orders on behalf of another user.

3.2.2.2 Cancellation

In a scenario where the Order Cancel Request message is submitted by a different user from the user who submitted the original order, the Execution Report will be sent to the cancelling user. If the user cancelling the order does not have permissions to cancel orders on behalf of the firm, the cancel request will be rejected.

The client should identify the order being cancelled by either the Original Client Order ID or Order ID. If an Order Cancel/ Request contains values for both Original Client Order ID and Order ID, the server will only process the Order ID. The server will respond with an Execution Report or Order Cancel Reject to confirm or reject the cancellation request respectively.

An open Committed Cross/BTF order may be cancelled by sending a Cross Order Cancel Request message. The server will respond with an Execution Report or Order Cancel Reject message to confirm or reject the cancellation request respectively. The Execution Report message returns the CrossID of the original Committed Cross/BTF order being cancelled.

3.2.2.3 Mass cancellation

A client may mass cancel live orders via the Order Mass Cancel Request message with the OrdSubType set to Order (0). The server will respond with an Order Mass Cancel Report to indicate, via the MassCancelResponse field, whether the request is successful or not.

If the mass cancel request is accepted, the Order Mass Cancel Report will be sent first. The server will then immediately transmit Execution Reports for each order that is cancelled and Order Cancel Rejects for each order that could not be cancelled. The Client Order ID of all such messages will be the Client Order ID of the Order Mass Cancel Request.

If the mass cancel request is rejected, the reason will be specified in the MassCancelRejectReason field of the Order Mass Cancel Report.

Clients may use the Order Mass Cancel Request to mass cancel all orders or only those for a particular instrument or segment or client specified group of orders. A mass cancel request may apply to all the orders of the trading firm or only to those of a particular trading party. If the target party is not specified, the server will apply the request to the orders of the trading party that the Order Mass Cancel Request is submitted under.

A mass cancel request sent in by the Native Trading Gateway or the FIX Gateway, may cancel orders submitted through both gateways. In such a case, the execution reports for the order cancellation will be sent to the gateway through which, each order was submitted.

Open Committed Cross/BTF Orders cannot be cancelled via a mass cancellation request.

In a scenario where the Order Mass Cancel Request message is submitted by a different user from the user who submitted the original orders, the Execution Reports will be sent to the submitted user whereas the Order Mass Cancel Report will be sent to the cancelling user. If the user mass cancelling orders does not have permissions to cancel orders on behalf of the firm, the mass cancel request will be rejected.

3.2.2.4 Amending an order

The following attributes of a live order may be amended via the Order Cancel/Replace Request message:

(i) Order quantity

(ii) Disclosed quantity

(iii) Minimum Execution Size (Minimum Quantity)

(iv) Limit price

(v) Stop price

(vi) Expiration date/time (GTD/GTT orders)

(vii) Account

(viii) Group ID

(ix) Offset

The following amendments are not allowed:

- Fully visible order to a hidden order
- Hidden order to an iceberg or fully visible order
- Iceberg to a hidden order
- Limit order to an offset order and vice versa

For attributes the client wishes to update, the new values should be entered on the Order Cancel/Replace Request message. For attributes the client does not want to update, the Order Cancel/Replace Request message should contain the same value as the live version of the order. The Group ID can be set to zero if the client does not want to change the grouping of the order.

For Market and Stop orders, the Limit Price field should be filled with a negative value.

The server will respond with an Execution Report or Order Cancel Reject to confirm or reject the amendment request respectively.

In a scenario where the Order Cancel/Replace Request message is submitted by a different user from the user who submitted the original order, the Execution Report will be sent to the modifying user. If the user amending the order does not have permissions to modify orders on behalf of the firm, the amend request will be rejected.

The client should identify the order being amended by either the Original Client Order ID or Order ID. If an Order Cancel/Replace Request contains values for both Original Client Order ID and Order ID, the server will only process the Order ID.

Clients may not amend orders that are fully filled.

A Cross/BTF order cannot be amended.

When an order receives one or more fills while an amendment request is in flight, the system will not reject the incoming amendment request. Even if the amendment request has a display quantity greater than the order leaves quantity after the partial fill. It will accept the said amendment request and set the display quantity equal to the leaves quantity.

3.2.3 Order status

The Order status field is used to convey the current state of an order. If an order simultaneously exists in more than one order state, the value with highest precedence is reported as the Order status. The relevant order statuses are given below from the highest to lowest precedence

Value	Meaning
2	Filled
4	Cancelled
6	Expired
1	Partially Filled

0	New
8	Rejected
9	Suspended

Please refer to section 9.1.1 process flow diagrams on the various statuses that may apply to an order.

3.2.4 Execution reports

The Execution Report message is used to communicate many different events to clients. The events are differentiated by the value in the Exec Type field as outlined below.

Exec Type	Usage	Ord Status
0	**Order Accepted** Indicates that a new order has been accepted. This message will also be sent unsolicited if an order was submitted by the service desk on behalf of the client. This message will also be sent when a parked order is injected and added to the order book without receiving an execution. This message will also be sent when a parked pegged order is unparked and added to the order book without receiving an execution. This message will also be sent when a parked order with time in force GFX/GFA/ATC is unparked and added to the order book without receiving an execution.	0
8	**Order Rejected** Indicates that an order has been rejected. The reason for the rejection is specified in the field Order Reject Code.	8
F	**Order Executed** Indicates that an order has been partially or fully filled. The execution details (e.g. price and quantity) are specified. This message will also be sent when a parked order is injected and receives executions on aggression. This message will also be sent when a parked pegged order is unparked and receives executions on aggression. This message will also be sent when a parked order with time in force GFX/GFA/ATC is unparked and receives executions on aggression.	1, 2
C	**Order Expired** Indicates that an order has expired in terms of its time qualifier or due to an execution limit or due to the preference given by the user for Self Execution Prevention[1] criteria (If SEP is configured as either CIO or CRO).	6

[1]

- Cancel Incoming Order (CIO), leaves the resting order
- Cancel Resting Order (CRO), allows the incoming order to be executed/rest

4	**Order Cancelled** Indicates that an order cancel request has been accepted and successfully processed. This message will also be sent unsolicited if the order was cancelled by Market Operations.	4
5	**Order Cancel/Replaced** Indicates that an order cancel/replace request has been accepted and successfully processed.	0, 1
D	**Order Cancel/Replace by Service Desk** This is sent when: Market Operations cancel a trade that previously partially filled the order or quote An order price/size is changed by the system without being requested by the participants When there is an iceberg order replenishment, which happens after an aggressing order has fully exhausted first the visible, and then any hidden quantities of passive iceberg orders.	0, 1
H	**Trade Cancel** Indicates that an execution has been cancelled. An Execution Report Ref ID to identify the execution being cancelled will be included.	0, 1, 4, 6
9	**Order Suspended** Indicates that an order has been parked by the system without adding it to the order book. This message will be sent when an incoming stop or stop limit order is put in to the parked state. This message will be sent when an incoming pegged order is put into the parked state. This message will be sent when an incoming order with a time in force GFA/GFS/GFX/ATC is put into the parked state.	9

3.2.5

Order and Execution IDs

The server does not validate each Client Order ID for uniqueness. However, it is recommended that clients ensure unique Client Order IDs across all messages (e.g. New Order, Order Cancel Request, etc.) per user. Given that the server supports GTD orders, it is also advised that clients ensure that their Client Order IDs are unique across trading days (e.g. embed the date within the Client Order ID). If a client has mistakenly submitted more than one order with the same client order id (within a trading day or across trading days in case of open GTD orders), they will only be able to cancel or amend the most recent order.

Clients must specify the Client Order ID when submitting a New Order, Order Cancel Request, Order Mass Cancel Request or Order Cancel/Replace Request.

3.2.5.1 Order IDs

The server will use the Order ID field of the Execution Report to keep track of orders with the matching system. Order IDs will be unique across trading days.

Unlike Client Order ID which requires a chaining through cancel/replace requests and cancel requests, the Order ID of an order will remain constant throughout its life.

Clients have the option of specifying the Order ID (instead of the Original Client Order ID) when submitting an Order Cancel Request or Order Cancel/Replace Request.

3.2.5.2 Execution IDs

The server will use the ExecID field to affix a unique identifier for each Execution Report. ExecIDs will be unique across trading days.

3.3 Quote handling

The server supports the submission of executable quotes. A particular trading party may only have one active quote per instrument. If the server receives a quote for a trading party that already has an active quote for the instrument, it will treat it as an update to the quote.

For two-sided quotes, if one side of a quote fails the validations (e.g. price tick, spread, etc.) of the server, both sides will be rejected. When a quote is accepted it is treated as two separate and independent limit orders. One side of a quote will not be automatically cancelled if the other side is fully filled. The privilege to submit quotes will be governed by the quoting privileges setup for the user.

All quotes will be defaulted to the time in force Day and all active quotes will expire at the end of the trading day.

3.3.1 Quotes

Quotes may be submitted via the New Quote message and will be acknowledged by two Execution Report messages for each of the sides with the same Client Order ID that was submitted with the New Quote message. If a quote is rejected, the reason will be specified in the Order Reject Code field of the Execution Report. The value in the Side field of such an Execution Report should be disregarded.

3.3.1.1 Execution

The Execution Report message is used to notify the client if a quote is executed. The side, quantity and price fields (i.e. Side, ExecutedPrice, LeavesQty, Executed Qty etc.) will contain information for the executed side.

3.3.2 Quote management

3.3.2.1 Updating a quote

A client may update a live quote entry by sending another quote, via the Quote message, for the same instrument. When submitting an update, clients may:

8.1.1 Update both sides of a quote

(ii) Update one side of a quote and leave the other side unchanged

Clients may update a side of a quote by providing a new price and/or quantity. The bid or offer side of a quote will lose time priority in the order book if its quantity is increased or its price is updated. A reduction in quantity will not cause a side to lose time priority.

When one side of a quote is replaced, Client Order ID is updated for both sides. The execution report is sent out only for the amended side.

Note that a quote update request sent via the Order Cancel/Replace message will be rejected.

3.3.2.2 Cancelling a single quote

A live quote may be cancelled via a single Order Cancel Request message. Clients can specify either side of the quote to be cancelled. The server will respond with two Execution Reports (representing the cancellation of both sides of the quote) or a single Order Cancel Reject to confirm or reject the cancellation request respectively.

3.3.2.3 Mass cancelling quotes

A client may mass cancel live quotes via the Order Mass Cancel Request message with OrderSubType set to Quote (3). The server will respond with an Order Mass Cancel Report to indicate, via the MassCancelResponse field, whether the request is successful or not.

If the mass cancel request is accepted, the server will immediately transmit Execution Reports for each quote side that is cancelled and Order Cancel Rejects for each quote side that could not be cancelled. The Client Order ID of all such messages will be the Client Order ID of the Order Mass Cancel Request.

If the mass cancel request is rejected, the reason will be specified in the MassCancelRejectReason field of the Order Mass Cancel Report.

Clients may use the Order Mass Cancel Request to mass cancel all quotes or only those for a particular instrument. A mass cancel request may apply to all the quotes of the trading firm or only to those of a particular trading party. If the target party is not specified, the server will apply the request to the quotes of the trading party that the Order Mass Cancel Request is submitted under.

3.3.2.4 Cancellation by market operations

Unsolicited Execution Reports for each quote side will be sent to the client if a quote is cancelled by Market Operations. The Client Order ID of the quote will be stamped in such a message.

3.4 Security identification

Instruments may be identified by the Instrument ID assigned by the Exchange to each security. The application messages transmitted by the server will always contain the Instrument ID.

3.5 Market Operations

3.5.1 Order deletion

Market Operations is able to delete an order on behalf of a client.

The client will be notified of the order deletion submitted on its behalf if and when it is accepted. The client will not be notified if the action is rejected. If the cancellation is accepted, the disseminated Execution Report will not be assigned a new Client Order ID.

This feature is intended to help a client manage an emergency situation and should not be relied upon as a normal business practice.

3.5.2 Trade cancellations

Market Operations may also cancel any (automatically executed) trade. Additionally participants may cancel their own trades. Note that cancellation of cross/BTF order trades are expected to be carried out by the customer. Execution Reports will be sent to the relevant clients to notify them of a trade cancellation.

If an execution resulting from an order is cancelled, the order will be restated to reduce its order quantity by the cancelled quantity. The client will receive two notifications in such a scenario; one for the trade cancel and another for the order restatement.

If an execution resulting from a quote is cancelled, the quote will be restated to reduce its order quantity by the cancelled quantity. The client will receive two notifications in such a scenario; one for the trade cancel and another for the restatement

3.6 Conditionally required fields

All fields that are not conditionally required will be ignored by the server. (E.g.:- Stop Price field will be ignored for Limit and Market orders)

3.7 Timestamps and dates

ExpireDateTime should be in Unix (Posix) time which will be the number of seconds elapsed since midnight proleptic Coordinated Universal Time (UTC) of January 1, 1970, not counting leap seconds.

The first 4 bytes of the TransactTime timestamp will represent the Unix (Posix) time while the next 4 bytes will specify the micro seconds. The TransactTime will be in UTC.

3.8 Functional & implementation limitations

3.8.1.1 It is not possible to publish the *Total Affected Orders* field in the Order Mass Cancel Report because the system sends the Order Mass Cancel Report before the Execution Reports (for orders that are cancelled) and/or Order Cancel Rejects (for orders that are not cancelled).

3.8.1.2 At present, if an order/quote mass cancel request is sent for instruments which are in multiple matching partitions, an Order Mass Cancel Report will be sent per matching partition with the confirmation/rejection of the cancellations of orders/quotes in that respective partition. This is because the system handles mass cancel requests per partition internally. The relevant partition will be stamped in the *Appl ID* field in the Order Mass Cancel Report.

3.8.1.3 It is not possible to populate the *Client Order ID* in the Reject message in the below scenarios:

a) If the *Client Order ID* itself is invalid.

b) If the *Client Order ID* is not the first field of the message and if any field above the *Client Order ID* is invalid.

c) If the native message version is invalid.

d) If the message header is incorrect (e.g. message type, message length).

3.8.1.4 Passive Only Order functionality is only available for certain instruments. Information on whether Passive Only Order functionality is available for a particular instrument can be found in the Millennium Exchange Business Parameters document.

3.8.1.5 The TIF amendment of an order is not allowed. However, if an amendment request is sent with TIF changed to DAY (0) (where the original TIF is a different one, i.e. 1, 3, 4, 5, 6, 8, 9 or 10), the system cannot differentiate whether a TIF was specified in the amend request or not (as DAY is represented by 0 and when a TIF is not specified, it will also come as 0). Hence it will stamp the original TIF of the order to the amend request. Hence if a GTT order is amended to have TIF DAY, system still consider the TIF to be GTT and to have a valid expiry time; if an expiry time is not specified or an invalid expiry time is specified, the amend request will be rejected with an Order Cancel Reject with reject code 1501 (invalid expire time (elapsed)). The table below summarises the behaviour:

Order Type	Time In Force Value

Specified on original new order	0 = DAY		> 0 = OTHER		
Specified on Order Cancel/Replace	0 = DAY	> 0 = OTHER	0 = DAY	SAME as ORIGINAL	> 0 OTHER and not same as original
Action	Accepted	Rejected	Accepted	Accepted	Rejected
Reason		Cannot amend TIF	0 interpreted as meaning not specified		Cannot amend TIF

3.8.1.6 Cancel on disconnect is applicable only if the user is disconnected before the end of day. At the end of the day the user is (not disconnected but) logged off by the system at EOD.

3.8.1.7 Unmatched Committed Cross/BTF Orders can also be cancelled via the Order Cancel Request message. However it is recommended that Committed Cross/BTF orders are cancelled using the Cross Order Cancel Request.

3.8.1.8 For internal Cross/BTF orders, the Counterparty field can be incorrectly populated when the internal cross/BTF order is rejected with reject codes 130505 – 'Firm ID Not specified for Cross/BTF Order', 130509 – 'Firm ID Not Matched for Internal Cross/BTF' and 130401 – 'Invalid Executing Firm'.

3.9 Mapping Native Order ID to GTP Order ID using base-62

To convert Native Order ID to MITCH Order ID:

Step 1 – Convert the 12 byte Native Order ID from ASCII into a base 62 equivalent using the base 62 mapping table below

Step 2 – Convert this string into a base 10 (decimal) number

Step 3 – The GTP order ID is this base 10 number represented in binary

Note

- 64 bit integer data types should be used for the calculation otherwise integers will overflow
- Excel also rounds the value since its using a 64 bit float data type for the calculation

The Order ID format (ASCII):

12 bytes
0-9, A-Z, a-z
Base 62 encoded order id

The base 62 mapping table:

0	0	20	K	40	e	60	y
1	1	21	L	41	f	61	z
2	2	22	M	42	g		
3	3	23	N	43	h		
4	4	24	O	44	i		
5	5	25	P	45	j		
6	6	26	Q	46	k		
7	7	27	R	47	l		
8	8	28	S	48	m		
9	9	29	T	49	n		
10	A	30	U	50	o		
11	B	31	V	51	p		
12	C	32	W	52	q		
13	D	33	X	53	r		
14	E	34	Y	54	s		
15	F	35	Z	55	t		
16	G	36	a	56	u		
17	H	37	b	57	v		
18	I	38	c	58	w		
19	J	39	d	59	x		

An Example:

Order ID for Native in ASCII	01hbIXLE8st
Base 62 equivalent	01,43,37,18,33,21,14,08,54,55
Base 10 (decimal) number	23,057,063,777,141,547
GTP order id	Binary encoding of above decimal

3.9.1 Mapping Native Trade Match ID (TVTIC) to FIX TradeMatchID (TVTIC) using base-36 encoding

Converted Examples

Native Trade Match ID/ GTP Trade ID (Decimal number)	**FIX TradeMatchID (880) (10-character length base-36 encoded literal)**
20888591731720253	00ST83OK1P
11298586755194	GKGMXE9F86
1338498875692	GGXICR4MS8

Steps to follow

1. Calculate the remainder I and quotient (Q) by dividing the decimal number Native Trade Match ID by 36.
2. Use the mapping table to convert the remainder I to base-36 symbol. This will occupy the least significant position in the encoded string.
3. Carry on by repeating steps 1 and 2 with the calculated quotient (Q) of the previous step as the decimal number.
4. Repeat step 3 till the quotient is less than 36, then use the mapping table to convert it to base-36 symbol. This will occupy the most significant position in the encoded string.
5. If the encoded string is less than 10 characters in length, pad the string with symbol 'G' (which is the base-36 equivalent of decimal zero) in front to make the 10-character FIX TradeMatchID.

