

MIT205 EUROTLX DROP COPY GATEWAY (FIX 5.0)

Issue 7.0 | JANUARY 2021

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1 INTRODUCTION

EuroTLX has provided a drop copy gateway to enable member firms to receive additional copies of the Execution Reports generated by Millennium Exchange. This interface may also be used by clients to download the current status of all their active orders in the event of a failure. The drop copy gateway cannot be used to submit orders or receive market data.

The interface is a point-to-point service based on the technology and industry standards TCP/IP, FIXT and FIX. The session and application event models and messages are based on versions 1.1 and 5.0 (Service Pack 2) of the FIXT and FIX protocols respectively.

The encryption of messages between the client and server is not supported.

1.1 Purpose

The purpose of this document is to provide a technical description of the drop copy gateway available on the Millennium Exchange platform.

All the technical documents should be read in conjunction with the Rules and Guide to Parameters of EuroTLX Market.

Rules of EuroTLX

The Rules Book of EuroTLX Market is available at the following link:

<https://www.borsaitaliana.it/borsaitaliana/regolamenti/eurotlx/eurotlx.en.htm>

Trading Services webpage

More details of the Exchange's Trading Systems, including where this document and the *Millennium Exchange Business Parameters for BIT* document will be found following go-live can be seen at:

<https://www.borsaitaliana.it/borsaitaliana/gestione-mercato/migrazionemillenniumit-mit/millenniumitmigration.en.htm>

1.2 Readership

This document is particularly relevant to technical staff within EuroTLX's member firms. This document outlines how to connect to the drop copy gateway and the detailed message types and fields used.

When read in conjunction with the other Millennium Exchange guides, it is intended that these documents provide all of the details directly connected EuroTLX customers require to develop to the new services.

1.3 Document series

This document is part of a series of documents which provide a holistic view of the trading and information services available from the EuroTLX post the migration to Millennium Exchange. For reference the full range of documents is outlined below:

- **Trading**
 - MIT201 EuroTLX – Guide to New Trading System
 - MIT202 EuroTLX – FIX Trading Gateway (FIX 5.0)
 - MIT203 EuroTLX – Native Trading Gateway Specification
 - MIT204 EuroTLX – Post Trade Gateway (FIX 5.0) Specification
 - **MIT205 EuroTLX – Drop Copy Gateway (FIX 5.0) Specification (this document)**

- **Market Data Services**
 - MIT305 EuroTLX – Markets Reference Data
 - MIT306 EuroTLX – Instrument Currency
 - MIT308 EuroTLX - Trading Calendars
 - MIT309 EuroTLX - RFQ Market Maker Reference Data
 - EuroTLX – ANA File Service – Basic
 - EuroTLX – ANA File Service – Enriched

- **Report Reconciliation Service**
 - MIT601 EuroTLX – Report Reconciliation Service

- **Other**

- MIT501 EuroTLX- Guide to Testing Services
- MIT701 EuroTLX – Connectivity Specification
- EuroTLX – Members File Service
- EuroTLX – RCG File Service
- EuroTLX – Market Statistics - TLX_Listino.txt File Service

This series principally covers non-regulatory information.

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

<https://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.en.htm>

1.4 Document history

This document has been through the follow iterations:

| Issue | Date | Description |
|-------|---------------|--|
| 1.0 | January 2014 | First issue of this document published via the EuroTLX's website and distributed to customers. |
| 1.1 | February 2014 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: - 6.5.1 |
| 1.2 | November 2014 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: -2.5, 3.3, 4.1, 6, 6.5.1, 7.1, 7.2. |
| 2.0 | July 2016 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: - Changed Sections: 1.1, 1.3, 1.5, 2.5.3, 3.3, 3.4, 4.1, 4.2.2, 6.5.1, 7.3. - Added Sections: 2.3.2. |
| 2.1 | August 2016 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: - 4.1 |
| 3.0 | March 2017 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 2.3.1, 2.5, 2.5.2, 2.5.4, 2.5.6, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 3.1.1, 3.3, 3.4, 4.1, 4.2, 4.2.1, 4.2.2, 4.3, 4.4., 4.4.1.1, 5.3, 5.3.1, 5.3.2, 5.4, 6.1.2.2, 6.3.1, 6.3.2, |

| | | |
|-----|----------------|---|
| | | 6.3.6, 6.5.1, 6.6.1, |
| 3.1 | June 2017 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 6.5.1. |
| 3.2 | July 2017 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 2.7, 6.5.1. |
| 3.3 | September 2017 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 2.11, 6.5.1. |
| 4.0 | June 2018 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 2.5, 2.6, 3.3.1, 6.5.1. |
| 4.1 | August 2018 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 6.5.1 |
| 4.2 | September 2018 | Updated version of this document published via the EuroTLX's website and distributed to customers. The changes are applied at the following sections: 2.11, 6.5.1, 8 |

| | | |
|-----|---------------|---|
| 5.0 | August 2019 | Updated version of this document published via the EuroTLX's website and distributed to customers due to the go-live of New Hardware. The changes are applied at the following section 3.3 |
| 6.0 | February 2020 | Updated version of this document published via the Borsaltaliana's website and distributed to customers. The changes are applied at the following sections: 6.5.1 |
| 6.1 | August 2020 | Updated version of this document published via the Borsaltaliana's website and distributed to customers. The changes are applied at the following sections: 6.5.1 |
| 7.0 | January 2021 | Updated version of this document published via the Borsaltaliana's website and distributed to customers. The changes are applied at the following sections: 6.5.1 |

In subsequent issues, where amendments have been made to the previous version, these changes will be identified using a series of red side bars as illustrated opposite and highlighting the changes in Red.

1.5 Enquiries

Please contact the Client and Market Services if you have any functional questions about the Millennium Exchange services outlined in this document. The Client and Market Services can be contacted at:

Client and Market Services Team

- Customer Relationship Management
 - +39 02 72 42 6 512
 - **Clients-Services@borsaitaliana.it**
- Market Access (configurations, enablements, conformance tests, etc.)
 - +39 02 72 42 6 668
 - **market-access@borsaitaliana.it**
- Client Support (customer support desk)
 - Toll Free: 0080026772000 - From mobile: +39 02 45411399
 - **Client-Support@borsaitaliana.it**

2 SERVICE DESCRIPTION

2.1 Services supported by Trading Gateway

A description of the services (e.g. order types, quotes, notification of Market Supervision actions, etc.) available via the Trading Gateway is provided in the FIX specification for this interface which Clients are encouraged to read together with this specification.