In the example below the Native TVTIC = 1338498875692 and the encoded FIX TVTIC = GG XICR4MS8 (GG is the padding to make the string length to 10).

Steps	Decimal number	Quotient (Q)	Remainder I	Base 36 symbol
1	1338498875692	37180524324	28	8
2	37180524324	1032792342	12	S
3	1032792342	28688676	6	M
4	28688676	796907	24	4
5	796907	22136	11	R
6	22136	614	32	C
7	614	17	2	I
8	17		17	X

Base-36 Mapping Table

0	G	20	0
1	H	21	1
2	I	22	2
3	J	23	3

4	K	24	4
5	L	25	5
6	M	26	6
7	N	27	7
8	O	28	8
9	P	29	9
10	Q	30	A
11	R	31	B
12	S	32	C
13	T	33	D
14	U	34	E
15	V	35	F
16	W		
17	X		
18	Y		
19	Z		

3.10 Field value validations

The below validations will be done at the native gateway. If a message is rejected at the gateway, it will be rejected with the Reject message. Note that additional validations will occur at the matching engine which may also result in rejections via an execution report message (populating the order reject code) – please refer to the Reject Codes document.

The reject codes have to be as below:

- If a value is not specified for a required field, reject code 9900 will be used to reject the message.
- If a field value validation (greater than zero, greater than or equal to zero, equal to zero, less than zero, less than or equal to zero, expected value not there, format is incorrect) fails, reject code 9901 will be used to reject the messages.
- If the instrument is not specified for a mass cancel request, reject code 9900 will be used to reject the message.
- If the segment is not specified for a mass cancel request, reject code 9900 will be used to reject the message.

The problematic field name will be specified in the Reject Reason field in the Reject message.

The problematic message type will be specified in the Rejected Message Type field in the Reject message.

Message	Field	Validation	Reject Code
Message Header	Length	The value has to be the actual length of the message. Otherwise reject the message.	9901
	Length	The value has to be the actual length of the message. Otherwise reject the message.	9901
	Message Type	If the value is out of range from the defined set of values, reject the message.	9901
Logon	User Name	If a value is not specified, reject the message. If the value contains invalid ASCII characters, reject the message.	9900 9901
	Password	If a value is not specified, reject the message. If the value contains invalid ASCII characters, reject the message.	9900 9901
	~~New Password~~	~~If a value is specified and it contains invalid ASCII characters, reject the message.~~	~~9901~~
	Message Version	The value has to be 1. Otherwise reject the message.	9901

Logout	Reason	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
Missed Message Request	App ID	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	Last Msg Seq Num	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
New Order	Client Order ID	If a value is not specified, reject the message. If the value contains invalid ASCII characters, reject the message.	9900 9901
	Trader ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Account	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Clearing Account	If the value is out of range from the defined set of values, reject the message.	9901
	Instrument ID	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	Reserved Field 1	The value has to be equal to 0 (=0). Otherwise reject the message.	9901

	Order Type	If the value is out of range from the defined set of values, reject the message.	9901
	TIF	If the value is out of range from the defined set of values, reject the message.	9901
	ExpireDateTime	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	Side	If the value is out of range from the defined set of values, reject the message.	9901
	Order Qty	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	DisplayQty	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	Limit Price	The value has to be greater than 0 (>0) if Order Type is Limit or Stop Limit. Otherwise reject the message.	9901
	Capacity	If the value is out of range from the defined set of values, reject the message.	9901
	Auto Cancel	If the value is out of range from the defined set of values, reject the message.	9901

	Order Sub Type	If the value is out of range from the defined set of values, reject the message.	9901
	Anonymity	If the value is out of range from the defined set of values, reject the message.	9901
	Stopped Price	The value has to be greater than 0 (>0) if Order Type is Stop or Stop Limit.	9901
	Reserved Field	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
Quote	Client Order ID	If a value is not specified, reject the message. If the value contains invalid ASCII characters, reject the message.	9900 9901
	Trader ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	ClearingAccount	If the value is out of range from the defined set of values, reject the message.	9901
	Instrument ID	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	BidPrice	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901

	BidSize	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	AskPrice	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	AskSize	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	Capacity	If the value is out of range from the defined set of values, reject the message.	9901
	Auto Cancel	If the value is out of range from the defined set of values, reject the message.	9901
	Reserved Field	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
Cancel Request	Client Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Original Client Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901

	Instrument ID	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	Reserved Field 1	No validation will occur.	
	Reserved Field 2	No validation will occur.	
	Side	If the value is out of range from the defined set of values, reject the message.	9901
	Reserved Field	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
Mass Cancel Request	Client Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	MassCancelRequestType	If the value is out of range from the defined set of values, reject the message.	9901
	Instrument ID	The value has to be greater than 0 (>0) if the Mass Cancel Request Type is 3 or 9. Otherwise reject the message.	9901
	Reserved Field 1	No validation will occur.	
	Reserved Field 2	No validation will occur.	

	Segment	If the value is not specified for Mass Cancel Request Types 4 and 15, reject the message. If the value contains invalid ASCII characters, reject the message.	9900 9901
	Order Sub Type	If the value is out of range from the defined set of values, reject the message.	9901
	Reserved Field	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
Order Modification Request	Client Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Original Client Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Order ID	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Instrument ID	The value has to be greater than 0 (>0). Otherwise reject the message.	9901
	Reserved Field 1	The value has to be equal to 0 (=0). Otherwise reject the message.	9901

	Reserved Field 2	The value has to be equal to 0 (=0). Otherwise reject the message.	9901
	ExpireDateTime	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	Order Quantity	The value has to be greater than 0 (>0). Otherwise reject the message.	1000
	Display Quantity	The value has to be greater than or equal to 0 (>=0). Otherwise reject the message.	9901
	Account	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	TIF	Reserved field. Value is ignored if specified.	
	Side	If the value is out of range from the defined set of values, reject the message.	9901
	Reserved Field	If a value is specified and it contains invalid ASCII characters, reject the message.	9901
	Limit Price	No validation will be done.	
	Stopped Price	No validation will be done.	

3.10.2 Validation of ASCII characters

The values which correspond to Decimal 0 to 127 should be accepted. Any other ASCII character will be rejected.

3.11 Rejection logic

All client-initiated messages are subjected to two levels of gateway validations before the server receives the message.

Level one pertains to validations on the message header, data type and range defined for each field (valid values for a given field).

If the message successfully passes the first level of gateway validations, the system generates an internal message to check for conditional requirements of each field and any message specific validations. This forms the second level of gateway validations.

If a message fails to comply with any of gateway level validations, a Reject message would be generated which contains a reject code, along with the reason specified. The only exception to the gateway level rejection logic is when the server is unavailable in the unlikely event of an outage; a Business Reject message is generated instead of a Reject in this scenario.

Any client-initiated message after passing gateway level validations will be subjected to internal validations upon reaching the server. Failure to pass server level validations will be notified to clients via an Execution Report with a reject code to which the reason is specified in the reject code specification.

An exception to the server level rejection logic is when the instrument or the order book could not be found, in which case a Business Reject is generated by the server.

The Business Reject sent to reject an order or quote and Cancel Reject sent to a cancel request or amend request for an unknown instrument should include a Partition ID of zero (0). This is the value used on Business Rejects sent when the system or a partition is suspended.

3.12 MiFID II functionality

3.12.1 Pre-Trade Waiver Flags

If a Cross/BTF/RFQ transaction was executed under a pre-trade waiver, the relevant Waiver Flag [2] will be sent in the Order Execution Report for Cross/BTF trades and trade cancellations. Flags will also be sent in the RFQ Execution Report for RFQ trades and trade cancellations.

For equity instruments:

- ‘NLIQ’ = Negotiated transactions in liquid financial instruments
- ‘OILQ’ = Negotiated transactions in illiquid financial instruments

For non-equity instruments:

- ‘SIZE’ = Above specific size transaction
- ‘ILQD’ = Illiquid instrument transaction

The matrices below show in which scenario each of the flags will be sent.

[2] Orders executed under large in scale waiver will not be flagged with the waiver indicator since it is not required by MIFID II/MiFIR (RTS22)

Cross Trades/ Trade Cancels	Instrument Category		Liquidity		Order Size		Waiver Indicator Flag
	Equity	Non-equity	Liquid	Illiquid	Size ≥ Pre-trade LIS	Size < Pre-trade LIS	
	✓		✓			✓	NLIQ
	✓			✓		✓	OLIQ
		✓		✓	✓		ILQD
		✓		✓		✓	ILQD

BTF Trades/ Trade Cancels	Instrument Category		Liquidity		Order Size		Waiver Indicator Flag
	Equity	Non-equity	Liquid	Illiquid	Size ≥ Minimum BTF Value	Size < Minimum BTF Value	
		✓		✓	✓		ILQD

RFQ Trades/ Trade Cancels	Instrument Category		Liquidity		Pre-Trade Transparency Model of the RFQ	Waiver Indicator Flag
	Equity	Non-equity	Liquid	Illiquid	NPT	
		✓	✓			SIZE
		✓		✓	✓	ILQD

3.12.2 Order Capacity

The Order capacities are shown below.

Pre-MiFID II name	MiFID II name
Principal	Dealing on own account (DEAL)

Agency	Any other trading capacity (AOTC)
Riskless Principal	N/A
N/A	Matched Principal (MTCH)

Prior to the MiFID II go-live, the field Capacity =1 was treated as Riskless Principal. Since the MiFID II go-live, it is treated as Matched Principal (MTCH).

3.12.3 Unique System IDs

The system will now send Bid and Offer IDs for RFQ Quotes in the Quote Ack message.

3.12.4 Order Record Keeping Information

The participants should provide the short code in the 'Client ID', 'Investment Decision Maker' or 'Executing Trader' fields. These fields are named as 'Client ID', 'Investment decision within firm' and 'Execution within firm' in the MiFID II/MiFIR RTS 24 regulatory documentation. The short code should be provided in the following messages: .New Order, New Quote, New Order Cross, Quote Request, RFQ Quote. The values will not be sent back in the server generated messages. This information can not be amended.

A short code must be in the range from 4 to 4294967295.

The PartyRoleQualifier field contains 8 bits where each pair of two bits represent the Client ID, Investment Decision Maker and 'Executing Trader', as shown in the table below. The permutations in grey are accepted by the system, but are not advised.

Bit	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**
Relevant Party Identifier / **Party Role Qualifier meaning**	**Reserved**		**Executing Trader**		**Investment Decision Maker**		**Client ID**	
None			**0**	**0**	**0**	**0**	**0**	**0**
LEI/Firm			0	1	0	1	**0**	**1**
Algo			**1**	**0**	**1**	**0**	1	0
Natural Person			**1**	**1**	**1**	**1**	**1**	**1**

PartyRoleQualifier = None will be rejected when 'Client ID', 'Investment Decision Maker' or 'Executing Trader' is specified as a short code.

The below table shows the valid combinations of the Party Identifier for 'Client ID', 'Investment Decision Maker' or 'Executing Trader' and Party Role Qualifier , including the use of reserved Party ID values (0-3). Note; other combinations outside of the ranges below maybe accepted but this is not advised.

Party identifier	Native field/value
1. Client – Legal entity (LEI)	Client ID= <Short Code>, PartyRoleQualifier bit0 =1, bit1=0
2. Client – Natural person	Client ID = <Short Code>, PartyRoleQualifier bit0 =1, bit1=1
3. An aggregation of multiple client orders	Client ID = 1 (AGGR)
4. Clients are pending allocation	Client ID = 2 (PNAL)
5. No client for the order	Client ID = 0 (None)
6. Investment Decision Maker – Natural person	Investment Decision Maker = <Short Code>, PartyRoleQualifier bit2 =1, bit3=1
7. Investment Decision Maker – Algorithm	Investment Decision Maker = <Short Code>, PartyRoleQualifier bit2 =0, bit3=1
8. No Investment Decision Maker	Investment Decision Maker = 0 (None)
9. Executing Trader – Natural person	Executing Trader = <Short Code>, PartyRoleQualifier bit4 =1, bit5=1
10. Executing Trader is Algorithm	Executing Trader = <Short Code>, PartyRoleQualifier bit4 =0, bit5=1
11. Executing Trader on behalf of a client	Executing Trader = 3 (CLIENT)

4.0 Connectivity

4.1 UserIDs

UserIDs will be confirmed with each client before communications can begin through the Native Trading Gateway. A single client may have multiple connections to the server (i.e. a user can maintain multiple sessions if he has multiple UserIDs).

4.1.1 Passwords

Each UserID will be assigned a password on registration. Clients will be required to change the password to one of their choosing via the Logon message. When a new password is submitted by the client, a successful login will indicate that the new password is accepted. The new password will, if accepted, be effective for subsequent logins. If a new password is rejected, the system will stamp Reject Code = 3 in the Logon Reply message.

In terms of London Stock Exchange password policy, the initial password of each username must be changed at least once. If not, the client will be unable to login to the server. In such a case, the client should contact London Stock Exchange.

New passwords should adhere to the rules below:

- Minimum length – 8 characters
- Maximum length – 14 characters
- Minimum numeric characters – 1 character
- Minimum alpha characters – 1 character
- Minimum special characters – 1 character

4.2 Production IP addresses and ports

The IP addresses and ports for the Native Trading Gateway are published in a separate configuration document which can be found on the Millennium Exchange Technical Information website.

4.3 Failover and recovery

The system has been designed with fault tolerance and disaster recovery technology that ensures that trading should continue in the unlikely event of a process, gateway or site outage.

On unexpected disconnection from the primary gateway, a customer should ensure that their application behaves in accordance with London Stock Exchange's connectivity policy.

4.4 Connectivity Policy

An application should attempt to connect a maximum of 3 times to the primary gateway with a minimum time out value of 3 seconds between attempts before attempting to connect to the secondary gateway – and this should be retried a maximum of a further 3 times. After 6 failed connection attempts (3 on each gateway) the clients should contact London Stock Exchange for further guidance.

Information on London Stock Exchange's Connectivity Policy can be found at the following link:

http://www.londonstockexchange.com/products-and-services/technical-library/technical-guidance-notes/technical-guidance-notes.htm

4.5 Message rate throttling

London Stock Exchange has implemented a scheme for throttling message traffic where each UserID is only permitted to submit up to a specified number of messages per second.

Additional information is provided in *MIT201 Guide to the New Trading System* document, and also in the *Trading Technical Parameters* document both at http://www.londonstockexchange.com/products-and-services/technical-library/millennium-exchange-technical-specifications/millennium-exchange-technical-specifications.htm.

Messages which exceed the maximum rate of a UserID will normally be rejected via a Reject Message. However, a client's connection will be disconnected by the server if its message rate exceeds the maximum rate for a specific time duration. In such a case, the server will transmit a Logout message and within 1 second will terminate the TCP/IP connection without sending any reject message.

Please note that client Heartbeat messages as well as any reject messages are all counted towards the throttling limits.

4.6 Mass Cancellation On Disconnect

At the request of the member firm, the server can be configured to automatically cancel certain live orders and quotes submitted by a user whenever it disconnects from the server.

The user can mark each order through its Auto Cancel field; whether it should be automatically cancelled according to its user preferences, should a disconnection or logout happen. For each order an Execution Report generated with the 'Exec Type' and 'Order Status' fields stamped with the value 'Expired', as opposed to 'Cancelled' which would be stamped for all 'Firm Initiated Cancellations'

This feature does not guarantee that all outstanding marked orders will be successfully cancelled as executions that occur very near the time of disconnect may not be reported to the client. During such a

situation, the client should contact LSE Market Operations to verify that all marked orders have been cancelled and all Execution Reports have been received.

If the disconnection is initiated by the server (e.g. when a user is locked, when a user is force logged out, when the maximum message rate is exceeded), the server first logs out the user and then disconnects the connection. In such a scenario the *Auto Cancel on Logout* feature will be applicable, where as if the disconnection is initiated by the client (e.g. heartbeat expiration, when a message is sent with an invalid sequence number) the applicable feature will be *Auto Cancel On Disconnect.*

If a disconnection/logout takes place after the end of the post close session, it will not result in a mass cancellation of orders. Therefore, if a user gets disconnected/logged out after post close while mass cancel on disconnect/logout is enforced, any orders open at that point will not be cancelled.

The configuration of the mass cancellation on disconnect feature cannot be updated during a session.

Please note that Committed Cross/BTF orders will not be cancelled as part of a mass cancellation on disconnect/logout.

4.7 Sponsoring Firm Disconnect

Sponsoring firms' users are able to constantly monitor their Sponsored Users via a Drop Copy Gateway connection. When a Member Firm user loses its ability to monitor their Sponsored Users (e.g. Disconnect, lose connection or logout) and not reconnect within the configurable amount of time, their Sponsored Users will be restricted from submitting new orders and all their existing orders will be expired.

4.8 Sponsored User Suspension

Member firms will have the ability to suspend access of a Sponsored User via the Sponsor Portal. On suspension of a Sponsored User they will be restricted from submitting new orders, while all their existing orders will be expired.