2.2 Connection configuration

2.2.1 Real-Time connections

A real-time client enabled for the 'Copy To' functionality will receive a copy of each eligible Execution Report immediately after it is published.

A participant connection will be configured to receive a copy of all the Execution Report messages generated for the firm for the events outlined in **Section 2.3**. If required, a firm connection could be configured to only receive copies for selected Trader Groups.

For the purpose of redundancy, the service supports the configuration of multiple 'Copy To' connections to send the same information on the activity of the selected firms/Trader Groups.

The identity of the CompID that transmitted the order a particular drop copy relates to will be specified in the header field OnBehalfOfCompID (115).

Please refer to **Sections 5.4** and **5.5** for a description of how the Execution Reports published during the time a real-time client is disconnected from the server may be recovered.

A real-time client may also use the Own Order Book Download (OOBD) service (outlined in **Section 2.4**) to recover the status of all active orders in the event of a system failure.

2.2.2 Non Real-Time connections

Execution Reports will not be streamed to non-real time clients. Such a client may only connect to the server to use the Own Order Book Download service outlined in **Section 2.4**.

2.3 Supported events

Clients will receive drop copies of the Execution Reports generated for the following events:

- (i) Order accepted
- (ii) Order rejected
- (iii) Order executed
- (iv) Quote executed
- (v) Order expired
- (vi) Order cancelled
- (vii) Order cancel/replaced
- (viii) Trade cancellation

2.3.1 Quotes

The Execution Reports sent when quotes are executed are available as drop copies.

The following messages sent by the Trading Gateway are not available via the drop copy service:

- Quote Status Report
- Mass Quote Acknowledgement
- Execution Reports generated to acknowledge quotes submitted via Native Trading gateway

2.4 Own Order Book Download

Any client may use the Mass Order Status Request message to download the current status of each active order for a specified Trader Group (585 = 8, 448 = trader group id), for a specified trader group in a specified instrument (585 = 1,

48 = instrument id, 448 = trader group id) and for a specified trader group in a specified segment (585 = 1, 1300 = segment id, 448 = trader group id). The total number of Mass Order Status Requests that a client may submit can be found in the Trading Technical Parameters document on the Technical Specifications website. A client may request EuroTLX to reset its request count. This feature is intended to help manage an emergency situation and should not be relied upon as a normal practice.

If a request is successful, the server will respond with an Execution Report for each active order and quote side for the specified Trader Group. If a request for a Trader Group in a specified instrument is successful, the server will respond with an Execution Report for each active order and quote side for the specified Trader Group in the specified instrument. If a request for a Trader Group in a specified segment is successful, the server will respond with an Execution Report for each active order and quote side for the specified Trader Group in the specified segment.

Each such message will include the MassStatus ReqID (584) of the request, an ExecID (17) of "0" and an ExecType (150) of Order Status (I). The last Execution Report sent by each partition in response to the request will include a LastRptRequested (912) of Last Message (Y).

The server will transmit a single Execution Report if the request is rejected or if there are no active orders and quotes for the specified Trader Group or for the specified Trader Group in the specified instrument/segment. Such a message will include the MassStatusReqID (584) of the request, an ExecID (17) of "0", an ExecType (150) of Order Status (I) and an OrdStatus (39) of Rejected (8). The message will not include fields that relate to order-specific information (i.e. OrderID (37), OrderQty (38), LeavesQty (151), CumQty (14), SecurityID (48), SecurityIDSource (22), OrdType (40), Side (54), AccountType (581), OrderCapacity (528), ClOrdID (11), TransactTime(60)). The reason for the rejection will be specified in the field OrdRejReason (103).

A Business Message Reject will be sent to reject an Order Mass Status Request if the server is unable to process it in the unlikely event of a system outage. If the outage occurs before the server has sent all of the messages in response to an Order Mass Status Request, it will terminate the open order download. An Execution Report will be sent if the open order download is terminated. It will include the MassStatusReqID (584) of the request, an ExecID (17) of "0", an ExecType (150) of Order Status (I) and an OrdStatus (39) of Rejected (8).

If a client specifies an instrument (in 48) as well as a segment (in 1300) in the Order Mass Status Request, results should be given according to the value specified for the MassStatusReqType(585) field. I.e.

- If MassStatusReqType(585) = 1, statuses of the orders belonging to the specified instrument should be given

- If MassStatusReqType(585) = 100, statuses of the orders belonging to the specified segment should be given
- If MassStatusReqType(585) = 8, statuses of all orders belonging to the specified trader group should be given

2.5 Execution reports

The Execution Report message is used to communicate many different events to clients. The events are differentiated by the value in the ExecType (150) field as outlined below.

| ExecType | Usage | Ord Status |
|----------|---|------------|
| 0 | <p>Order Accepted</p> <p>Indicates one of the following scenarios:</p> <p>a. An order added to the book.</p> <p>b. A market maker accepting a RFQ via a RFQ quote.</p> | 0 |
| 8 | <p>Order Rejected</p> <p>Indicates that an order or RFQ quote has been rejected.</p> <p>The reason for the rejection is specified in the field</p> | 8 |
| F | <p>Order or Quote Executed</p> <p>Indicates one of the following scenarios;</p> <p>a. An order/quote is partially or fully filled.</p> <p>b. A RFQ/ RFQ quote is executed.</p> | 1, 2 |
| C | <p>Order Expired</p> <p>This message is sent when an order or RFQ quote is expired. The reason for the expiration is specified in the Text (58) field.</p> | C |
| 4 | <p>Order Cancelled</p> <p>This message is sent when an order or RFQ quote is cancelled. Cancellation could have been sent either by the trading party or market operations or initiated automatically by the system.</p> | 4 |

| | | |
|---|---|------|
| 5 | <p>Order Cancel/Replaced</p> <p>Indicates that an order cancel/replace request has been accepted and successfully processed.</p> | 0, 1 |
| D | <p>Order Cancel/Replace by Market Supervision</p> <p>Sent in the following scenarios:</p> <ul style="list-style-type: none"> -When an order is amended by market supervision -When an order price/size is changed by the system without being requested by the participants -When market supervision cancels a trade that previously partially filled the order. -When an iceberg order gets replenished only after exhausting the visible quantity and executing a portion of the hidden quantity as well (as opposed to executing hidden quantity after replenishment) - When a quote is amended without being requested by the participants. - When market supervision cancels a trade that previously partially filled the quote | 0, 1 |
| H | <p>Trade Cancel</p> <p>Indicates that an execution has been cancelled by Market Supervision. An ExecRefID (19) to identify the execution being cancelled will be included.</p> | 0, 1 |
| I | <p>Order Status Response</p> <p>Indicates the current status of an order.</p> | 0, 1 |
| I | <p>Order Status Reject</p> <p>Indicates that an order mass status request has been rejected.</p> | 8 |
| G | <p>Trade Correct</p> <p>Indicates that the price and/or size of a trade has been amended by the market supervision.</p> <p>An Execution Report Ref ID to identify the execution being amended is included.</p> | 1,2 |