5.0 Connections and sessions

5.1 Establishing a connection

Each client will use the assigned IP address and port to establish a TCP/IP session with the server. The client will initiate a session at the start of each trading day by sending the Logon message. If the client does not initiate the session by sending the Logon message within two heartbeats interval of establishing the session, the connection will be dropped by the server. The client will identify itself using the Username field. The server will validate the Username and password of the client.

Once the client is authenticated, the server will respond with a Logon Reply message. If the client's logon is successful or if the client's new password is accepted, the RejectCode of the Logon Reply will be Successful (0). If the client's logon is unsuccessful (e.g. invalid or expired password, locked user etc.), the system will break the TCP/IP connection without sending a Logon Reply message.

The client must wait for the server's Logon before sending additional messages. The server will reject messages received prior to sending the Logon message and prior to receiving the Logon response. Subsequently, the Logon sent by the client will be accepted and the user will be logged in successfully.

The number of connection limits and the number of logins allowed to the server will be configured in the system. The client will not able to connect to the server if they have exceeded the maximum number of connections allowed. If the client has exceeded the number of maximum number of logins allowed to the server, but hasn't exceeded the maximum number of connections, the login request will be rejected.

A protection mechanism is in place in order to protect the gateway from rapid login/logouts. If a user reaches the thresholds for rapid login/logouts, any future logins/logouts will be delayed exponentially.

5.2 Maintaining a session

5.2.1 Application sequence numbers

While the Server-initiated application messages will always have an App ID and a Sequence Number, the Client-initiated application messages will not be numbered. The App ID will correspond to the partition ID of the instrument the message is sent for, and the Sequence No will be a sequence number assigned to messages of the given partition.

The Sequence Number received by a client for a particular App ID, although incremental, will not be sequential, since the sequence numbers are not maintained per client. Therefore, a client should not connect to the recovery channel and request for missed messages if the difference in Sequence No between two consecutive messages is more than one. Recovery should be requested only upon a reconnection after a session disconnection.

Uniqueness of Client-initiated messages will be achieved through the provision of unique Client Order IDs per user. It is the responsibility of the customer to ensure that a Client Order ID is unique over the life of an order.

5.2.2 Heartbeats

The client and server will use the Heartbeat message to exercise the communication line during periods of inactivity and to verify that the interfaces at each end are available. The heartbeat interval will be three seconds.

The server will send a Heartbeat anytime it has not transmitted a message for the heartbeat interval. The client is expected to employ the same logic.

If the server detects inactivity for five heartbeat intervals, the server will send a Logout and break the TCP/IP connection with the client. The client is expected to employ similar logic if inactivity is detected on the part of the server.

5.3 Terminating a connection

The client is expected to terminate each connection at the end of each trading day before the server shuts down. The client will terminate a connection by sending the Logout message. The server will respond with a Logout message if the client's request is successful. The client will then break the TCP/IP connection with the server.

All open TCP/IP connections will be terminated by the server when it shuts down (a Logout will be sent). Under exceptional circumstances the server may initiate the termination of a connection during the trading day by sending the Logout message.

Either party that wishes to terminate the connection may wait for the heartbeat interval duration before breaking the TCP/IP connection, in order to ensure that the other party received the Logout message.

6.0 Recovery

If a client gets disconnected from the server, the recovery channel shall be used to recover missed messages. This section explains the protocol to be followed when recovering missed messages.

6.1 Requesting missed messages

When a client needs to recover missed messages they must first connect to the Real Time Channel and establish a session by exchanging Logon and Logon Reply messages. The client may then connect to the Recovery Channel and exchange Logon and Logon Reply messages to establish a recovery session. Any attempt to connect to the Recovery Channel without first connecting to the Real Time

Channel shall be rejected and the server will send a Logon Reply message, which will include the appropriate Reject Code. The client must ensure proper authentication (i.e. same username and password) when logging in to both channels. Any values sent for the NewPassword field in the Logon message sent to the Recovery Channel will be ignored.

After establishing a connection with the Recovery Channel, the client can send heartbeats to maintain the session or send a Missed Message Request with the relevant App ID and the last received Sequence No corresponding to that App ID. The user will have to send separate Missed Message Request messages to retrieve messages from each partition.

If a service interruption occurs in the Native Recovery Channel, the Native Gateway will send a System Status message to all logged in clients of that gateway's recovery channel with App ID stamped to indicate the service/partition is unavailable. When this message is received, clients can identify that the recovery service is not available for the partition indicated by App ID. They would be able to continue recovery activities on other partitions without interruptions. If the gateway was in the middle of serving a Missed Message Request, it will send a Missed Message Report message with 'ResponseType' = 3 (service unavailable) to the client. If a new Missed Message Request is sent by a user, the gateway will reject the message with a 'Missed Message Request Ack' with 'ResponseType' = 3 (service unavailable) to the client. Once the service is available again, Native Gateway will send another System Status message with App ID to indicate the service availability of the partition to the clients who are still connected on to the recovery channel with 'AppStatus' = 1. When this message is received, the clients are expected to resend the request for missed messages (preferably from the point of interruption) to the gateway to resume the missed message recovery

If a client is logged in and receives the System Status message indicating the system is unavailable, they can stay logged in (i.e. they will not get disconnected after three heartbeats from this message) and can stay heart beating until they receive the System Status message indicating the system is available again. Clients can then request missed messages and once satisfied they will be disconnected after three heartbeats interval and will need to log back in again.

If the matching system becomes unavailable, clients will receive a BusinessReject message with a value of "9998" indicating "Matching Partition Suspended." Upon order entry.

6.2 Missed Message Request Response

The server will respond to the Missed Message Request with a Missed Message Request Ack to indicate whether the recovery request is successful or not. If the request is unsuccessful, the reason will be specified in the field ResponseType.

The total number of Missed Message Requests that a client may send on the Recovery channel is limited[3]. Once this limit is reached, the server will reject any additional request via a Missed Message Request Ack with a ResponseType of Recovery Request limit reached[2].

In the case of a successful recovery request, the server will transmit the requested messages immediately after the Missed Message Request Ack. It should be noted that due to race conditions duplicate messages may be transmitted via the recovery channel. Clients are advised to use the App ID and SeqNum to carry out duplicate discard.

Missed Messages sent in response to a Missed Message Request will not contain Order Cancel Reject messages and Business Reject messages since these messages are not retained in Order Cache.

Upon transmitting all the missed messages (i.e. messages from the last received Sequence No to the first message received through the Real Time Channel) the Recovery Channel will send a Missed Message Report which will indicate whether or not all requested messages have been sent.

The total number of messages that a client may receive is limited[2] per Missed Message Request. Therefore, if the client's missed message request exceeds this limit, the server will send the first limited

[3] Please refer to the *Trading Technical Parameters* document for details of these limits http://www.londonstockexchange.com/products-and-services/technical-library/millennium-exchange-technical-specifications/millennium-exchange-technical-specifications.htm.

number of messages from the App ID and Sequence No provided, followed by a Missed Message Report with a Response Type of Message Limit Reached[2].

Missed Message Requests sent by the client prior to receiving the Missed Message Report will be queued and will be processed after the Missed Message Report has been sent for previous requests.

Upon receiving the Missed Message Report, the client can send a Logout message and terminate the connection or submit a new Missed Message Request for any more messages that need to be transmitted.

6.3 Terminating the recovery session

Upon sending the Missed Message Report or Missed Message Request Ack the server will wait five heartbeat intervals prior to disconnecting the client. If the client has received only part of the message set that was requested, the client may send in a new Missed Message Request message for the messages that were not recovered in the first attempt. However, if such a request is not sent within three heartbeat intervals the server will terminate the connection. The client can send multiple Missed Message Request messages before the recover connection is terminated. The recovery connection will not be terminated in the middle of serving a Missed Message Request. If the client is unable to send a new request within this time, the client can re-login to the Recovery Channel and send in the Missed Message Request.

7.0 Data types

The fields of the messages utilised by the server will support the data types outlined below.

Data Type	Length	Description
Alpha	1	A single byte used to hold one ASCII character.
Float	4	Signed Little-Endian encoded four byte integer field with four implied decimal places.
Price	8	Signed Little-Endian encoded eight byte integer field with eight implied decimal places.
Int8	1	Little-Endian encoded 8 bit signed integer.
Int16	2	Little-Endian encoded 16 bit signed integer.
Uint32	4	Little-Endian encoded 32 bit unsigned integer.
Int32	4	Little-Endian encoded 32 bit signed integer.
Uint64	8	Little-Endian encoded 64 bit unsigned integer.
String	Variable	These fields use standard ASCII character bytes. A field will be null terminated if the full fixed length is unused. The first byte will contain a null if the field is unused.

The description section of each of the messages will describe how each optional field should be represented when no data is sent through it.

Customers should design their applications such that:

- When sending messages, it populates all Reserved fields with nulls (hex 0x00)

▫ When receiving messages, it disregards and does not process any fields marked as Reserved

8.0 Message formats

This section provides details on the administrative messages and application messages utilised by the server. Any message not included in this section will be rejected by the server.

8.1 Supported message types

8.1.1 Administrative messages

All administrative messages may be initiated by either the client or the server.

Message	MsgType	Usage
Logon	A	Allows the client and server to establish a session.
Logon Reply	B	Allows the server to acknowledge a client's Logon.
Logout	5	Allows the client and server to terminate a session.
Heartbeat	0	Allows the client and server to exercise the communication line during periods of inactivity and verify that the interfaces at each end are available.
Missed Message Request	M	Allows the client to subscribe to missed messages through the Recovery Channel.
Missed Message Request Ack	N	Allows the server to acknowledge a client's Missed Message Request.
Missed Message Report	P	Allows the Server to communicate the result of a Missed Message Request.
Reject	3	Used to reject a message that does not comply with the Native Trading Gateway messaging protocol.
System Status	n	This message will be disseminated in the recovery channel (with AppStatus = 2) and for realtime channel (with AppStatus = 3) to indicate Service Non Availability of a partition (due to order cache outage).

8.1.2 Application messages: order handling

8.1.2.1 Client-initiated

Message	MsgType	Usage
New Order	D	Allows the client to submit a new order.
Order Cancel Request	F	Allows the client to cancel a live order.

Order Mass Cancel Request	q	Allows the client to mass cancel: (i) All live orders. (ii) All live orders for a particular instrument. (iii) All live orders for a particular segment. The mass cancel may apply to the orders of a particular trading party or to all orders of the firm.
Order Cancel/Replace Request	G	Allows the client to cancel/replace a live order.
New Order Cross Message	C	Allows the client to submit a Cross/BTF order.
Cross Order Cancel Request	H	Allows the client to cancel a Committed Cross/BTF order.

8.1.2.2 Server-initiated

Message	MsgType	Usage
Execution Report	8	Indicates one of the following: (i) Order accepted. (ii) Order rejected. (iii) Order executed. (iv) Order expired. (v) Order cancelled. (vi) Order cancel/replaced. (vii) Trade cancel (viii) Order restated (ix) Order Suspended
Order Cancel Reject	9	Indicates that an order cancel request or order cancel/replace request has been rejected.
Order Mass Cancel Report	r	Indicates one of the following: (i) Mass order cancel request accepted. (ii) Mass order cancel request rejected.

8.1.3 Application messages: Quote handling

8.1.3.1 Client-initiated

Message	MsgType	Usage
Quote	S	Allows the client to submit and update a quote.
Quote Request	a	Allows the Requester to submit an RFQ
Quote Request Reject	b	Allows the Market Marker to reject the RFQ

RFQ Quote	d	Allows the Market Maker to accept an RFQ Quote
Quote Response	f	Allows the Requester to execute (accept) a RFQ Quote or initiate an RFQ cancellation Quote Response can also be used for RFQ Amendments

8.1.3.2 Server-initiated

Message	MsgType	Usage
Quote Request	a	Allows the server to send the RFQ to the Market Maker
Quote Status Report	c	i) Allows the server to communicate the status of the RFQ to the Requester
Quote Request Reject	b	i) Allows the server to reject an RFQ from a Requester ii) Allows the server to communicate the rejection of the RFQ by a Market Maker to the Requester
RFQ Quote	d	Allows the server to send the Requester the RFQ Quote provided by the Market Maker
Quote Ack	e	Allows the server to acknowledge a new or modified RFQ Quote to the Market Maker
Quote Response	f	Allows the server to communicate the status of a quote and RFQ to the Requester and Market Makers
RFQ Execution Report	g	Allows the system to notify the Requester and the Market Maker about a trade or the status of the quote

8.1.4 Application messages: other

8.1.4.1 Server-initiated

Message	MsgType	Usage
Business Message Reject	j	Indicates that an application message could not be processed.

8.2 Message header

Field	Offset	Length	Data Type	Description
Start of Message	0	1	Int8	Indicates the start of the message. Clients will have to send the binary value of '2' at the start of each message. Server will also follow the same protocol.

Message Length	1	2	Int16	Length of the message from the Message Type field onwards.
Message Type	3	1	Alpha	Type of Message

8.3 Administrative messages

8.3.1 Logon

Field	Offset	Length	Data Type	Description
Header				
User Name	4	25	String	User name
Password	29	25	String	Password
New Password	54	25	String	New Password
Message Version	79	1	Ulnt8	Message Version that will be used in this session. The value has to be always 1.

8.3.2 Logon Reply

Field	Offset	Length	Data Type	Description
Header				
Reject Code	4	4	Int32	Code specifying the reason for the reject. Please refer to the Reject Code Specification for the list of reject codes and meanings specific to LSE.
Password Expiry Day Count	8	30	String	The number of days before the password will expire

8.3.3 Logout

Field	Offset	Length	Data Type	Description
Header				
Reason	4	20	String	Reason for the logout.

8.3.4 Heartbeat

Field	Offset	Length	Data Type	Description
Header				

8.3.5 Missed Message Request

Field	Offset	Length	Data Type	Description
Header				

App ID	4	1	Int8	App ID this message relates to.
Last Msg Seq Num	5	4	Int32	Last received Sequence No.

8.3.6 Missed Message Request Ack

Field	Offset	Length	Data Type	Description
Header				
Response Type	4	1	Uint8	**Value** / **Meaning** 0 – Successful 1 – Recovery Request limit reached 2 – Invalid App ID 3 – Service Unavailable

8.3.7 Missed Message Report

Field	Offset	Length	Data Type	Description
Header				
Response Type	4	1	Ulnt8	**Value** / **Meaning** 0 – Download Complete 1 – Message limit reached 3 – Service Unavailable

8.3.8 Reject

Field	Offset	Length	Data Type	Description
Header				
Reject Code	4	4	Int32	Code specifying the reason for the reject. Please refer to the Reject Code Specification for the list of reject codes and meanings specific to LSE.
Reject Reason	8	30	String	Reject Reason.
Rejected Message Type	38	1	Alpha	Message type of the rejected message.

Client Order ID	39	20	String	Client specified identifier of the rejected message if it is available. RFQ ID will be stamped when the system rejects a client's Quote Request Reject message, and when the system rejects a Quote Response message from the Requester.

8.3.9 System Status

Field	Offset	Length	Data Type	Description
Header				
App ID	4	1	Ulnt8	Partition ID **Value** / **Meaning** 1 – Partition 1 2 – Partition 2 3 – Partition 3
App Status	5	1	Ulnt8	**Value** / **Meaning** 1 – Recovery service resumed 2 – Recovery service not available 3 – Realtime channel to indicate Service Non Availability of a partition (due to order cache outage)

8.4 Application messages: orders/quotes

8.4.1 New Order

Field	Offset	Length	Data Type	Description
Header				
Client Order ID	4	20	String	Client specified identifier of the order. It is mandatory to specify this. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.
Trader ID	24	11	String	Optional Trader ID that clients may submit
Account	35	10	String	Optional reference of the investor the order is submitted for

<table>
<tr><td>Clearing Account</td><td>45</td><td>1</td><td>Ulnt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>46</td><td>4</td><td>Int32</td><td>Identifier of the instrument for which the order is submitted.</td></tr>
<tr><td>MiFID Flags</td><td>50</td><td>1</td><td>Bit-Field</td><td>Flags introduced to identify DEA involvement, Algo and Liquidity provision activity. 0 will be accepted as a valid value. If a bit is not specified, it will be set to 0.<table><tr><th>Bit</th><th>Name</th><th>Meaning</th></tr><tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr><tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr><tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr><tr><td>3</td><td>Reserved</td><td>-</td></tr><tr><td>4</td><td>Reserved</td><td>-</td></tr><tr><td>5</td><td>Reserved</td><td>-</td></tr><tr><td>6</td><td>Reserved</td><td>-</td></tr><tr><td>7</td><td>Reserved</td><td>-</td></tr></table></td></tr>
</table>

<table>
<tr>
<td>Party Role Qualifiers</td>
<td>51</td>
<td>1</td>
<td>Bit-Field</td>
<td>Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 – None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

<table>
<tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr>
<tr><td>Client ID</td><td>0</td><td>0, 1</td></tr>
<tr><td>Client ID</td><td>1</td><td>0, 1</td></tr>
<tr><td>Investor Information</td><td>2</td><td>0, 1</td></tr>
<tr><td>Investor Information</td><td>3</td><td>0, 1</td></tr>
<tr><td>Executing Trader Information</td><td>4</td><td>0, 1</td></tr>
<tr><td>Executing Trader Information</td><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
<tr><td>1</td><td>0</td><td>Algo</td></tr>
<tr><td>1</td><td>1</td><td>Natural Person</td></tr>
</table>

Please refer to the Order Record Keeping Information section for more details.</td>
</tr>
</table>

<table>
<tr><td>Order Type</td><td>52</td><td>1</td><td>Ulnt8</td><td>Type of order<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Market</td></tr><tr><td>2</td><td>Limit</td></tr><tr><td>3</td><td>Stop</td></tr><tr><td>4</td><td>Stop Limit</td></tr></table></td></tr>
<tr><td>TIF</td><td>53</td><td>1</td><td>Ulnt8</td><td>Time qualifier of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Day</td></tr><tr><td>3</td><td>Immediate or Cancel (IOC)</td></tr><tr><td>4</td><td>Fill or Kill (FOK)</td></tr><tr><td>5</td><td>At the Opening (OPG)</td></tr><tr><td>6</td><td>Good Till Date (GTD)</td></tr><tr><td>8</td><td>Good Till Time (GTT)</td></tr><tr><td>10</td><td>At the Close (ATC)</td></tr><tr><td>12</td><td>Closing Price Cross (CPX)</td></tr><tr><td>50</td><td>Good for Auction (GFA)</td></tr><tr><td>51</td><td>Good for Intraday Auction (GFX)</td></tr><tr><td>52</td><td>Good for Scheduled Auction (GFS)</td></tr></table></td></tr>
<tr><td>Expire Date Time</td><td>54</td><td>4</td><td>Uint32</td><td>This field will indicate the date or the time the order expires on. For non GTD/GTT orders, the value in this field will be ignored</td></tr>
<tr><td>Side</td><td>58</td><td>1</td><td>Ulnt8</td><td>Side of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>Order Qty</td><td>59</td><td>4</td><td>Int32</td><td>Total order quantity.</td></tr>
<tr><td>Display Qty</td><td>63</td><td>4</td><td>Int32</td><td>Maximum quantity that may be displayed.</td></tr>
</table>

<table>
<tr><td>Limit Price</td><td>67</td><td>8</td><td>Price</td><td>Limit Price.