2.5.1 Order Status

As specified in the FIX protocol, the OrdStatus (39) field of an Execution Report 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 OrdStatus (39). The relevant order statuses are given below from the highest to lowest precedence.

| Value | Meaning |
|-------|------------------|
| 0 | New |
| 1 | Partially Filled |
| 2 | Filled |
| 4 | Cancelled |
| 8 | Rejected |
| C | Expired |

2.5.2 Order/Quote identifiers

| ID | Description | Tag ID | Max Allowed Length |
|---------|--|--------|--------------------|
| ClOrdID | <p>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.</p> <p>Clients must specify the Client Order ID when submitting a New Order, Order Cancel Request, Order Mass Cancel Request or Order Cancel/Replace Request.</p> <p>It may also, under certain circumstance, not include ApplID (1180) and OrderCapacity</p> | 11 | 20 |

| ID | Description | Tag ID | Max Allowed Length |
|------------------------|---|--------|--------------------|
| | (528). If an order is cancelled or replaced by Market Supervision , the disseminated Execution Report will not be assigned a new Client Order ID. | | |
| OrigClOrdID | The server will use the Original Client Order ID to identify the order which needs to be cancelled or replaced when an OrderID(37) is not specified. If an order is cancelled or replaced by Market Supervision, the disseminated Execution Report will not have a Original Client Order ID specified. | 41 | |
| ExecID | The server will use the ExecID field to affix a unique identifier for each Execution Report. ExecIDs will be unique across trading days. | 17 | |
| Application ID (AppID) | Each application message transmitted by the server will include the identity of the partition that generated the message. | 1180 | |
| OrderID | The server will use the Order ID field of the Execution Report to affix the order identification numbers of the trading engine. 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 OriginalClient Order ID) when submitting an Order Cancel Request or Order Cancel/Replace Request. | 37 | |
| TradeMatchID | The TrdMatchID (880) in the FIX trading gateway matches exactly with the TradeID (1003) on the Trade Capture Report of Post | 880 | |

| ID | Description | Tag ID | Max Allowed Length |
|------------|---|--------|--------------------|
| | Trade gateway. This also matches the TradeMatchID field from the Native Trading gateway as well as the ITCH gateway which are in binary format. TrdMatchID (880) are unique across trading days. The TrdMatchID (880) is in base 62 and needs converting to an 8 byte integer for comparison. | | |
| QuoteMsgID | <p>The clients must specify the QuoteMsgID when submitting a quote or a quote cancel.</p> <p>The server does not validate each QuoteMsgID for uniqueness. However, it is recommended that clients ensure unique ClOrdIDs/QuoteMsgIDs across all messages (e.g. New Order/ Quote, Order/ Quote Cancel Request, etc.) per client.</p> | 1166 | 20 |
| BidID | The unique identifier assigned by the server to the bid side of an RFQ response quote in the quote ack. The BidIDs will be unique across trading days. The BidID of a quote will remain constant throughout its life. | 30007 | |
| OfferID | The unique identifier assigned by the server to the offer side of an RFQ response quote in the quote ack. The OfferIDs will be unique across trading days. The OfferID of a quote will remain constant throughout its life. | 30008 | |
| QuoteReqID | The clients must specify the QuoteReqID when submitting a quote request. The server validates each QuoteReqID for uniqueness against other RFQs submitted by the same client. | 131 | 10 |
| RFQID | The unique identifier assigned by the server to a quote request in the quote status report. The RFQIDs will be unique across trading days. | 30006 | |

| ID | Description | Tag ID | Max Allowed Length |
|----|---|--------|--------------------|
| | The RFQID of a quote request will remain constant throughout its life. The clients are required to specify the RFQID when responding to an RFQ (positive/ negative), executing an RFQ or cancelling an RFQ. | | |

2.5.3 Instrument identification

Instruments will be identified using the SecurityID (48) field. It is required to specify SecurityID Source (22) field as well.

2.5.4 Identifiers

| ID | Description | Relevant FIX Tags |
|-------------------|---|--|
| Executing Firm | Identifier (Firm ID) of the firm which submits the order/quote or RFQ | PartyRole (452) = 1 PartyID (448) |
| Trader Group | The unit of the firm the order was submitted under | PartyRole (452) = 76 PartyID (448) |
| Trader ID | Trader ID of the trader who executed the trade | PartyRole (452) = 100 PartyID (448) |
| Counterparty Firm | In an Execution report for a trade, the broker firm which is the contra side of the trade | PartyRole (452) = 17 PartyID (448) |

| | | |
|---------------------------|--|---|
| Market Makers | Firm ID of the market maker firm | PartyRole (452) = 66 PartyID (448) |
| Contra Trader | Identifier of the Trader who is the contra side of the trade | PartyRole (452) = 37 PartyID (448) |
| Client ID | Identifier of the client of the order/quote or RFQ | PartyRole (452) = 3 PartyIDSource (447) PartyID (448) |
| Investment Decision Maker | Identifier of the investment decision relevant to the order/quote or RFQ | PartyRole (452) = 122 PartyIDSource (447) PartyID (448) |
| Executing Trader | Identifier who makes the execution decision of the order/quote or RFQ | PartyRole (452) = 12 PartyIDSource (447) PartyID (448) |

2.5.5 Quotation Conventions

The values specified in the fields Price (44),) and LastPx (31) should be interpreted in terms of the applicable quotation convention for the instrument.

The values specified in these fields should be interpreted as the price per share for equity instruments. For a fixed income instrument, they should, depending on the applicable convention, be interpreted as percentage of par or yield.

The value, if any, specified in the field LastParPx (669) should always be interpreted as percentage of par.

2.5.6 Fixed Income Instruments

Based on the instrument configurations, for fixed income instruments quoted in yield, the notification of an execution may include the limit price in the field `ConvertedYield(30005)` and traded price in the field `Yield (236)`.

2.6 Timestamps and dates

Following timestamps used in server generated messages should be in UTC and in the `YYYYMMDD-HH:MM:SS.uuuuuu` format. For client generated messages both `YYYYMMDD-HH:MM:SS.uuuuuu` and `YYYYMMDD-HH:MM:SS.sss` formats are accepted.