Required if OrderType = Limit (2) or Stop Limit (4). Else this field will be ignored.

It can be left zero for Offset orders (OrderType = Limit (2) and Order Sub Type = Offset (55))</td></tr>
<tr><td>Capacity</td><td>75</td><td>1</td><td>Ulnt8</td><td>Capacity of the order.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Auto Cancel</td><td>76</td><td>1</td><td>Uint8</td><td>Cancel orders on logout/disconnection of session
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Do not Cancel</td></tr><tr><td>1</td><td>Check system configuration</td></tr></table></td></tr>
</table>

<table>
<tr><td>Order Sub Type</td><td>77</td><td>1</td><td>Uint8</td><td>Whether the order is a pegged order. If the client submits a Pegged Order with a limit price (so called a “Hard Limit”), the Order Type has to be Limit (2) along with Order Sub Type Pegged Order (5). If the client submits a Pegged without a limit price, the Order Type has to be Market (1) along with Order Sub Type Pegged Order (5).
If this is populated with value “51” while a value which is greater than 0 and less than the Order Quantity is populated in DisplayQty, the DisplayQty after replenishment will be randomly sized based on a percentage range upwards from the original DisplayQty. The DisplayQty after replenishment will be “fixed peak”.
If the client submits an Offset order, the Order Type has to be Limit (2) along with Order Sub Type Offset Order (55). If this value is ‘55’ all other Order Type combinations will be rejected.
<table>
<tr><td>Value</td><td>Meaning</td></tr>
<tr><td>0</td><td>Order</td></tr>
<tr><td>5</td><td>Pegged Order</td></tr>
<tr><td>51</td><td>Random Peak size</td></tr>
<tr><td>55</td><td>Offset</td></tr>
</table>
</td></tr>
<tr><td>Anonymity</td><td>78</td><td>1</td><td>Uint8</td><td>Whether the order is a named or anonymous order
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>Anonymous</td></tr>
<tr><td>1</td><td>Named</td></tr>
</table>
</td></tr>
<tr><td>Stop Price</td><td>79</td><td>8</td><td>Price</td><td>Stop price.
Required if OrderType is Stop or Stop Limit. Else this field will be ignored.</td></tr>
</table>

<table>
<tr>
<td>Passive Only Order</td>
<td>87</td>
<td>1</td>
<td>Uint8</td>
<td>Order level parameter to allow clients to specify that they would like their order to rest prior to execution, with flexibility for visible orders to rest at a specified price level on the book.
Passive Only Orders will execute against hidden orders sat within the BBO on order entry.
Any fully hidden order will be rejected if it has enum 100, 1,2 or3.
No passive only order validation will be done if field is not stamped or has 0 stamped on it.
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>No constraint</td></tr>
<tr><td>99</td><td>Only accept order if it will not match with visible contra order. Otherwise expire order</td></tr>
<tr><td>100</td><td>Only accept order if setting new visible BBO, otherwise expire order</td></tr>
<tr><td>1</td><td>Only accept order if setting new BBO or joining existing BBO. Otherwise expire order</td></tr>
<tr><td>2</td><td>Only accept order if will be at BBO or within one visible price-point. Otherwise expire order</td></tr>
<tr><td>3</td><td>Only accept order if will be at BBO or within two visible price-points. Otherwise expire order</td></tr>
</table>
</td>
</tr>
<tr>
<td>Client ID</td>
<td>88</td>
<td>4</td>
<td>Uint32</td>
<td>Identifier of the client. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>1</td><td>AGGR</td></tr>
<tr><td>2</td><td>PNAL</td></tr>
<tr><td>4 – 4294967295</td><td>Short code</td></tr>
</table>
</td>
</tr>
<tr>
<td>Investment Decision Maker</td>
<td>92</td>
<td>4</td>
<td>Uint32</td>
<td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>4 – 4294967295</td><td>Short code</td></tr>
</table>
</td>
</tr>
</table>

Group ID	96	1	Uint8	Specified by the user as order submission. Used by the traders to group their orders. Users who do not want to group their orders will leave this field 0. Valid Group ID values are 1 to 255.
Minimum Quantity	97	4	Int32	Minimum Execution Size (MES) of an order. A value of 0 (zero) means no MES. MES is only applicable to pegged DAY/GTT orders. It is not applicable to pegged IOC/FOK orders. If a non zero value is specified for a non-pegged order type the message will be rejected.
Executing Trader	101	4	Uint32	Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted. **Value** / **Meaning** 3 – CLIENT 4 – 4294967295 – Short code
Offset	105	4	Int32	Offset to the Dynamic Reference Price (in basis points) for ATC TIF orders. Required if Order Sub Type = 55 'Offset'. An offset value of zero is expected if Order Sub Type is not 55. Zero is a valid offset. Positive offset denotes aggressive pricing on the DRP and negative offset, conservative pricing on the DRP. Zero offset will be priced at DRP. See the example in section 3.2.1.3
Reserved field	109	16	STRING	Reserved for future use

8.4.2 New Quote

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Client Order ID	4	20	String	Client specified identifier of the quote. It is mandatory to specify this. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.
Trader ID	24	11	String	Optional Trader ID that clients may submit.

<table>
<tr><td>Clearing Account</td><td>35</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>36</td><td>4</td><td>Int32</td><td>Identifier of the instrument for which the quote is submitted.</td></tr>
<tr><td>Bid Price</td><td>40</td><td>8</td><td>Price</td><td>Bid price</td></tr>
<tr><td>Bid Size</td><td>48</td><td>4</td><td>Int32</td><td>Bid quantity</td></tr>
<tr><td>Ask Price</td><td>52</td><td>8</td><td>Price</td><td>Offer price</td></tr>
<tr><td>Ask Size</td><td>60</td><td>4</td><td>Int32</td><td>Offer quantity</td></tr>
<tr><td>Capacity</td><td>64</td><td>1</td><td>UInt8</td><td>Capacity of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Auto Cancel</td><td>65</td><td>1</td><td>UInt8</td><td>Cancel orders on logout/disconnection of session<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Do not cancel</td></tr><tr><td>1</td><td>Cancel</td></tr></table></td></tr>
<tr><td>Client ID</td><td>66</td><td>4</td><td>UInt32</td><td>Identifier of the client. 0 will be stamped in a situation where the field is not specified.
Only the following values will be accepted.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>AGGR</td></tr><tr><td>2</td><td>PNAL</td></tr><tr><td>4 - 4294967295</td><td>Short code</td></tr></table>During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.</td></tr>
</table>

<table>
<tr>
<td>Investment Decision Maker</td>
<td>70</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.</td>
</tr>
<tr>
<td>Executing Trader</td>
<td>74</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>3</td><td>CLIENT</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.</td>
</tr>
<tr>
<td>MiFID Flags</td>
<td>78</td>
<td>1</td>
<td>Bit-Field</td>
<td>Flags introduced to identify DEA involvement, Algo and Liquidity provision activity. 0 will be accepted as a valid value. If a bit is not specified, it will be set to 0.

During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.

<table>
<tr><th>Bit</th><th>Name</th><th>Meaning</th></tr>
<tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr>
<tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr>
<tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr>
<tr><td>3</td><td>Reserved</td><td>-</td></tr>
<tr><td>4</td><td>Reserved</td><td>-</td></tr>
<tr><td>5</td><td>Reserved</td><td>-</td></tr>
<tr><td>6</td><td>Reserved</td><td>-</td></tr>
<tr><td>7</td><td>Reserved</td><td>-</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr>
<td>Party Role Qualifiers</td>
<td>79</td>
<td>1</td>
<td>Bit-Field</td>
<td>Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ fields. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the Client ID, Investment Decision Maker and/or ‘Executing Trader ID’ is being specified as a short code (i.e. 4-4294967295).

Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.

<table>
<tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr>
<tr><td>Client ID</td><td>0</td><td>0, 1</td></tr>
<tr><td>Client ID</td><td>1</td><td>0, 1</td></tr>
<tr><td>Investor Information</td><td>2</td><td>0, 1</td></tr>
<tr><td>Investor Information</td><td>3</td><td>0, 1</td></tr>
<tr><td>Executing Trader Informatio</td><td>4</td><td>0, 1</td></tr>
<tr><td>Executing Trader Information</td><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
</table>
</td>
</tr>
</table>

				<table><tr><td>1</td><td>0</td><td>Algo</td></tr><tr><td>1</td><td>1</td><td>Natural Person</td></tr></table> Please refer to the Order Record Keeping Information section for more details.

8.4.3 Order Cancel/Replace Request

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Client Order ID	4	20	String	Client specified identifier of the request. It is mandatory to specify this. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.
Original Client Order ID	24	20	String	Client Order ID of the order being amended. This field will be ignored if Order ID is also specified.
Order ID	44	12	String	Unique identifier of the order assigned by the matching system.
Instrument ID	56	4	Int32	Identifier of the instrument of the order being amended.
Group ID	60	1	UInt8	Specifies the Group ID of an order. If user does not want to amend the Group ID of the order, it can be set to zero. Zero can be amended to non-zero value. Already grouped order (1-255) cannot be amended to zero.
Reserved field 2	61	1	Int8	This will always be 0.
Expire Date Time	62	4	UInt32	This field will indicate the date or the time the order expires on. It is mandatory to specify a valid value in this field for GTD/GTT orders. The value in this field will be ignored for non GTT/GTD orders.
Order Qty	66	4	Int32	Total order quantity.
Display Qty	70	4	Int32	Maximum quantity that may be displayed. The intended display quantity has to be inserted as this is a mandatory field.

<table>
<tr><td>Limit Price</td><td>74</td><td>8</td><td>Price</td><td>Only for Market and Stop orders this field should be filled with a negative value.
If a negative Limit Price is sent (in error) for an offset order, the amendment will not be rejected but the previous limit price of the order will be retained and the negative price ignored.
For Order Sub Type = 55 ‘Offset’:
If Limit Price was sent in the New order, this field must be specified in the Order/Cancel replace request.
If Limit Price was not sent in the New order, this field should be empty in the Order/Cancel replace request.</td></tr>
<tr><td>Account</td><td>82</td><td>10</td><td>String</td><td>The reference of the investor the order is submitted for.
This field should be null if it is not being amended.</td></tr>
<tr><td>Reserved Field 3</td><td>92</td><td>1</td><td>Int8</td><td>Reserved for future use.</td></tr>
<tr><td>Side</td><td>93</td><td>1</td><td>Int8</td><td>Side of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>Stop Price</td><td>94</td><td>8</td><td>Price</td><td>Stop Price.
A negative value should be entered if this field is not being amended. This applies to all order types.</td></tr>
</table>

<table>
<tr>
<td>Passive Only Order</td>
<td>102</td>
<td>1</td>
<td>Int8</td>
<td>Order level parameter to allow clients to specify that they would like their order to rest prior to execution, with flexibility for visible orders to rest at a specified price level on the book.
Passive Only Orders will execute against hidden orders sat within the BBO on order entry.
Any fully hidden order will be rejected if it has enum 100, 1,2 or 3.
No passive only order validation will be done if field is not stamped or has 0 stamped on it.
The value set on this field will be ignored unless a price amendment is also done to the order.

Value | Meaning
0 | No constraint
99 | Only accept order if it will not match with visible contra order. Otherwise expire order
100 | Only accept order if setting new visible BBO, otherwise expire order
1 | Only accept order if setting new BBO or joining existing BBO. Otherwise expire order.
2 | Only accept order if will be at BBO or within one visible price-point. Otherwise expire order
3 | Only accept order if will be at BBO or within two visible price-points. Otherwise expire order</td>
</tr>
<tr>
<td>Offset</td>
<td>103</td>
<td>4</td>
<td>Int32</td>
<td>Offset to the Dynamic Reference Price (in basis points) for ATC TIF orders

Required if Order Sub Type = 55 ‘Offset’. An offset value of zero is expected if Order Sub Type is not 55.</td>
</tr>
<tr>
<td>Reserved Field</td>
<td>107</td>
<td>5</td>
<td>String</td>
<td>Reserved for future use</td>
</tr>
<tr>
<td>Minimum Quantity</td>
<td>112</td>
<td>4</td>
<td>Int32</td>
<td>Minimum execution size (MES) of an order. A value of 0 (zero) means no MES. MES is only applicable to pegged DAY/GTT orders. It is not applicable to pegged IOC/FOK orders. To maintain the previous MES on a pegged order the value must be explicitly specified again on the order cancel/replace. If a non zero value is specified when amending a non pegged order the system will reject the message.</td>
</tr>
</table>

8.4.4 Order Cancel Request

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Client Order ID	4	20	String	Client specified identifier of the request. It is mandatory to specify this.
Original Client Order ID	24	20	String	Client Order ID of the order being amended. This field will be ignored if Order ID or RFQ ID is also specified.
Order ID	44	12	String	Unique identifier of the order assigned by the matching system
Instrument ID	56	4	Int32	Identifier of the instrument of the order being cancelled.
Reserved field 1	60	1	Int8	This will always be 0.
Reserved field 2	61	1	Int8	This will always be 0.
Side	62	1	UInt8	Side of the order. **Value** / **Meaning** 1 – Buy 2 – Sell
RFQ ID	63	10	String	Identifier of the initial RFQ by the Requester. It is mandatory to specify this when cancelling an RFQ Quote.

8.4.5 Order Mass Cancel Request

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Client Order ID	4	20	String	Client specified identifier of mass cancel request. It is mandatory to specify this. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.

<table>
<tr><td>Mass Cancel Request Type</td><td>24</td><td>1</td><td>UInt8</td><td>Type of Mass Cancellation<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>3</td><td>All firm orders of an instrument</td></tr><tr><td>4</td><td>All firm orders of a segment</td></tr><tr><td>7</td><td>All orders submitted by the trader</td></tr><tr><td>8</td><td>All firm orders</td></tr><tr><td>9</td><td>All orders of an instrument, submitted by the trader</td></tr><tr><td>15</td><td>All orders of a segment, submitted by the trader.</td></tr><tr><td>56</td><td>All orders submitted by the trader, in a particular group</td></tr><tr><td>57</td><td>All firm orders of an instrument, in a particular group</td></tr><tr><td>58</td><td>All firm orders, in a particular group</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>25</td><td>4</td><td>Int32</td><td>Identifier of the instrument of the orders being cancelled.
Required if MassCancelRequetType = 3 or 9 or 57 . Else this field will be ignored</td></tr>
<tr><td>Reserved field 1</td><td>29</td><td>1</td><td>Int8</td><td>This will always be 0.</td></tr>
<tr><td>Group ID</td><td>30</td><td>1</td><td>UInt8</td><td>The Group ID will be specified at order submission by Traders. Valid values are between 1-255.
Group ID to which the order mass cancellation is directed to. This is a conditionally required field when Mass Cancel Request Type = ‘56’ or ‘57’ or ‘58’. Else this field will be ignored.</td></tr>
<tr><td>Segment</td><td>31</td><td>4</td><td>String</td><td>The segment for which the orders will be cancelled.
Required if MassCancelRequestType = 4 or 15. Else this field will be ignored.</td></tr>
</table>

Order Sub Type	35	1	UInt8	Whether cancellation should apply to orders or quotes. **Value** / **Meaning** 0 – Order 3 – Quote
Reserved Field	36	10	String	Reserved for future use

8.4.6 Execution Report

Field	Offset	Length	Data Type	Description
Header				
Message Body				
App ID	4	1	UInt8	Partition ID
Sequence No	5	4	Int32	Sequence number of the message.
Execution ID	9	12	String	Unique ID of the Execution Report. Unique across all partitions, all days. This will be a 62 base encoded value in ASCII format.
Client Order ID	21	20	String	Client specified identifier of the order. If the execution report is generated as a response to an order cancel or an order mass cancel request, this will be the client order id specified in the client-initiated message.
Order ID	41	12	String	Unique identifier of the order assigned by the matching system. This will be a 62 base encoded value in ASCII format. By converting this to binary, this can be mapped with MITCH Order ID.