- `SendingTime (52)`
- `OrigSendingTime (122)`
- `TransactTime (60)`

`SendingTime` is only validated when processing the Login message.

For all other messages it is not mandatory to enter milliseconds in the `SendingTime (52)` tag.

Following timestamps used in messages should be in UTC and in the `YYYYMMDD-HH:MM:SS` format.

- `ExpireTime (126)`

`ExpireDate (432)` should be in the `YYYYMMDD` format and specified in the local date for the server (i.e. not in UTC).

2.7 Repeating groups (components/component block)

If a repeating group is used in a message, the `NoXXX` field (for example `NoPartyIDs` field in the trading party repeating group) should be specified first before the repeating group starts. This is applicable for both the messages generated by the client and the server.

The messages generated by the server will have the fields within a repeating group in order.

The messages generated by a client should have the first field in a repeating group in order. If the first field in a repeating group is in order, a message generated by a client will be accepted; else the message will be rejected.

When a client initiated message is rejected due to the Party ID (448) corresponding to the Party Role (452) of 76 (Trader Group) being invalid, the party block with the invalid Trader Group (76) will not be included in the Execution Report message which is used to communicate the rejection. In a scenario where the request is submitted with multiple party blocks, only the party block with the invalid Trader Group (76) will be dropped from the rejected Execution Report. The other party blocks will be included in the message.

In case the client specifies duplicate repeating groups, only the last entry will be considered by the system. The server will not reject such messages.

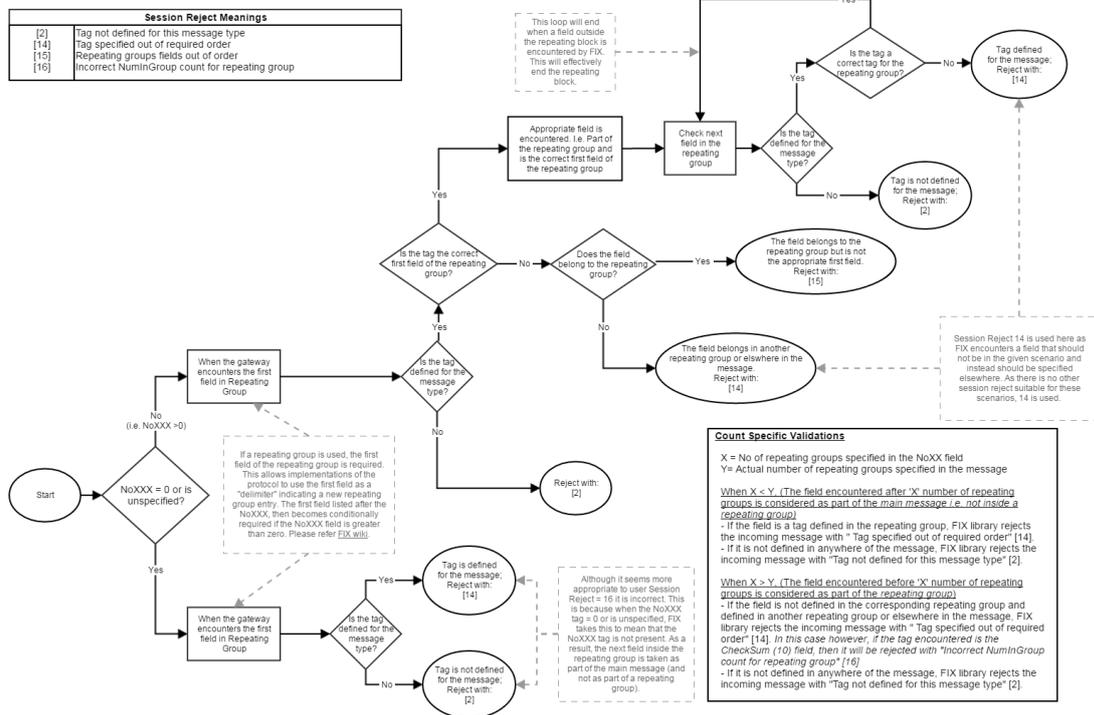
2.8 Validations of FIX Gateways

- If a required tag is missing in a message sent by a client, the server will send a session reject message for that.
- If a conditionally required tag is missing in a message sent by a client, the server will send a business reject message for that.
- Server will also send a session reject message if the same FIX tag has been repeated within the client request. However, if a client initiated Logon message contains repeated tags; the server may not acknowledge the login request and will not send any reply.
- Also if an unsupported value is sent with a tag, an application reject message is sent by the server.
- Session level validations are done first, and business rejects and application rejects follow in that order.

2.9 Repeating Group Field Validations

- If a client sends a message with the NoXXX field equal to 0, the system will ignore the NoXXX field and validate the next field inside the repeating group (if specified) as part of the main message. That is, it will validate the next field as if the field is outside the repeating group. In such cases, the server would reject the message.
- If a client sends a message with the NoXXX field greater than 0, the system will validate the next field inside the repeating group. The next field must be the correct 'first' field of the repeating group. For example, if

the NoPartyIDs = 1, then the next field must be PartyID. If this field is not the correct 'first' field inside the repeating group, the system will reject the message. If the 'first' field specified is correct, then the system will not validate the order of the remaining fields in the repeating group. Please



refer the below diagram for details.

2.10 FIX Trading Gateway

In RFQ functionality, single message can be used in different scenarios as a server generated message as well as a client generated message. In each scenario where a specific message is used, if additional fields which are defined for the message, but not defined for the scenario are received, the system will ignore such fields and process the message. That means if a client specifies a field which is stamped by the server generated version of the message, the message will be accepted. However such fields will still be subjected to session layer validations such as data type and the length.

2.11 Functional and Implementation Limitations

1. Handling unsupported and undefined tags:
 - If an unsupported tag or undefined tag is specified in the header or the body of an Administrative message, the system ignores this tag and process the rest of the message.
 - If an unsupported header tag is specified in the header of an Application message, the system ignores this tag and process the rest of the message.
 - If an unsupported body tag or an invalid tag is specified in the Application message header or body, the message is rejected with a Session Reject.
2. The maximum length supported by the system for the field PartyID (448) is 11. Thus, the value in the PartyID field will be truncated to length 11 prior to the "user" validation. For example, if the value of PartyRole(452) is 76 (Trader Group), the system will accept the order if there is a corresponding trader group for the value in PartyID (448) field after the truncation. Otherwise, the order will be rejected with reject reason "Unknown user (OwnerID)"
3. When an Order Mass Status Request is rejected at its entirety, an Execution Report is generated but it does not carry a client order id as the rejection is not related to a specific order. Hence this is an exception to the fact that tag 11 is required in the Execution Report.