<table>
<tr><td>Exec Type</td><td>53</td><td>1</td><td>Alpha</td><td>The reason the Execution Report is being sent.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>New</td></tr><tr><td>4</td><td>Cancelled</td></tr><tr><td>5</td><td>Replaced</td></tr><tr><td>8</td><td>Rejected</td></tr><tr><td>C</td><td>Expired</td></tr><tr><td>D</td><td>Restated</td></tr><tr><td>F</td><td>Trade</td></tr><tr><td>H</td><td>Trade Cancel</td></tr><tr><td>9</td><td>Suspended</td></tr></table></td></tr>
<tr><td>Execution Report Ref ID</td><td>54</td><td>12</td><td>String</td><td>Reference to the trade being cancelled or corrected. Required if Exec Type is Trade Cancel.</td></tr>
<tr><td>Order Status</td><td>66</td><td>1</td><td>UInt8</td><td>The status of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>New</td></tr><tr><td>1</td><td>Partially filled</td></tr><tr><td>2</td><td>Filled</td></tr><tr><td>4</td><td>Cancelled</td></tr><tr><td>6</td><td>Expired</td></tr><tr><td>8</td><td>Rejected</td></tr><tr><td>9</td><td>Suspended</td></tr></table></td></tr>
<tr><td>Order Reject Code</td><td>67</td><td>4</td><td>Int32</td><td>Code specifying the reason for the reject or the expiry. Please refer to the Reject Code Specification for the list of reject codes and meanings specific to LSE.
The value in this field should be disregarded if Exec Type is not Rejected (8) or Expired(C).</td></tr>
</table>

<table>
<tr><td>Executed Price</td><td>71</td><td>8</td><td>Price</td><td>Value of this fill. Required if Exec Type is Trade. Should be ignored for Exec type other than Trade (F) or Restated (D) , or the Execution Report is the acknowledgement of a new or an amendment to the price of an Offset Order (Order Sub Type = 55). .

For restatements this field represents the re-priced value. If Exec Type is ‘Restated (D)’ this field represents the re-priced value at the start of CPX with new price equal to closing price.

Will not be populated for restatements related to Trade Cancellations and Corrections.

For Offset Orders (Orrder Sub Type = 55), this field will contain the calculated price of the order once it has been elected to the order book.</td></tr>
<tr><td>Executed Qty</td><td>79</td><td>4</td><td>Int32</td><td>Quantity that was executed in this fill.</td></tr>
<tr><td>Leaves Qty</td><td>83</td><td>4</td><td>Int32</td><td>Quantity available for further execution. Will be “0” if Order Status is Filled, Cancelled, Rejected or Expired.</td></tr>
<tr><td>Waiver Flags</td><td>87</td><td>1</td><td>UInt8</td><td>Pre-trade waiver flag. Populated when Execution Type is F or H. The Pre-Trade Waiver Flags section describes in which scenarios the values are populated.

<table><tr><th>Bit</th><th>Name</th><th>Value</th></tr><tr><td>0</td><td>NLIQ</td><td>0 : No
1 : Yes</td></tr><tr><td>1</td><td>OILQ</td><td>0 : No
1 : Yes</td></tr><tr><td>3</td><td>ILQD</td><td>0 : No
1 : Yes</td></tr></table></td></tr>
<tr><td>Display Qty</td><td>88</td><td>4</td><td>Int32</td><td>Current visible quantity. This field will also be populated for un-elected/parked orders.</td></tr>
<tr><td>Instrument ID</td><td>92</td><td>4</td><td>Int32</td><td>Identifier of the instrument the Execution Report is sent for.</td></tr>
</table>

<table>
<tr><td>Restatement Reason</td><td>96</td><td>1</td><td>Ulnt8</td><td>Reason order was restated or cancelled. Required if ExecType (53) is Restated (D) or if the execution report is sent for an unsolicited cancellation.

<table><tr><td>3</td><td>Order re-priced (at the start of CPX session)</td></tr><tr><td>8</td><td>Market Option
• Order is cancelled by market operations
• Trade is cancelled by market operations
• On-book trade is cancelled via Post Trade Gateway</td></tr><tr><td>100</td><td>Order Replenishment (with a new Public Order ID)</td></tr></table></td></tr>
<tr><td>Reserved field 1</td><td>97</td><td>1</td><td>Int8</td><td>This will always be 0.</td></tr>
<tr><td>Side</td><td>98</td><td>1</td><td>Int8</td><td>Side of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>Reserved Field 2</td><td>99</td><td>8</td><td>UInt64</td><td>Reserved for future use.</td></tr>
<tr><td>Counterparty</td><td>107</td><td>11</td><td>String</td><td>Counterparty Firm.

Will be populated only if Exec Type is Trade (F) or Trade Cancel (H) for an order/quote.

For Cross Orders, this field will be populated for New (0), Cancel (4) or Rejected (8) Exec Types.

If a trade is internalized, the Counterparty Firm will be populated with the user’s own Firm ID.

If a trade is cleared, the Counterparty Firm will be populated with CCP derived based on user/instrument configuration.

If a trade is not cleared, the Counterparty Firm will be populated with Contra Party Firm ID.</td></tr>
<tr><td>Trade Liquidity Indicator</td><td>118</td><td>1</td><td>Alpha</td><td>Whether the order added or removed liquidity. The value in this field should only be considered if the Exec Type is Trade (F), or Trade Cancel (H), although it will not be populated for Cross Order trades. For</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>the rest of exec types, the value in this field should be ignored.<table><tr><td>Value</td><td>Meaning</td></tr><tr><td>A</td><td>Added Liquidity</td></tr><tr><td>R</td><td>Removed Liquidity</td></tr><tr><td>C</td><td>Auction</td></tr></table></td></tr>
<tr><td>Trade Match ID (TVTIC)</td><td>119</td><td>8</td><td>UInt64</td><td>Identifier of the trade. This will be the binary format value of the base 36 encoded trade id in the system. This will be same as MITCH Trade ID.
Also the identifier sent to the clearer.</td></tr>
<tr><td>Transact Time</td><td>127</td><td>8</td><td>UInt64</td><td>Time the Execution Report was generated.</td></tr>
<tr><td>LastMarket</td><td>135</td><td>1</td><td>UInt8</td><td>Market (Segment MIC) where execution took place.
The value in this field should be disregarded if Exec Type is not Trade (F).<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>21</td><td>XLON (On Exchange LSE RM)</td></tr><tr><td>22</td><td>XLOM (On Exchange Non-AIM MTF)</td></tr><tr><td>23</td><td>AIMX (On Exchange AIM MTF)</td></tr></table></td></tr>
<tr><td>Type Of Trade</td><td>136</td><td>1</td><td>UInt8</td><td>Indicates whether the executed portion of a passive order during continuous trading session is visible or hidden.
The below values are populated accordingly during Regular trading and CPX sessions, while for all other sessions enum 2 will be stamped.
Valid only if ExecType = F. Ignore value in all other cases. Ignore value in all other cases<table><tr><td>Value</td><td>Meaning</td></tr><tr><td>0</td><td>Visible</td></tr><tr><td>1</td><td>Hidden</td></tr><tr><td>2</td><td>Not Specified (for aggressive side, auction trades and RFQ trades)</td></tr></table></td></tr>
<tr><td>Capacity</td><td>137</td><td>1</td><td>UInt8</td><td>Capacity of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr></table></td></tr>
</table>

				2 Dealing on own account (DEAL) 3 Any other trading capacity (AOTC)
Reserved Field 4	138	1	Alpha	Reserved for future use.
Public Order ID	139	12	String	Maintained by matching engine, will be unique for each replenishment of a particular iceberg order. This will be a 62 base encoded value in ASCII format.
Minimum Quantity	151	4	Int32	Minimum Execution Size (MES) specified on a pegged order. Following an execution if the remaining quantity of order < MES specified in the order, Minimum Quantity = Remaining Quantity. Minimum Quantity will equal zero if the Remaining Quantity of an order becomes zero. For order types other than pegged this field will always contain 0 (zero).

8.4.7 Order Cancel Reject

Field	Offset	Length	Data Type	Description
Header				
Message Body				
App ID	4	1	UInt8	Partition ID
Sequence No	5	4	Int32	Sequence number of the message.
Client Order ID	9	20	String	Client Order ID that was submitted with the order cancels or cancel/replace request being rejected. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.
Order ID	29	12	String	Server specified identifier of the order for which the cancel or cancel/replace was submitted. Will be “NONE” if the order is unknown. For RFQ quotes, this field will be stamped with either Bid ID or Offer ID.
Cancel Reject Reason	41	4	Int32	Code specifying the reason for the reject. Please refer to the Reject Code Specification for the list of reject codes and meanings specific to LSE.
Transact Time	45	8	UInt64	Time the Order Cancel Reject occurred. The first 4 bytes of the Transact Time timestamp will represent the Unix (Posix) time while the next 4 bytes will specify the micro seconds. The Transact Time will be in UTC.
RFQ ID	53	10	String	Stamped with the RFQ ID of a quote placed during a private quote negotiation, otherwise should be null.

8.4.8 Order Mass Cancel Report

Field	Offset	Length	Data Type	Description
Header				
Message Body				
App ID	4	1	UInt8	Partition ID
Sequence No	5	4	Int32	Sequence number of the message.
Client Order ID	9	20	String	Client specified identifier of mass cancel request. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.
Mass Cancel Response	29	1	UInt8	Whether the Mass Cancel Request was accepted or rejected. **Value** / **Meaning** 0 – Rejected 7 – Accepted
Mass Cancel Reject Reason	30	4	Int32	The code that identifies the reason the order mass cancel was rejected. Please refer to the Reject Code Specification for the list of reject codes and meanings..
Reserved Field 1	34	4	Int32	Reserved for future use.
Transact Time	38	8	UInt64	Time the order mass cancel report was generated. The first 4 bytes of the TransactTime timestamp will represent the Unix (Posix) time while the next 4 bytes will specify the micro seconds. The Transact Time will be in UTC.
Reserved Field 2	46	10	String	Reserved for future use.

8.4.9 New Order Cross

<table>
<tr><th>Field</th><th>Offset</th><th>Length</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5">Header</td></tr>
<tr><td colspan="5">Message Body</td></tr>
<tr><td>Cross ID</td><td>4</td><td>20</td><td>String</td><td>An identifier of the Cross/BTF Order. Required for Cross/BTF Orders.
Must be unique per day but note that the system only validates the uniqueness of the Cross ID with the currently open Committed cross Orders in the system.</td></tr>
<tr><td>Cross Type</td><td>24</td><td>1</td><td>UInt8</td><td>The type of the Cross/BTF Order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>5</td><td>Internal Cross</td></tr><tr><td>6</td><td>Internal BTF</td></tr><tr><td>7</td><td>Committed Cross</td></tr><tr><td>8</td><td>Committed BTF</td></tr></table>Any other value will be rejected.</td></tr>
<tr><td>Buy Side ClOrdID</td><td>25</td><td>20</td><td>String</td><td>Client specified identifier of the buy side. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.</td></tr>
<tr><td>Buy Side Order Capacity</td><td>45</td><td>1</td><td>UInt8</td><td>Capacity of the buy side.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table>Any other value will be rejected.</td></tr>
<tr><td>Buy Side Clearing Account</td><td>46</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Buy Side Order Quantity</td><td>47</td><td>8</td><td>UInt64</td><td>Total order quantity of the Cross/BTF Order</td></tr>
<tr><td>Buy Side Firm ID</td><td>55</td><td>11</td><td>String</td><td>Identifier of the Buy Side Firm</td></tr>
</table>

<table>
<tr>
<td>Buy Side Party Role</td>
<td>66</td>
<td>1</td>
<td>UInt8</td>
<td>Role of the specified Firm
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>1</td><td>Executing Firm</td></tr>
<tr><td>17</td><td>Counterparty Firm</td></tr>
</table>
Any other value will be rejected.</td>
</tr>
<tr>
<td>Buy MiFID Flags</td>
<td>67</td>
<td>1</td>
<td>Bit-Field</td>
<td>Flags introduced to identify DEA involvement, Algo and Liquidity provision activity.

All flags in this field will have to be specified when Cross Type is set to ‘5’ and ‘6’. If not specified, then will be considered ‘0’.

When the Cross Type is set to ‘7’ or ‘8’, if ‘Sell Side ClOrdID’ is set by the user, the flag values below if set to ‘1’ will be rejected by the system.
<table>
<tr><th>Bit</th><th>Name</th><th>Meaning</th></tr>
<tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr>
<tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr>
<tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr>
<tr><td>3</td><td>Reserved</td><td>-</td></tr>
<tr><td>4</td><td>Reserved</td><td>-</td></tr>
<tr><td>5</td><td>Reserved</td><td>-</td></tr>
<tr><td>6</td><td>Reserved</td><td>-</td></tr>
<tr><td>7</td><td>Reserved</td><td>-</td></tr>
</table>
</td>
</tr>
<tr>
<td>Buy Client ID</td>
<td>68</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the client. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>1</td><td>AGGR</td></tr>
<tr><td>2</td><td>PNAL</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
0 will be stamped when the field is not specified. When the Cross Type is set to ‘7’ or ‘8’ this will be accepted only if ‘Buy Side ClOrdID’ is set by the user. If ‘Sell Side ClOrdID’ is set to any other value other than ‘0’ it will be rejected.</td>
</tr>
</table>

<table>
<tr>
<td>Buy Investment Decision Maker</td>
<td>72</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
When the Cross Type is set to ‘7’ or ‘8’ this will be accepted only if ‘Buy Side ClOrdID’ is set by the user. If ‘Sell Side ClOrdID’ is set to any other value other than ‘0’ it will be rejected.</td>
</tr>
<tr>
<td>Buy Executing Trader</td>
<td>76</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>3</td><td>CLIENT</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
Required to be specified when Cross Type is set to ‘5’ and ‘6’. Value ‘0’ will not be accepted in this case.

When the Cross Type is set to ‘7’ or ‘8’, value ‘0’ will not be accepted for this field, if ‘Buy Side ClOrdID’ is set. If ‘Sell Side ClOrdID’ is set then this will accept only ‘0’ as an applicable value.</td>
</tr>
</table>

<table>
<tr>
<td>Buy Party Role Qualifiers</td>
<td>80</td>
<td>1</td>
<td>Bit-Field</td>
<td>
Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and Executing Trader fields.

All flags in this field will have to be specified when Cross Type is set to ‘5’ and ‘6’. If not specified, then will be considered ‘0’. However, it will not be allowed to specify the the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and Executing Trader 2 bit positions when the Buy Client ID, Buy Investment Decision Maker and/or Buy ‘Executing Trader ID’ is being specified as a short code (i.e. 4-4294967295).

When the Cross Type is set to ‘7’ or ‘8’, if ‘Sell Side ClOrdID’ is set by the user, even if one of the 2 bit positions below is set to ‘1’, this will be rejected by the system.

Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

<table>
<tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr>
<tr><td rowspan="2">Client ID</td><td>0</td><td>0, 1</td></tr>
<tr><td>1</td><td>0, 1</td></tr>
<tr><td rowspan="2">Investor Information</td><td>2</td><td>0, 1</td></tr>
<tr><td>3</td><td>0, 1</td></tr>
<tr><td rowspan="2">Executing Trader Information</td><td>4</td><td>0, 1</td></tr>
<tr><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
<tr><td>1</td><td>0</td><td>Algo</td></tr>
<tr><td>1</td><td>1</td><td>Natural Person</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>Please refer to the Order Record Keeping Information section for more details.</td></tr>
<tr><td>Sell Side ClOrdID</td><td>81</td><td>20</td><td>String</td><td>Client specified identifier of the sell side. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.</td></tr>
<tr><td>Sell Side Order Capacity</td><td>101</td><td>1</td><td>UInt8</td><td>Capacity of the sell side.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Sell Side Clearing Account</td><td>102</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Sell Side Order Quantity</td><td>103</td><td>8</td><td>UInt64</td><td>Total order quantity of the Cross/BTF Order</td></tr>
<tr><td>Sell Side Firm ID</td><td>111</td><td>11</td><td>String</td><td>Identifier of the Sell Side Firm</td></tr>
<tr><td>Sell Side Party Role</td><td>122</td><td>1</td><td>UInt8</td><td>Role of the specified Firm<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Executing Firm</td></tr><tr><td>17</td><td>Counterparty Firm</td></tr></table>Any other value will be rejected.</td></tr>
</table>

<table>
<tr>
<td>Sell MiFID Flags</td>
<td>123</td>
<td>1</td>
<td>Bit-Field</td>
<td>Flags introduced to identify DEA involvement, Algo and Liquidity provision activity.

All flags in this field will have to be specified when Cross Type is set to ‘5’ and ‘6’. If not specified, then will be considered ‘0’.

When the Cross Type is set to ‘7’ or ‘8’, if ‘Sell Side ClOrdID’ is set by the user, the flag values below if set to ‘1’ will be rejected by the system.
<table>
<tr><th>Bit</th><th>Name</th><th>Meaning</th></tr>
<tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr>
<tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr>
<tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr>
<tr><td>3</td><td>Reserved</td><td>-</td></tr>
<tr><td>4</td><td>Reserved</td><td>-</td></tr>
<tr><td>5</td><td>Reserved</td><td>-</td></tr>
<tr><td>6</td><td>Reserved</td><td>-</td></tr>
<tr><td>7</td><td>Reserved</td><td>-</td></tr>
</table>
</td>
</tr>
<tr>
<td>Sell Client ID</td>
<td>124</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the client. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>1</td><td>AGGR</td></tr>
<tr><td>2</td><td>PNAL</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>

0 will be stamped in a situation where the field is not specified. When the Cross Type is set to ‘7’ or ‘8’ this will be accepted only if ‘Sell Side ClOrdID’ is set by the user. If ‘Buy Side ClOrdID’ is set, any other value other than 0 if specified will be rejected.</td>
</tr>
</table>

<table>
<tr>
<td>Sell Investment Decision Maker</td>
<td>128</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
0 will be stamped in a situation where the field is not specified. When the Cross Type is set to ‘7’ or ‘8’ this will be accepted only if ‘Sell Side ClOrdID’ is set by the user. If ‘Buy Side ClOrdID’ is set, any other value other than ‘0’ if specified will be rejected.</td>
</tr>
<tr>
<td>Sell Executing Trader</td>
<td>132</td>
<td>4</td>
<td>UInt32</td>
<td>Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>3</td><td>CLIENT</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
Required to be specified when Cross Type is set to ‘5’ and ‘6’. Value ‘0’ will not be accepted in this case.