3 CONNECTIVITY

3.1 CompIDs

The CompID of each client must be registered with EuroTLX before FIX communications can begin. A single client may have multiple connections to the server (i.e. multiple FIX sessions, each with its own CompID).

The CompID of the server is FGW. The messages sent to the server should contain the CompID assigned to the client in the field SenderCompID (49) and the Exchange CompID in the field TargetCompID (56). The messages sent from the server to the client will contain the Exchange CompID in the field SenderCompID (49) and the CompID assigned to the client in the field TargetCompID (56).

3.1.1 Passwords

Each new CompID will be assigned a password on registration. Clients are required to change the password to one of their choosing via the Logon message. The status of the new password (i.e. whether it is accepted or rejected) will be specified in the SessionStatus (1409) field of the Logon sent by the server to confirm the establishment of a FIX connection. The new password will, if accepted, be effective for subsequent logins.

In terms of the EuroTLX 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 EuroTLX.

3.2 Production IP addresses and ports

The IP addresses and ports for the drop gateway will be published in a separate configuration document.

3.3 FIX gateway failover and Disaster Recovery Site

FIX gateway failover

In the event of failure of a single FIX Gateway participants should connect / logon via the corresponding Alternate gateway. Any attempt to logon to the Alternate Gateway outside of any failure event will be refused.

In case of unexpected disconnection from the FIX Gateway participants should attempt to re-connect a total of three times, with 3 seconds between each attempt, before attempting to connect to the Alternate Gateway.

Once connected to the Alternate Gateways, the FIX Gateway will increment outbound (to the participant) message sequence numbers by a configurable amount (customer inbound sequence number incremented to 5000) to ensure that any messages in-flight at the time of failure can be recovered.

Following log-on to the Alternate Gateway any Execution Reports or Trade Capture Reports generated by the system whilst participants are disconnected (including deletions due to Cancel on Disconnect) will automatically be re-sent. Should the number of messages that need to be re-sent exceed 2000 then only the last 2000 messages will be re-sent. Customers will be required to send a Resend Request to recover the remaining messages.

After six failed connection attempts (three on each Gateway) this may indicate a serious issue and the Exchange should be contacted for guidance.

Please contact the Service Desk team (**service-desk@borsaitaliana.it**, Toll Free: 0080026772000, from mobile +390245411399).

.Disaster Recovery Site

Millennium Exchange operates in cold standby mode. In the event of total loss of the Primary Site London Stock Exchange will activate the Disaster Recovery Site. This procedure is expected to take in the order of 2 hours.

In the event of disaster recovery only trades that have been sent to participants via a Trade Capture Report (TCR) from the Post Trade Gateway will be guaranteed to have been sent to clearing and settlement (if applicable).

Participants should disregard any trades for which only the Execution Report (and not the TCR) has been sent.

Once the Disaster Recovery Site is active then all order and quote books will be cancelled and the trading system will be re-started.

Participants should note that no updated Execution Reports will be sent identifying those orders cancelled together with the activation of the DR site.

Following the Disaster Recovery invocation, participants should connect to the Disaster Recovery Gateways.

All instruments will be reinstated in an auction call state. Instruments for which this is not applicable will be reinstated to a Pre-Mandatory Trading Session.

Following recovery to the Disaster Recovery Site it is recommended for all participants to:

- execute an Own Trade Download to confirm which trades have been sent to clearing and settlement
- execute an Own Order Book Download to confirm that no orders are currently active

Once the Disaster Recovery Site is active all FIX message sequence numbers will be reset to 1 on the Exchange FIX Gateways. Customers must also reset their outgoing sequence numbers to 1 before reconnecting to Disaster Recovery Site.

3.4 Slow Consumers

If a consumer is not consuming at all, the history channel subscription will be suspended with the exception for OOB (Own Order Book Download) requests. A slow consumer will be disconnected in the case of OOB requests.

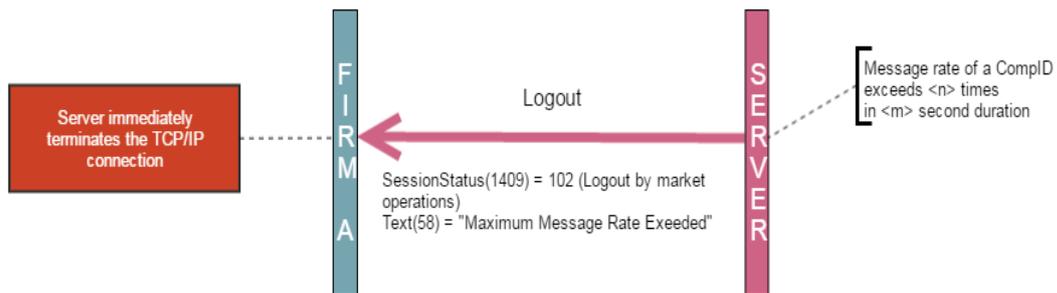
3.5 Message Rate Throttling

Message rate throttling is a scheme for throttling message traffic where each CompID is only permitted to submit up to a specified number of messages per second.

Additional information will be provided in a separate configuration document.

Every message that exceeds the maximum rate of a CompID will be rejected via a Business Message Reject. Such a message will include a BusinessRejectReason (380) of Other (0) and an indication that the rejection was due to throttling in the Text (58) field.

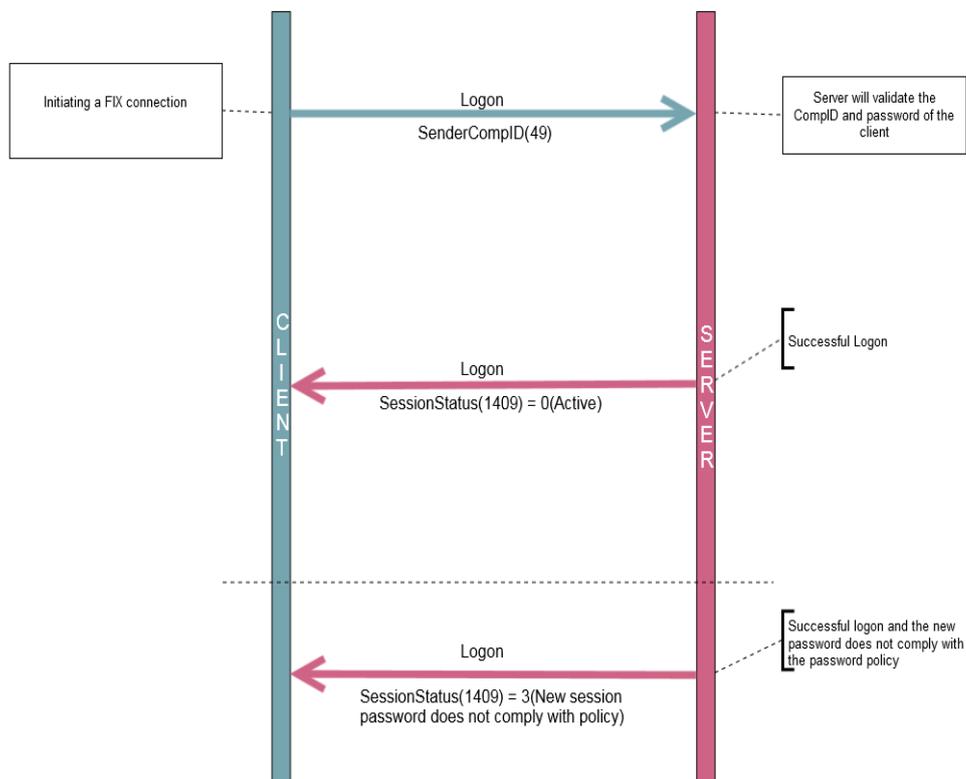
A CompID will be disconnected by the server if its message rate exceeds its maximum rate more than 5 times in any 30 second duration. In such a case, the server will transmit a Logout message. The Logout message will be sent with SessionStatus(1409) = 102 (Logout by market operations) and Text = "Maximum Message Rate Exceeded". After a considerable time (5 seconds) following the Logout message, the server will terminate the TCP/IP connection.



4 FIX CONNECTIONS AND SESSIONS

4.1 Establishing a FIX connection

Each client will use the assigned IP address and port to establish a TCP/IP session with the server.



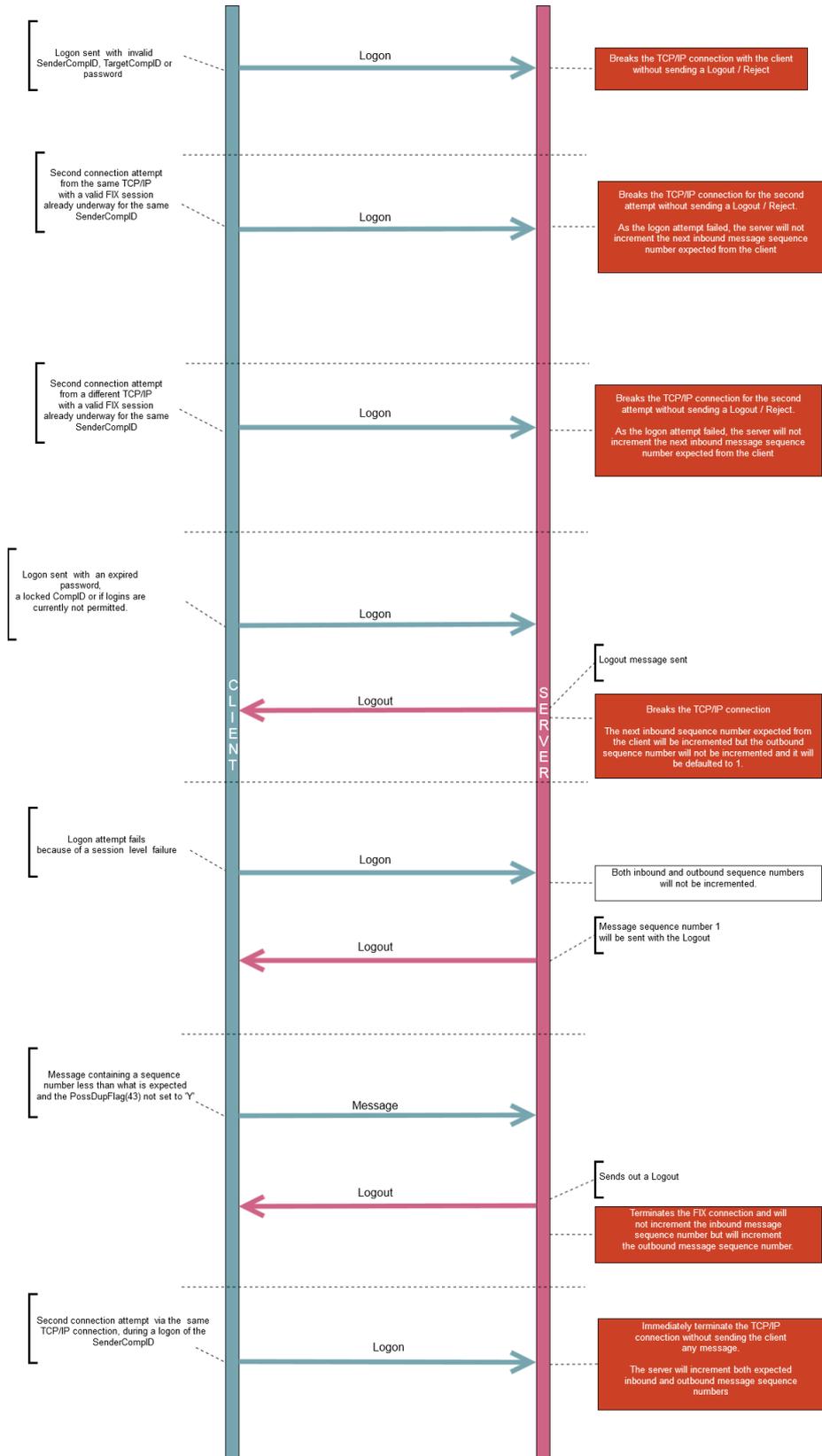
The server will break the TCP/IP connection if messages are received before the exchange of Logons.

When the client sends a logon with a sequence number higher than expected by the FIX Gateway, the FIX gateway will send a Resend Request. Once the

response/s to the Resend Request is processed by the FIX Gateway, the FIX Gateway would send a Test Request to make sure both the client and server is in sync before sending out any missed or new application messages.

Once a response to the Logon message has been received, a client can start sending additional messages to the server. System will start sending the client any new or missed Application Messages immediately after the Logon Reply is sent.