When the Cross Type is set to ‘7’ or ‘8’ value ‘0’ will not be accepted for this field, if ‘Sell Side ClOrdID’ is set by the user. And if ‘Buy Side ClOrdID’ is set, then this will accept only ‘0’ as an applicable.</td>
</tr>
</table>

<table>
<tr>
<td>Sell Party Role Qualifiers</td>
<td>136</td>
<td>1</td>
<td>Bit-Field</td>
<td>
Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ ID fields.

All flags in this field will have to be specified when Cross Type is set to ‘5’ and ‘6’. If not specified, then will be considered ‘0’. However it will not be allowed to specify the the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the Sell Client ID, Sell Investment Decision Maker and/or Sell ‘‘Executing Trader’ ID’ is being specified as a short code (i.e. 4-4294967295).

When the Cross Type is set to ‘7’ or ‘8’, if ‘Buy Side ClOrdID’ is set by the user, even if one of the 2 bit positions below is set to ‘1’, this will be rejected by the system.

Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

<table>
<tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr>
<tr><td rowspan="2">Client ID</td><td>0</td><td>0, 1</td></tr>
<tr><td>1</td><td>0, 1</td></tr>
<tr><td rowspan="2">Investor Information</td><td>2</td><td>0, 1</td></tr>
<tr><td>3</td><td>0, 1</td></tr>
<tr><td rowspan="2">Executing Trader Information</td><td>4</td><td>0, 1</td></tr>
<tr><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
<tr><td>1</td><td>0</td><td>Algo</td></tr>
<tr><td>1</td><td>1</td><td>Natural Person</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>Please refer to the Order Record Keeping Information section for more details.</td></tr>
<tr><td>Instrument ID</td><td>137</td><td>4</td><td>Int32</td><td>Identifier of the instrument for which the Cross/BTF Order is submitted.</td></tr>
<tr><td>Price</td><td>141</td><td>8</td><td>Price</td><td>Price of the Cross/BTF Order</td></tr>
<tr><td>Order Type</td><td>149</td><td>1</td><td>UInt8</td><td>Type of the order.
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>2</td><td>Limit</td></tr></table>
Any other value will be rejected.</td></tr>
<tr><td>TIF</td><td>150</td><td>1</td><td>UInt8</td><td>Time qualifier of the order.
Only DAY TIF is allowed for Committed and Internal Cross/BTF Orders. If not, it will be rejected via a session Reject with the reject code 9901 (Invalid value in field)

TIF is optional for Internal Cross Orders, unlike for Committed Cross orders.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>DAY</td></tr></table></td></tr>
</table>

8.4.10 Cross Order Cancel Request

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Cross ID	4	20	String	An identifier of the Cancel Request itself. This field will not be used as the unique identifier of the order being cancelled nor will the value in this field be validated for uniqueness
Original Cross ID	24	20	String	Cross ID of the order being cancelled. This field is mandatory, but will not be used as the unique identifier of the order being cancelled. The value specified in this will not be validated against the value specified in the New Order Cross Message.
Cross Type	44	1	UInt8	The value submitted with the Cross/BTF Order to be cancelled. The value specified in this will not be validated against the value specified in the New Order Cross Message.
Buy Side Original ClOrdID	45	20	String	The value submitted in the “Buy Side ClOrdID” (in the New Order Cross Message) of the Cross/BTF Order to be cancelled. This will be a unique identifier of the order being cancelled.
Buy Side Order Quantity	65	8	UInt64	The value submitted with the Cross/BTF Order to be cancelled. The value specified in this will not be validated against the value specified in the New Order Cross Message.
Sell Side Original ClOrdID	73	20	String	The value submitted “Sell Side ClOrdID” (in the New Order Cross Message) of the Cross/BTF Order to be cancelled. This will be a unique identifier of the order being cancelled.
Sell Side Order Quantity	93	8	UInt64	The value submitted with the Cross/BTF Order to be cancelled. The value specified in this will not be validated against the value specified in the New Order Cross Message.
Instrument ID	101	4	Int32	The value submitted with the Cross/BTF Order to be cancelled. Any other value will be rejected.

Client Order ID	105	20	String	A unique identifier of the cancel request itself. But this field will not be used as the unique identifier of the order being cancelled. Should not be prefixed or suffixed with a forward slash, or contain two consecutive forward slashes.

8.4.11 Quote Request

Generated by:

i) the Requester to submit an RFQ
ii) the server to send the RFQ to the Market Maker

8.4.11.1 Client-initiated Request For Quote

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The value will be ignored in client-initiated messages.
Sequence Number	5	4	Int32	The value will be ignored in client-initiated messages.
Quote Req ID	9	10	String	Client specified identifier of the RFQ.
Order Book	19	1	UInt8	**Value** / **Meaning**: 11 – RFQ Trades
Private Quote	20	1	UInt8	**Value** / **Meaning**: 2 – Private Quote
Instrument ID	21	4	Int32	Instrument ID of the instrument
Side	25	1	UInt8	Side of the Quote Request. A valid side (i.e. 1 or 2) must be specified when the Quote Request Type = 4 or 5 (automatic) in the client-initiated message. **Value** / **Meaning**: 0 – None; 1 – Buy; 2 – Sell

<table>
<tr><td>Order Quantity</td><td>26</td><td>4</td><td>Int32</td><td>Quantity that the Requester is expecting to trade. Should be greater than 0.</td></tr>
<tr><td>Expire Time</td><td>30</td><td>4</td><td>UInt32</td><td>Indicates the date or the time the RFQ expires, in Unix (Posix) time format (number of seconds after January 1, 1970). A value of 0 (zero) means no expiry time.

It is also possible to have a millisecond expiry time component (see field ‘Expire Time Milliseconds’).</td></tr>
<tr><td>Market Makers</td><td>34</td><td>60</td><td>String</td><td>Pipe separated list of Firm IDs if it is required to target this quote request to specific Market Makers. A value of null means send to all Market Makers.</td></tr>
<tr><td>Contra Trader</td><td>94</td><td>11</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Contra Firm</td><td>105</td><td>11</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>RFQ ID</td><td>116</td><td>10</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Client ID</td><td>126</td><td>4</td><td>UInt32</td><td>Identifier of the client. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>AGGR</td></tr><tr><td>2</td><td>PNAL</td></tr><tr><td>4 – 4294967295</td><td>Short code</td></tr></table></td></tr>
<tr><td>Investment Decision Maker</td><td>130</td><td>4</td><td>UInt32</td><td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>None</td></tr><tr><td>4 - 4294967295</td><td>Short code</td></tr></table></td></tr>
<tr><td>Executing Trader</td><td>134</td><td>4</td><td>UInt32</td><td>Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted.

<table><tr><th>Value</th><th>Meaning</th></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td><table><tr><td>3</td><td>CLIENT</td></tr><tr><td>4 – 4294967295</td><td>Short code</td></tr></table></td></tr>
<tr><td>MiFID Flags</td><td>138</td><td>1</td><td>Bit-Field</td><td>Flags introduced to identify DEA involvement, Algo and Liquidity provision activity. 0 will be accepted as a valid value. If a bit is not specified, it will be set to 0.

<table><tr><th>Bit</th><th>Name</th><th>Meaning</th></tr><tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr><tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr><tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr><tr><td>3</td><td>Reserved</td><td>-</td></tr><tr><td>4</td><td>Reserved</td><td>-</td></tr><tr><td>5</td><td>Reserved</td><td>-</td></tr><tr><td>6</td><td>Reserved</td><td>-</td></tr><tr><td>7</td><td>Reserved</td><td>-</td></tr></table></td></tr>
<tr><td>Party Role Qualifiers</td><td>139</td><td>1</td><td>Bit-Field</td><td>Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ fields. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the Client ID, Investment Decision Maker and/or ‘Executing Trader ID’ is being specified as a short code (i.e. 4-4294967295).

Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

<table><tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr><tr><td rowspan="2">Client ID</td><td>0</td><td>0, 1</td></tr><tr><td>1</td><td>0, 1</td></tr><tr><td rowspan="2">Investor Information</td><td>2</td><td>0, 1</td></tr><tr><td>3</td><td>0, 1</td></tr><tr><td></td><td>4</td><td>0, 1</td></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>Executing Trader Information</td><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>6</td><td>-</td></tr>
<tr><td>Reserved</td><td>7</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
<tr><td>1</td><td>0</td><td>Algo</td></tr>
<tr><td>1</td><td>1</td><td>Natural Person</td></tr>
</table>

Please refer to the Order Record Keeping Information section for more details.
</td></tr>
<tr><td>Quote Request Type</td><td>140</td><td>1</td><td>UInt8</td><td>
Indicates the type of Quote Request
<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>Manual (Named if any Market Maker IDs are specified, else Anonymous)</td></tr>
<tr><td>1</td><td>Automatic (Named if any Market Maker IDs are specified, else Anonymous)</td></tr>
<tr><td>2</td><td>Manual (Named)</td></tr>
<tr><td>3</td><td>Manual (Anonymous)</td></tr>
<tr><td>4</td><td>Automatic (Named)</td></tr>
<tr><td>5</td><td>Automatic (Anonymous)</td></tr>
</table>
</td></tr>
<tr><td>Price</td><td>141</td><td>8</td><td>Price</td><td>Limit Price.

A value of 0 will be interpreted as no limit price.</td></tr>
<tr><td>RFQ Execution Delay</td><td>149</td><td>1</td><td>UInt8</td><td>The minimum number of seconds from the time of RFQ submission to be elapsed for the RFQ execution to be triggered automatically.

Values supported in the range 0 – 255 (seconds).

Note that for a value of 0 (zero) seconds, the system will default to the system minimum delay (refer to Service & Technical Description).

Only valid when Quote Request Type = 4 or 5 (Automatic). This will be ignored when the RFQ is not automatic</td></tr>
</table>

<table>
<tr><td>RFQ Min Quotes</td><td>150</td><td>1</td><td>UInt8</td><td>The minimum number of market maker quotes to be available for the RFQ execution to be triggered automatically.

Only valid when Quote Request Type = 4 or 5 (Automatic). This will be ignored when the RFQ is not automatic</td></tr>
<tr><td>Account Type</td><td>151</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table>
Only valid when Quote Request Type = 4 or 5 (Automatic). This will be ignored when the RFQ is not automatic</td></tr>
<tr><td>Order Capacity</td><td>152</td><td>1</td><td>UInt8</td><td>Capacity of the RFQ.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table>
Only valid when Quote Request Type = 4 or 5 (Automatic). This will be ignored when the RFQ is not automatic</td></tr>
<tr><td>RFQ Disclose Side</td><td>153</td><td>1</td><td>UInt8</td><td>Instructs the system whether to disclose the side of the request as stated in the Side field to the market makers or not.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Do not disclose</td></tr><tr><td>1</td><td>Disclose</td></tr></table>
Only valid when Quote Request Type = 4 or 5 (Automatic).. This will be ignored when the RFQ is not automatic

For Quote Request Type = 2 or 3 (Manual) the side is always disclosed to the Market Makers.

For Auto RFQ Execution Strategy ‘Sub LIS Auction RFQ with Order Book Sweep’ – 1 (Disclose) is not allowed and will be rejected</td></tr>
</table>

Expire Time Milliseconds	154	4	UInt32	Indicates the number of milliseconds to be added to the date or the time the RFQ expires on specified in the 'Expire Time' field. The maximum allowed value is 999, the minimum is 0. If the RFQ is to be expired in less than 1 second then this field needs to be populated whilst the 'Expire Time' field is set to the current time (system time). The value specified in this field will be ignored if 'Expire Time' is not specified (i.e. 0 (zero))
AutoRFQExecStrategy	158	1	UInt8	The value will be ignored in client-initiated message
NumOfCompetitors	159	1	UInt8	The value will be ignored in client-initiated message
Reserved Field	160	24		Reserved For Future Use

8.4.11.2 Server-initiated Quote Request to Market Maker

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The server will stamp the identifier of the matching partition for the instrument
Sequence Number	5	4	Int32	The server will stamp the message sequence number of the matching partition.
Quote Req ID	9	10	String	This field is not received by the MM and will always be stamped with 0.

<table>
<tr><td>Order Book</td><td>19</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>11</td><td>RFQ Trades</td></tr></table></td></tr>
<tr><td>Private Quote</td><td>20</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>2</td><td>Private Quote</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>21</td><td>4</td><td>Int32</td><td>Instrument ID of the instrument</td></tr>
<tr><td>Side</td><td>25</td><td>1</td><td>UInt8</td><td>Side of the Quote Request.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>Order Quantity</td><td>26</td><td>4</td><td>Int32</td><td>Quantity that the Requester is expecting to trade. Will always be greater than 0.</td></tr>
<tr><td>Expire Time</td><td>30</td><td>4</td><td>UInt32</td><td>This field is not received by the MM and is always stamped with 0.</td></tr>
<tr><td>Market Makers</td><td>34</td><td>60</td><td>String</td><td>This field is not received by the MM and is always stamped with null.</td></tr>
<tr><td>Contra Trader</td><td>94</td><td>11</td><td>String</td><td>For Named Models only, the server will stamp the User ID of the Requester to send to the Market Maker. For Anonymous Models this field will be null.</td></tr>
<tr><td>Contra Firm</td><td>105</td><td>11</td><td>String</td><td>For Named Models only, the server will stamp the Firm ID of the Requester to send to the Market Maker. For Anonymous Models this field will be null.</td></tr>
<tr><td>RFQ ID</td><td>116</td><td>10</td><td>String</td><td>The unique identifier of the initial RFQ automatically generated via the server.</td></tr>
<tr><td>Client ID</td><td>126</td><td>4</td><td>UInt32</td><td>This field is not received by the MM and is always stamped with 0.</td></tr>
<tr><td>Investment Decision Maker</td><td>130</td><td>4</td><td>UInt32</td><td>This field is not received by the MM and is always stamped with 0.</td></tr>
<tr><td>Executing Trader</td><td>134</td><td>4</td><td>UInt32</td><td>This field is not received by the MM and is always stamped with 0.</td></tr>
<tr><td>MiFID Flags</td><td>138</td><td>1</td><td>Bit-Field</td><td>This field is not received by the MM and is always stamped with 0.</td></tr>
<tr><td>Party Role Qualifiers</td><td>139</td><td>1</td><td>Bit-Field</td><td>This field is not received by the MM and will always be stamped with 0.</td></tr>
</table>

Quote Request Type	140	1	UInt8	Indicates the type of Quote Request Value: Meaning 0: Manual 1: Automatic
Price	141	8	Price	This field is not received by the MM and will always be stamped with 0.
RFQ Execution Delay	149	1	UInt8	This field is not received by the MM and will always be stamped with 0.
RFQ Min Quotes	150	1	UInt8	This field is not received by the MM and will always be stamped with 0.
Account Type	151	1	UInt8	This field is not received by the MM and will always be stamped with 0.
Order Capacity	152	1	UInt8	This field is not received by the MM and will always be stamped with 0
RFQ Disclose Side	153	1	UInt8	This field is not received by the MM and will always be stamped with 0
Expire Time Milliseconds	154	4	UInt32	This field is not received by the MM and is always stamped with 0.

<table>
<tr><td>AutoRFQExecStrategy</td><td>158</td><td>1</td><td>UInt8</td><td>This field will include the applicable Auto RFQ Execution Strategy ‘Sub LIS Auction with Order Book Sweep or LIS Winner Takes All’ model. This is applicable for ETPs Only.

Only valid when initiated by the server. The value will be ignored if initiated by the client.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Sub LIS Auction</td></tr><tr><td>4</td><td>LIS Winner Takes All</td></tr></table>
This field will not be populated for manual RFQs and for Auto RFQ Winner Takes All for Equities & DRs</td></tr>
<tr><td>NumOfCompetitors</td><td>159</td><td>1</td><td>UInt8</td><td>The number of competing Respondents (the total number of market maker firms) the quote request has been routed to

Only valid when initiated by the server. The value wil be ignored if initiated by the client.