Logon failures and connection terminations



The outbound sequence number will be 1 only if ResetSeqNumFlag (141) is set to 'Y' in the Logon message sent by the client. If the ResetSeqNumFlag is set to 'N', there is no assurance that the MsgSeqNum(34) of the reply message to Logon will be 1.

Rapid login/logouts

A protection mechanism has been implemented to protect the gateway from rapid login/logouts. Login/logouts happening within a period of 50 ms will be considered as a rapid login/logout. If a user reaches 100 number of rapid login/logouts within 600 seconds, any subsequent login/logouts will be delayed by a variable time period which is computed based on the number of rapid login/logouts. This will reset after 600 seconds given that the user does not perform any rapid login/logouts within this period.

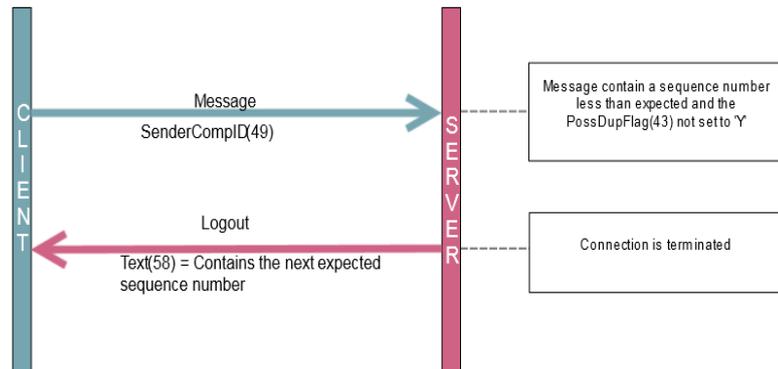
4.2 Maintaining a FIX session

A FIX session is maintained using Message Sequence Numbers and Heartbeat messages.

4.2.1 Message sequence numbers

As outlined in the FIXT protocol, the client and server will each maintain a separate and independent set of incoming and outgoing message sequence numbers. Sequence numbers should be initialized to 1 (one) at the start of the FIX session and be incremented throughout the session.

Monitoring sequence numbers will enable parties to identify and react to missed messages and to gracefully synchronize applications when reconnecting during a FIX session.



If the server receives a message that cannot be processed (malformed message) it will not respond to that message and will not increment the sequence number maintained. In such a scenario, when the next readable message is received by the server it will detect a sequence gap between the client and server. The server will send a Resend Request to the client requesting for messages from the sequence number the server is maintaining. If the client does not correct the malformed message to a readable one, the above event model will be repeated until there is no sequence gap.

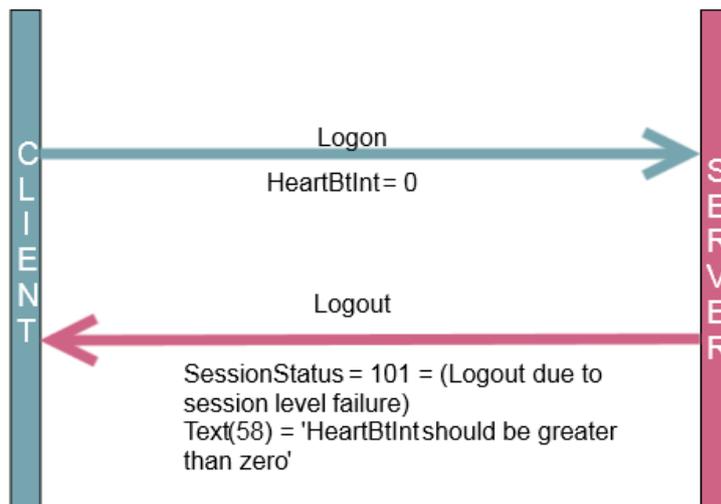
A FIX session will not continue to the next trading day. The server will initialize its sequence numbers at the start of each day. The client is expected to employ the same logic.

4.2.2 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 the HeartBtInt (108) specified in the client's Logon message.

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.

As a safety mechanism, the system will not allow the user to login if the HeartBtInt is set to 0. The following behaviour is expected if the server receives a Logon with the HeartBtInt set to 0.



If the server detects inactivity for a period longer than the heartbeat interval plus a reasonable transmission time (a total inactivity period of three heartbeat intervals), it will send a Test Request message to force a Heartbeat from the client. If a response to the Test Request is not received by a reasonable transmission time (three heartbeat intervals), the server will send a Logout and break the TCP/IP connection with the client.

For the server to reset the heartbeat missed count, the message received in response to the Test Request message should be a heartbeat message. However it's not obligatory for client's heartbeat message to have the same Test Request ID as the respective Test Request message. Even if the value is different or if the field does not contain a value, the heartbeat missed count will be reset.

The client is expected to employ similar logic if inactivity is detected on the part of the server.

4.2.3 Increasing expected sequence number

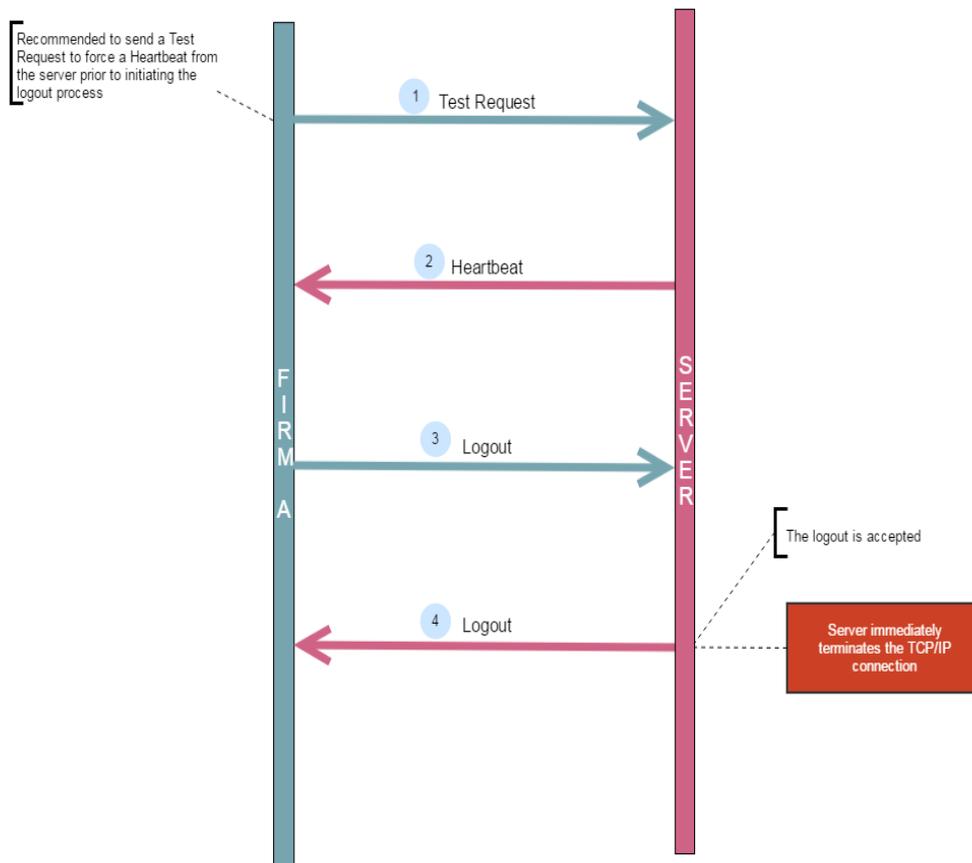
The client or server may use the Sequence Reset message in Gap Fill mode if it wishes to increase the expected incoming sequence number of the other party.