This field will not be populated for manual RFQs and for Auto RFQ Winner Takes All

This field will be populated for Auto-complete Auction RFQ with Order Book Sweep</td></tr>
<tr><td>Reserved Field</td><td>160</td><td>24</td><td></td><td>Reserved For Future Use</td></tr>
</table>

8.4.12 Quote Status Report

Generated by:

i) the server to communicate the status of the RFQ to the Requester

<table>
<tr><th>Field</th><th>Offset</th><th>Length</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5">Header</td></tr>
<tr><td colspan="5">Message Body</td></tr>
<tr><td>Partition ID</td><td>4</td><td>1</td><td>UInt8</td><td>The server will stamp the identifier of the matching partition for the instrument.</td></tr>
<tr><td>Sequence Number</td><td>5</td><td>4</td><td>Int32</td><td>The server will stamp the message sequence number of the matching partition.</td></tr>
<tr><td>Quote Msg Id</td><td>9</td><td>20</td><td>String</td><td>Identifier specified by the client in the RFQ modification / cancellation / execution request.</td></tr>
<tr><td>Quote Req ID</td><td>29</td><td>10</td><td>String</td><td>Client specified identifier of the RFQ that is being responded to.</td></tr>
<tr><td>Quote Status</td><td>39</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Accepted</td></tr><tr><td>2</td><td>Rejected</td></tr></table></td></tr>
<tr><td>Reject Code</td><td>40</td><td>4</td><td>Int32</td><td>Reject code. If the request is accepted by the system, the reject code will equal -1.</td></tr>
<tr><td>Order Book</td><td>44</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>11</td><td>RFQ Trades</td></tr></table></td></tr>
<tr><td>Market Makers</td><td>45</td><td>60</td><td>String</td><td>Pipe separated list of MM Firm IDs where specified by Requester otherwise null.</td></tr>
<tr><td>RFQ ID</td><td>105</td><td>10</td><td>String</td><td>The unique identifier of the RFQ automatically generated via the server</td></tr>
<tr><td>Expire Time</td><td>115</td><td>4</td><td>UInt32</td><td>Indicates the date or the time the RFQ expires, in Unix (Posix) time format (number of seconds after January 1, 1970). A value of 0 (zero) means no expiry time.</td></tr>
<tr><td>Bid ID</td><td>119</td><td>12</td><td>String</td><td>Unique identifier assigned to the bid side of the quote. Should be ignored if a RFQ quote amendment is rejected.</td></tr>
<tr><td>Offer ID</td><td>131</td><td>12</td><td>String</td><td>Unique identifier assigned to the offer side of the quote. Should be ignored if a RFQ quote amendment is rejected.</td></tr>
</table>

Expire Time Milliseconds	143	4	Uint32	Indicates the number of milliseconds to be added to the date or the time the RFQ expires on specified in the 'Expire Time' field.

8.4.13 Quote Request Reject

Generated by:

iii) the server to reject an RFQ from a Requester
iv) the Market Marker to reject the RFQ
v) the server to communicate the rejection of the RFQ by a Market Maker to the Requester

8.4.13.1 the Server to reject an RFQ from a Requester or communicate Market maker rejection

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The server will stamp the identifier of the matching partition for the instrument.
Sequence Number	5	4	Int32	The server will stamp the message sequence number of the matching partition.
Quote Req ID	9	10	String	Client specified identifier of the RFQ being rejected. Only valid when the server rejects the RFQ.
Reject Code	19	4	Int32	Reject code.
Order Book	23	1	UInt8	**Value** / **Meaning**: 11 – RFQ Trades
Instrument ID	24	4	Int32	Instrument ID of the instrument
Side	28	1	UInt8	**Value** / **Meaning**: 0 – None; 1 – Buy; 2 – Sell

Order Quantity	29	4	Int32	Only valid when the server rejects the RFQ, with the quantity specified in the RFQ message.
Market Makers	33	60	String	Contains the pipe separated list of Market Maker Firm IDs (or null) as specified by the Requester if the message was generated by the server to reject an RFQ. Contains the individual Market Maker Firm ID in the named model if the message is sent by the server to the Requester to communicate the rejection of the RFQ by the Market Maker.
Contra Trader	93	11	String	Contains the individual Market Maker ID if the message is sent by the server to the Requester to communicate the rejection by the Market Maker. .
RFQ ID	104	10	String	The unique identifier of the RFQ automatically generated via the server

8.4.13.2 The Market Marker to reject the RFQ

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The value will be ignored in client-initiated messages.
Sequence Number	5	4	Int32	The value will be ignored in client-initiated messages.
Quote Req ID	9	10	String	The value will be ignored in client-initiated messages.
Reject Code	19	4	Int32	Reject code.
Order Book	23	1	UInt8	**Value** / **Meaning** 11 / RFQ Trades
Instrument ID	24	4	Int32	Instrument ID of the instrument

Side	28	1	UInt8	<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table>
Order Quantity	29	4	Int32	The value will be ignored in client-initiated messages.
Market Makers	33	60	String	The value is not applicable to Market Maker rejects.
Contra Trader	93	11	String	The value is not applicable to Market Maker rejects.
RFQ ID	104	10	String	The unique identifier of the RFQ that was automatically generated via the server.

8.4.14 RFQ Quote

Generated by:

i) the Market Maker to accept an RFQ
ii) the system to send the Requester the RFQ Quote provided by the Market Maker

An RFQ Quote can be cancelled also by using the Order Cancel request message (see section 8.4.4) . and amendments to RFQ Quotes can be effected by using the order Cancel/Replace Request message (see section 8.4.3)

8.4.14.1 Market Maker to accept an RFQ

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The value will be ignored in client-initiated messages.
Sequence Number	5	4	Int32	The value will be ignored in client-initiated messages.
Quote Msg ID	9	20	String	Identifier of the RFQ quote request that is being accepted.
RFQ ID	29	10	String	Unique identifier assigned to the RFQ by the system.
Instrument ID	39	4	Int32	Identifier of the instrument.
Bid Price	43	8	Price	Bid price.
Bid Quantity	51	4	Int32	Bid quantity.
Offer Price	55	8	Price	Offer price.

<table>
<tr><td>Offer Quantity</td><td>63</td><td>4</td><td>Int32</td><td>Offer quantity.</td></tr>
<tr><td>Auto Cancel</td><td>67</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Do not cancel</td></tr><tr><td>1</td><td>Conform</td></tr></table></td></tr>
<tr><td>Market Maker</td><td>68</td><td>11</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Market Maker Firm</td><td>79</td><td>11</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Bid ID</td><td>90</td><td>12</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Offer ID</td><td>102</td><td>12</td><td>String</td><td>The value will be ignored in client-initiated messages.</td></tr>
<tr><td>Capacity</td><td>114</td><td>1</td><td>UInt8</td><td>Capacity of the quote.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Clearing Account</td><td>115</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Client ID</td><td>116</td><td>4</td><td>UInt32</td><td>Identifier of the client. 0 will be stamped in a situation where the field is not specified. Only the following values will be accepted.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>AGGR</td></tr><tr><td>2</td><td>PNAL</td></tr><tr><td>4 - 4294967295</td><td>Short code</td></tr></table>During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.</td></tr>
<tr><td>Investment Decision Maker</td><td>120</td><td>4</td><td>UInt32</td><td><table><tr><td>Identifier of the trading member/participant who made investment decision. 0 will be stamped in a</td><td>Meaning</td></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>situation where the field is not specified. Only the following values will be accepted.
Value</td><td></td></tr>
<tr><td>0</td><td>None</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>
During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.
</td></tr>
<tr><td>Executing Trader</td><td>124</td><td>4</td><td>UInt32</td><td>
Identifier of the trading member/participant who made the execution decision. 0 will not be accepted as a valid value. Only the following values will be accepted.

<table>
<tr><th>Value</th><th>Meaning</th></tr>
<tr><td>3</td><td>CLIENT</td></tr>
<tr><td>4 - 4294967295</td><td>Short code</td></tr>
</table>

During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.
</td></tr>
<tr><td>MiFID Flags</td><td>128</td><td>1</td><td>Bit-Field</td><td>
Flags introduced to identify DEA involvement, Algo and Liquidity provision activity. 0 will be accepted as a valid value. If a bit is not specified, it will be set to 0.

During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.

<table>
<tr><th>Bit</th><th>Name</th><th>Meaning</th></tr>
<tr><td>0</td><td>DEA Flag</td><td>0: No
1:Yes</td></tr>
<tr><td>1</td><td>Liquidity Provision</td><td>0: No
1:Yes</td></tr>
<tr><td>2</td><td>ALGO</td><td>0: No
1:Yes</td></tr>
<tr><td>3</td><td>Reserved</td><td>-</td></tr>
<tr><td>4</td><td>Reserved</td><td>-</td></tr>
<tr><td>5</td><td>Reserved</td><td>-</td></tr>
<tr><td>6</td><td>Reserved</td><td>-</td></tr>
<tr><td>7</td><td>Reserved</td><td>-</td></tr>
</table>
</td></tr>
</table>

<table>
<tr>
<td>Party Role Qualifiers</td>
<td>129</td>
<td>1</td>
<td>Bit-Field</td>
<td>
Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ fields. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the Client ID, Investment Decision Maker and/or ‘Executing Trader ID’ is being specified as a short code (i.e. 4-4294967295).

Provides a further qualification for the value specified via the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ IDs. It will not be allowed to specify the value (0,0 - None) for the ‘Client ID’, ‘Investment Decision Maker’ and ‘Executing Trader’ 2 bit positions when the ‘Client ID’, ‘Investment Decision Maker’ and/or ‘Executing Trader’ ID is being specified as a short code (i.e. 4-4294967295).

During amendments, the same value should be submitted as in the original message. Other valid values submitted during an amendment will be ignored.

<table>
<tr><th>Description</th><th>Bit Position</th><th>Bit Value</th></tr>
<tr><td rowspan="2">Client ID</td><td>0</td><td>0, 1</td></tr>
<tr><td>1</td><td>0, 1</td></tr>
<tr><td rowspan="2">Investor Information</td><td>2</td><td>0, 1</td></tr>
<tr><td>3</td><td>0, 1</td></tr>
<tr><td rowspan="2">Executing Trader Information</td><td>4</td><td>0, 1</td></tr>
<tr><td>5</td><td>0, 1</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
<tr><td>Reserved</td><td>-</td><td>-</td></tr>
</table>

The combination of two relevant bits represent the following:

<table>
<tr><th>Bit Value</th><th>Bit Value</th><th>Meaning</th></tr>
<tr><td>0</td><td>0</td><td>None</td></tr>
<tr><td>0</td><td>1</td><td>LEI/Firm</td></tr>
<tr><td>1</td><td>0</td><td>Algo</td></tr>
<tr><td>1</td><td>1</td><td>Natural Person</td></tr>
</table>

Please refer to the Order Record Keeping Information section for more details.
</td>
</tr>
</table>

Reserved Field	130	16		Reserved For Future Use

8.4.14.2 System to send Requester the RFQ Quote provided by the Market Maker

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The server will stamp the identifier of the matching partition for the instrument.
Sequence Number	5	4	Int32	The server will stamp the message sequence number of the matching partition.
Quote Msg ID	9	20	String	This field is not received by Requestor and is stamped with 0
RFQ ID	29	10	String	Unique identifier assigned to the RFQ by the system.
Instrument ID	39	4	Int32	Identifier of the instrument.
Bid Price	43	8	Price	Bid price.
Bid Quantity	51	4	Int32	Bid quantity.
Offer Price	55	8	Price	Offer price.
Offer Quantity	63	4	Int32	Offer quantity.
Auto Cancel	67	1	UInt8	Value is specified by MM in RFQ Quote **Value** / **Meaning** 0 – Do not cancel 1 – Conform
Market Maker	68	11	String	The Market Maker ID who is the owner of the quote. Only populated for Named models.
Market Maker Firm	79	11	String	The Market Makers' Firm ID. Only populated for Named models.
Bid ID	90	12	String	System generated Order ID for the Bid Side of the RFQ.
Offer ID	102	12	String	System generated Order ID for the Sell Side of the RFQ.
Capacity	114	1	UInt8	Not applicable in the server-initiated message.
Clearing Account	115	1	UInt8	Not applicable in the server-initiated message.
Client ID	116	4	UInt32	This field is not received by Requestor and is stamped with 0
Investment Decision Maker	120	4	UInt32	This field is not received by Requestor and is stamped with 0

Executing Trader	124	4	UInt32	This field is not received by Requestor and is stamped with 0
MiFID Flags	128	1	Bit-Field	This field is not received by Requestor
Party Role Qualifiers	129	1	Bit-Field	This field is not received by Requestor
Reserved Field	130	16		Reserved For Future Use

8.4.15 Quote Ack

Generated by:

i) the server to acknowledge a new or modified RFQ Quote to the Market Maker

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The server will stamp the identifier of the matching partition for the instrument.
Sequence Number	5	4	Int32	The server will stamp the message sequence number of the matching partition.
Quote Msg ID	9	20	String	Market Maker specified identifier of the quote or quote cancel request the message relates to.
RFQ ID	29	10	String	Server specified identifier of the initial RFQ sent by the Requester.
Bid ID	39	12	String	Server specified identifier of the bid side of the quote/RFQ quote. Should be ignored if a RFQ quote amendment is rejected.
Offer ID	51	12	String	Server specified identifier of the offer side of the quote/RFQ quote. Should be ignored if a RFQ quote amendment is rejected. In the case of a Dual-sided RFQ Quote rejections only Offer ID will be stamped in the Native Quote Ack message

Quote Ack Status	63	1	UInt8	**Value** / **Meaning** 1 / Accepted 2 / Rejected
Reject Code	64	4	Int32	Reason code.
Order Book	68	1	UInt8	**Value** / **Meaning** 11 / RFQ Trades

8.4.16 Quote Response

Generated by:

i) the Requester to execute (accept) an RFQ Quote

ii) the Requestor to amend/cancel an RFQ

iii) the Requestor to make RFQ quotes public

iv) the server to communicate the status of an RFQ and RFQ Quote to the Requester and Market Makers

8.4.16.1 Requester to execute (accept) an RFQ Quote (only relevant for manual model) or initiate an RFQ amend/cancellation or make RFQ quotes public (relevant for both manual and automatic models)

Field	Offset	Length	Data Type	Description
Header				
Message Body				
Partition ID	4	1	UInt8	The value will be ignored in client-initiated messages.
Sequence Number	5	4	Int32	The value will be ignored in client-initiated messages.
Quote Msg ID	9	20	String	Required field. The client specified identifier of the RFQ modification / cancellation / execution request should be unique per user.
RFQ ID	29	10	String	The unique identifier assigned to the RFQ by the system. .

<table>
<tr><td>Quote Resp Type</td><td>39</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Hit/Lift</td></tr><tr><td>7</td><td>End Trade</td></tr><tr><td>100</td><td>Replace</td></tr><tr><td>102</td><td>Make RFQ quotes public</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>40</td><td>4</td><td>Int32</td><td>Identifier of the Instrument.</td></tr>
<tr><td>Side</td><td>44</td><td>1</td><td>UInt8</td><td>Value submitted in the RFQ.</td></tr>
<tr><td>Order Quantity</td><td>45</td><td>4</td><td>Int32</td><td>Quantity to be traded when executing a manual RFQ.

When cancelling/amending an RFQ, quantity should be the same as the quantity in the initial RFQ.</td></tr>
<tr><td>Limit Price</td><td>49</td><td>8</td><td>Price</td><td>When the quote response is used to accept a specific quote (QuoteRespType =1), the bid or offer price of the selected quote should be specified.

When the quote response is used to amend the RFQ (QuoteRespType =100), the new limit price should be specified. A value of 0 will be interpreted as removal of the limit price.</td></tr>
<tr><td>Order Book</td><td>57</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>11</td><td>RFQ Trades</td></tr></table></td></tr>
<tr><td>Bid ID</td><td>58</td><td>12</td><td>String</td><td>Required in the Select and Match execution policy. Unique identifier assigned to the bid side of the quote.</td></tr>
<tr><td>Offer ID</td><td>70</td><td>12</td><td>String</td><td>Required in the Select and Match execution policy. Unique identifier assigned to the offer side of the quote.</td></tr>
<tr><td>Capacity</td><td>82</td><td>1</td><td>UInt8</td><td>Not applicable this will be ignored.</td></tr>
<tr><td>Clearing Account</td><td>83</td><td>1</td><td>UInt8</td><td>Not applicable this will be ignored.</td></tr>
<tr><td>Reserved Field</td><td>84</td><td>8</td><td>UInt64</td><td>Reserved for Future use</td></tr>
</table>

8.4.16.2 The server to communicate the status of an RFQ and RFQ Quote to the Requester and Market Makers

<table>
<tr><th>Field</th><th>Offset</th><th>Length</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5">Header</td></tr>
<tr><td colspan="5">Message Body</td></tr>
<tr><td>Partition ID</td><td>4</td><td>1</td><td>UInt8</td><td>The server will stamp the identifier of the matching partition for the instrument.</td></tr>
<tr><td>Sequence Number</td><td>5</td><td>4</td><td>Int32</td><td>The server will stamp the message sequence number of the matching partition.</td></tr>
<tr><td>Quote Msg ID</td><td>9</td><td>20</td><td>String</td><td>The client specified identifier of the RFQ modification / cancellation / execution request.</td></tr>
<tr><td>RFQ ID</td><td>29</td><td>10</td><td>String</td><td>The unique identifier assigned to the RFQ by the system.</td></tr>
<tr><td>Quote Resp Type</td><td>39</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>3</td><td>Expired</td></tr><tr><td>7</td><td>End Trade</td></tr><tr><td>8</td><td>Timed Out</td></tr><tr><td>11</td><td>Cancelled</td></tr><tr><td>100</td><td>Replace</td></tr><tr><td>101</td><td>Executable</td></tr></table></td></tr>
<tr><td>Instrument ID</td><td>40</td><td>4</td><td>Int32</td><td>Identifier of the Instrument.</td></tr>
<tr><td>Side</td><td>44</td><td>1</td><td>UInt8</td><td><u>To Requester</u>

Value submitted in the RFQ.

<u>To Market Maker</u>

For Manual RFQ the Side is always disclosed.

For Automatic RFQ,
if the DiscloseSide = N then Side is not Disclosed (0 is sent)
If the DiscloseSide = Y then side is Disclosed</td></tr>
<tr><td>Order Quantity</td><td>45</td><td>4</td><td>Int32</td><td>In server generated messages, the quantity is not stamped.</td></tr>
<tr><td>Limit Price</td><td>49</td><td>8</td><td>Price</td><td>In server generated messages, the price is not stamped.</td></tr>
</table>

<table>
<tr><td>Order Book</td><td>57</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>11</td><td>RFQ Trades</td></tr></table></td></tr>
<tr><td>Bid ID</td><td>58</td><td>12</td><td>String</td><td>For Quote Response about RFQ status contains the system generated Order ID for the Bid Side of the RFQ.

Not applicable for Quote Response about RFQ Quote Status (will contain null).</td></tr>
<tr><td>Offer ID</td><td>70</td><td>12</td><td>String</td><td>For Quote Response about RFQ status contains the system generated Order ID for the Offer Side of the RFQ.

Not applicable for Quote Response about RFQ Quote Status (will contain null).</td></tr>
<tr><td>Capacity</td><td>82</td><td>1</td><td>UInt8</td><td>Capacity of the order/quote.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td></td><td></td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Clearing Account</td><td>83</td><td>1</td><td>UInt8</td><td>Clearing Account Type.

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
<tr><td>Reserved Field</td><td>84</td><td>8</td><td>UInt64</td><td>Reserved for Future Use</td></tr>
</table>

8.4.17 RFQ Execution Report

Generated by:

i) the system to notify the Requester and the Market Maker about a trade or the status of the quote

Field	Offset	Length	Data Type	Description

<table>
<tr><td colspan="5">Header</td></tr>
<tr><td colspan="5">Message Body</td></tr>
<tr><td>Partition ID</td><td>4</td><td>1</td><td>UInt8</td><td>The server will stamp the identifier of the matching partition for the instrument.</td></tr>
<tr><td>Sequence Number</td><td>5</td><td>4</td><td>Int32</td><td>The server will stamp the message sequence number of the matching partition.</td></tr>
<tr><td>Execution ID</td><td>9</td><td>12</td><td>String</td><td>Identifier of the message. This will be a base 62 encoded value in ASCII format.</td></tr>
<tr><td>RFQ ID</td><td>21</td><td>10</td><td>String</td><td>Unique identifier assigned to RFQ by the system.</td></tr>
<tr><td>Order ID</td><td>31</td><td>12</td><td>String</td><td>Stamped with the unique identifier assigned to quote response submitted by the Requester, sent to the Requester.

Stamped with the unique identifier assigned to the corresponding side of the quote (Bid ID/Offer ID) submitted by the Market Maker, sent to the Market Maker.</td></tr>
<tr><td>Execution Type</td><td>43</td><td>1</td><td>Alpha</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>4</td><td>Cancelled</td></tr><tr><td>C</td><td>Expired</td></tr><tr><td>D</td><td>Restated</td></tr><tr><td>F</td><td>Trade</td></tr><tr><td>H</td><td>Trade Cancel</td></tr></table></td></tr>
<tr><td>Trade Match ID (TVTIC)</td><td>44</td><td>8</td><td>UInt64</td><td>Identifier of the trade. This will be same as the MITCH Trade ID. This will be the binary format value of the base 36 encoded trade id in the system.</td></tr>
<tr><td>Side</td><td>52</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>Executed Quantity</td><td>53</td><td>4</td><td>Int32</td><td>Quantity executed.</td></tr>
<tr><td>Executed Price</td><td>57</td><td>8</td><td>Price</td><td>Price executed.

Will not be populated for restatements related to Trade Cancellations</td></tr>
<tr><td>Reserved Field 1</td><td>65</td><td>8</td><td>Price</td><td>Reserved for future use.</td></tr>
<tr><td>Reserved Field 2</td><td>73</td><td>8</td><td>Price</td><td>Reserved for future use.</td></tr>
</table>

<table>
<tr><td>Reserved Field 3</td><td>81</td><td>8</td><td>Price</td><td>Reserved for future use.</td></tr>
<tr><td>Order Status</td><td>89</td><td>1</td><td>UInt8</td><td><table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>PFill</td></tr><tr><td>2</td><td>Fill</td></tr><tr><td>4</td><td>Cancelled</td></tr><tr><td>6</td><td>Expired</td></tr></table></td></tr>
<tr><td>Leaves Quantity</td><td>90</td><td>4</td><td>Int32</td><td>Remaining quantity of the quote.</td></tr>
<tr><td>Instrument ID</td><td>94</td><td>4</td><td>Int32</td><td>Instrument Identifier.</td></tr>
<tr><td>Reserved field 4.</td><td>98</td><td>8</td><td>Price</td><td>Reserved field.</td></tr>
<tr><td>Reserved field 5.</td><td>106</td><td>8</td><td>Price</td><td>Reserved field.</td></tr>
<tr><td>Contra Firm</td><td>114</td><td>11</td><td>String</td><td>Contra firm of the execution.

Contra firm will only be populated if Exec Type (150) is Trade (F) or Trade Cancel (H).

If a trade is cleared, the Contra Firm will be populated with a CCP value derived based on user/instrument configuration.

If a trade is not cleared, the Contra Firm will be populated with the Contra Party Firm ID.</td></tr>
<tr><td>Capacity</td><td>125</td><td>1</td><td>UInt8</td><td>Capacity of the order.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Matched Principal (MTCH)</td></tr><tr><td>2</td><td>Dealing on own account (DEAL)</td></tr><tr><td>3</td><td>Any other trading capacity (AOTC)</td></tr></table></td></tr>
<tr><td>Clearing Account</td><td>126</td><td>1</td><td>UInt8</td><td>Clearing Account Type.<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Client</td></tr><tr><td>3</td><td>House</td></tr></table></td></tr>
</table>

<table>
<tr><td>Waiver Flags</td><td>127</td><td>1</td><td>UInt8</td><td>Pre-trade waiver flag. Populated when Execution Type is F or H. The Pre-Trade Waiver Flags section describes in which scenarios the values are populated.

<table><tr><th>Bit</th><th>Name</th><th>Value</th></tr><tr><td>2</td><td>SIZE</td><td>0 : No
1 : Yes</td></tr><tr><td>3</td><td>ILQD</td><td>0 : No
1 : Yes</td></tr></table></td></tr>
<tr><td>Execution Report Ref ID</td><td>128</td><td>12</td><td>String</td><td>Reference to the trade being cancelled.</td></tr>
<tr><td>Contra Order Book</td><td>140</td><td>1</td><td>UInt8</td><td>Identifier of the order book of the contra party of an RFQ execution. This field will only be populated in the Execution Report sent to the requestor when an RFQ executes with an order in the normal book

Absence of this field is interpreted as RFQ Trade book for RFQ related executions

<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>1</td><td>Regular</td></tr></table></td></tr>
<tr><td>AvgPx</td><td>141</td><td>8</td><td>Price</td><td>Volume Weighted Average Price of all the executions reported so far for an RFQ on the requestor side and it will be the executed price on the quote side. This will be updated for trade cancels / corrections as well

AvgPx will be populated for all types of RFQs with an execution</td></tr>
<tr><td>LastMarket</td><td>149</td><td>1</td><td>UInt8</td><td>Market (Segment MIC) where execution took place.
The value in this field should be disregarded if Exec Type is not Trade (F).
<table><tr><th>Value</th><th>Meaning</th></tr><tr><td>21</td><td>XLON (On Exchange LSE RM)</td></tr><tr><td>22</td><td>XLOM (On Exchange Non-AIM MTF)</td></tr><tr><td>23</td><td>AIMX (On Exchange AIM MTF)</td></tr></table></td></tr>
</table>

Reserved Field	150	7	String	Reserved For Future Use

8.4 Application messages: others

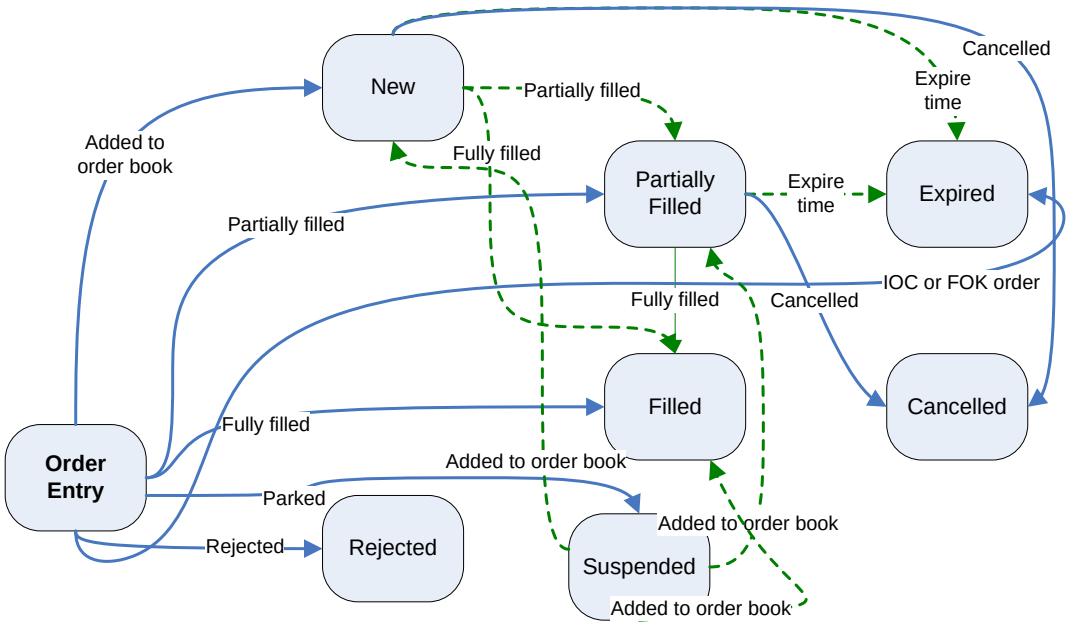
8.5.1 Business Reject

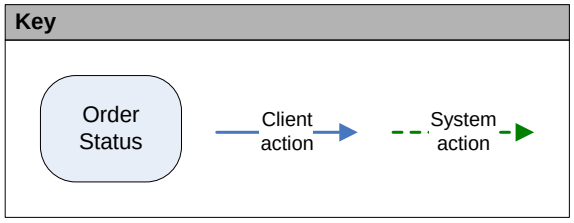
Field	Offset	Length	Data Type	Description
Header				
Message Body				
App ID	4	1	UInt8	Partition ID **Value** **Meaning** 1 Partition 1 2 Partition 2 3 Partition 3 0 System Suspended/Unknown Instrument
Sequence No	5	4	Int32	Sequence number of the message.
Reject Code	9	4	Int32	Code specifying the reason for the reject. Please refer to the Reject Code Specification for the list of reject codes and meanings specific to LSE.
Client Order ID	13	20	String	Client specified identifier of the order
Order ID	33	12	String	Unique identifier of the order assigned by the matching system
Transact Time	45	8	UInt64	Time the message was generated by the matching partition. The first 4 bytes of the TransactTime timestamp will represent the Unix (Posix) time while the next 4 bytes will specify the micro seconds. The Transact Time will be in UTC. Note that in the event the matching partition is unavailable or suspended this field will contain zero.
Reserved Field	53	10	String	Reserved for future use.

9 Process flows

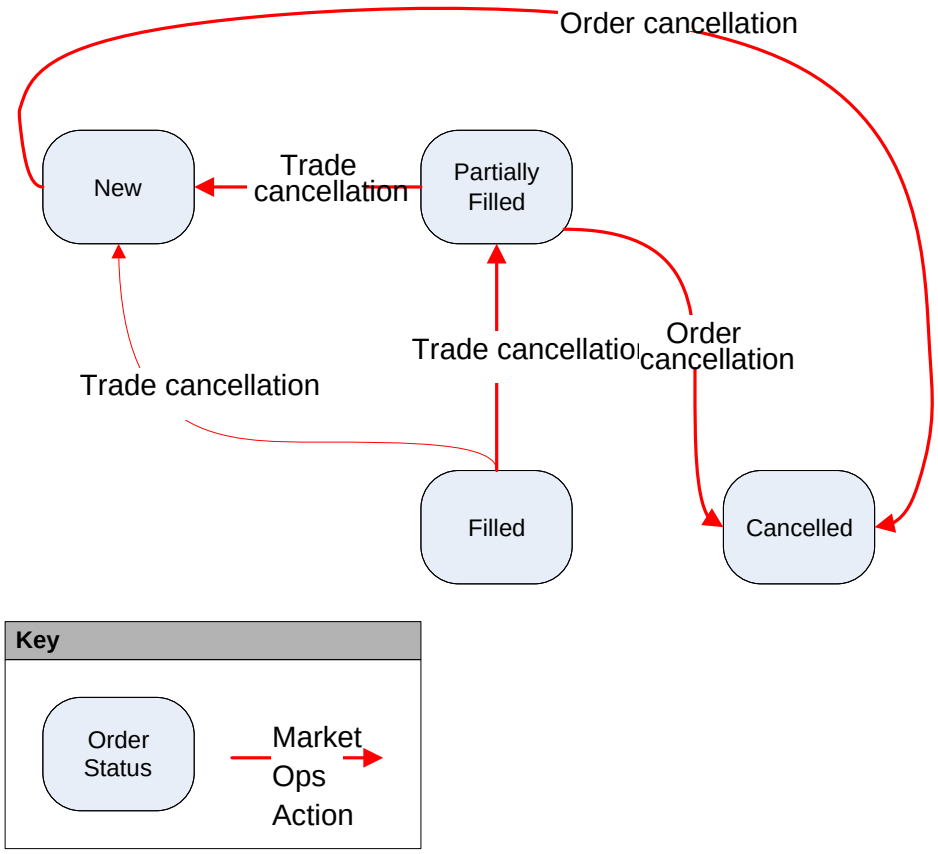
9.1 Order handling

9.1.1 Order Status Changes





9.1.1.1 Market Operations actions



9.2 Cross Orders

9.2.1 Event Model – Rejecting a Committed Cross/BTF Order

	Client		Server
1.	Sends a New Order Crossmessage for Committed Cross/BTF Order	→	Receives Order and Processes
2.	Receives one Execution Report message (Order Status = Rejected, Exec Type = Rejected, Reject Code = <>, Reject Reason = <>)	←	Order is rejected

9.2.2 Event Model – Rejecting an Internal Cross/BTF Order

	Client		Server
1.	Sends a New Order Cross message for Internal Cross/BTF Order	→	Receives order and processes
2.	Receives one Execution Report for buy side (Order Status = Rejected, Exec Type = Rejected, Reject Code = <>, Reject Reason = <>)	←	Order is rejected
3.	Receives one Execution Report for sell side (Order Status = Rejected, Exec Type = Rejected, Reject Code = <>, Reject Reason = <>)	←	Order is rejected

9.2.3 Event Model – Accepting a Committed Cross/BTF Order

	Client		Server
1.	Sends a New Order Cross message for Committed Cross/BTF Order	→	Receives order and processes
2.	Receives one Execution Report message (Order Status = New, Exec Type = New, Reject Code = <>, Reject Reason = <>)	←	Order is accepted

9.2.4 Event Model – Accepting a Committed Cross/BTF Order and Executed

	Client		Server
1.	Sends a New Order Cross message for Committed Cross/BTF Order	→	Receives order and processes
2.	Receives one Execution Report message (Order Status = New, Exec Type = New, Reject Code = <>, Reject Reason = <>)	←	Order is accepted
3.	Receives one Execution Report message (Order Status = Filled, Exec Type = Filled)	←	Order is executed

9.2.5 Event Model – Executing an already Cached Committed Cross/BTF Order

	Client		Server
1.	Receives one Execution Report message (Order Status = Filled, Exec Type = Filled)	←	Order is executed

9.2.6 Event Model – Accepting an Internal Cross/BTF Order and Executed

	Client		Server
1.	Sends a New Order Cross message for Internal Cross/BTF Order	→	Receives order and processes
2.	Receives one Execution Report for buy side (Order Status = New, Exec Type = New)	←	Order is accepted
3.	Receives one Execution Report for sell side (Order Status = New, Exec Type = New)	←	Order is accepted
4.	Receives one Execution Report message for buy side (Order Status = Filled, Exec Type = Filled)	←	Order is executed
5.	Receives one Execution Report message for sell side (Order Status = Filled, Exec Type = Filled)	←	Order is executed

9.2.7 Event Model – Rejecting the cancellation of an Internal Cross/BTF Order

	Client		Server
1.	Sends a Cross Order Cancel Request message for Internal Cross/BTF Order	→	Receives cancel request and processes
2.	Receives one Order Cancel Reject (will be Rejected if the order is unknown)	←	Cancel is rejected

9.2.8 Event Model – Rejecting the cancellation of a Committed Cross/BTF Order

	Client		Server
1.	Sends a Cross Order Cancel Request message for Committed Cross/BTF Order	→	Receives cancel request and processes
2.	Receives one Order Cancel Reject (will be Rejected if the order is unknown)	←	Cancel is rejected

9.2.9 Event Model – Accepting the cancellation of a Committed Cross/BTF Order

	Client		Server
1.	Sends a Cross Order Cancel Request message for Committed Cross/BTF Order	→	Receives cancel request and processes
2.	Receives an Execution Report message (Order Status = Cancelled, Exec Type = Cancelled)	←	Cancel is accepted

9.2.10 Event Model – Rejecting the amendment of a Committed/Internal Cross/BTF Order

	Client		Server
1.	Sends an Order Cancel/Replace Request message for Committed Cross/BTF Order	→	Receives cancel/replace request and processes
2.	Receives one Order Cancel Reject For matched Committed and Internal Cross/BTF orders RejReason = 1 (Order not found (too late to cancel or unknown order)). For unmatched Committed Cross/BTF orders RejReason=130701 (Cannot Amend Cross/BTF Orders) Order Status = Filled (if order is matched) and New (if order is unmatched)	←	Cancel/Replace is rejected

9 Service availability

Customer Activity	Availability
Telnet Access	04.00 - 17:32
Login Access	04.00 - 17:32
Order Deletion	07.50 - 17.15

Clients wishing to test connectivity outside of these hours should review MIT501 – Guide to Testing Services for more information.

London Stock Exchange

London Stock Exchange

10 Paternoster Square
London EC4M 7LS
T: +44 (0) 20 7797 1000

London Stock Exchange