The client or server may also use the Sequence Reset message in Sequence Reset mode if it wishes to increase the expected incoming sequence number of the other party. The Sequence Reset mode should only be used to recover from an emergency situation. It should not be relied upon as a regular practice.

4.3 Terminating a FIX connection

The client is expected to terminate each FIX 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 to confirm the termination. The client will then break the TCP/IP connection with the server.

As recommended in the FIXT protocol, clients are advised to transmit a *Test Request*, to force a *Heartbeat* from the server, before initiating the logout process.



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.

If, during the exchange of Logout messages, the client or server detects a sequence gap, it should send a Resend Request.

4.4 Re-establishing a FIX session

If a FIX connection is terminated during the trading day it may be re-established via an exchange of Logon messages. Once the FIX session is re-established, the message sequence numbers will continue from the last message successfully transmitted prior to the termination.

4.4.1 Reset initiated by the client

If the client requires both parties to initialize (i.e. reset to 1) sequence numbers, it may use the ResetSeqNumFlag (141) field of the Logon message. The server will respond with a Logon with the ResetSeqNumFlag (141) field set to "Y" to confirm the initialization of sequence numbers. In such cases, if the MsgSeqNo (34) of the Logon message is not reset to 1, the server will break the TCP/IP connection after sending a Logout. It will include a SessionStatus (1409) of Logout due to session level failure (101) and an indication of the rejection in the Text (58) field.

A client may also manually inform EuroTLX that it would like the server to initialize its sequence numbers prior to the client's next login attempt.

These features are intended to help a client manage an emergency situation. Initializing sequence numbers on a re-login should not be relied upon as a regular practice.

4.4.2 Reset initiated by the server

The system has been designed with fault tolerance and disaster recovery technology that should ensure that the server retains its incoming and outgoing message sequence numbers for each client in the unlikely event of an outage.

However, clients are required to support a manual request by EuroTLX to initialize sequence numbers prior to the next login attempt.

5 RECOVERY

5.1 Resend requests

The client may use the Resend Request message to recover any lost messages. As outlined in the FIXT protocol, this message may be used in one of three modes:

- (i) To request a single message. The BeginSeqNo (7) and EndSeqNo (16) should be the same.
 - (ii) To request a specific range of messages. The BeginSeqNo (7) should be the first message of the range and the EndSeqNo (16) should be the last of the range.
 - (iii) To request all messages after a particular message. The BeginSeqNo (7) should be the sequence number immediately after that of the last processed message and the EndSeqNo (16) should be zero (0).
- (a) The server caches a maximum number of messages transmitted to the client. Clients are unable to use a Resend Request to recover messages not in the server's cache (cache size will be confirmed at a later date). If the client requests for a range of messages that have sequence numbers falling outside the cache size, a Sequence Reset message in Gap Fill mode will be sent for the missing messages and will send the available messages as per the request after that.

5.2 Possible duplicates

The server handles possible duplicates according to the FIX protocol. The client and server will use the PossDupFlag (43) field to indicate that a message may have been previously transmitted with the same MsgSeqNum (34).

5.3 Possible resends

5.3.1 Client-initiated messages

The server does not handle possible resends for the client-initiated messages (e.g. New Order – Single, Quote, etc.) and ignores the value in the PossResend (97) field of such messages.

5.3.2 Server-initiated messages

The server may, in the circumstances outlined in [Sections 5.4](#), use the PossResend (97) field to indicate that an application message may have already been sent under a different MsgSeqNum (34). The client should validate the contents (e.g. ExecID) of such a message against those of messages already received during the current trading day to determine whether the new message should be ignored or processed.

5.4 Transmission of missed messages

The Execution Reports generated during a period when a client is disconnected from the server will be sent to the client when it next reconnects. In the unlikely event the disconnection was due to an outage of the server, all such messages will include a PossResend (97) of "Y".

If a client is disconnected while an Open Order Download request submitted by the client is being processed by the server, requested Execution Reports will not be transmitted to the client when it next reconnects. In such situations the client is expected send the Open Order Download request to the server once the connection is re-established.

5.5 Resending previous execution reports

A client may manually inform the Service Desk that it would like the server to resend all of the Execution Reports generated during the current trading day that it is eligible to receive when it next logs in. All resent Execution Reports will include a PossResend (97) of "Y".

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

6 MESSAGE FORMATS

This section provides details on the header and trailer, the seven administrative messages and two application messages utilized by the server. Any message not included in this section will be ignored by the server. Client-initiated messages not included in this section are rejected by the server via a Reject or Business Message Reject. All fields are encoded using printable ASCII.

Customers have to ensure that all "string" fields, for client-initiated messages, contain only ASCII characters from 32 to 126 Decimals included

6.1 Supported message types

6.1.1 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 FIX session. |
| Logout | 5 | Allows the client and server to terminate a FIX 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. |
| Test Request | 1 | Allows the client or server to request a response from the other party if inactivity is detected. |
| Resend Request | 2 | Allows for the recovery of messages lost during a malfunction of the communications layers. |
| Reject | 3 | Used to reject a message that does not comply with FIXT. |
| Sequence Reset | 4 | Allows the client or server to increase the expected incoming sequence number of the other party. |

6.1.2 Application messages

6.1.2.1 CLIENT-INITIATED

| Message | MsgType | Usage |
|----------------------------------|---------|---|
| Order Mass Status Request | AF | (b) Allows the client to request the status of all active orders for a particular Trader Group. |

6.1.2.2 SERVER-INITIATED

| Message | MsgType | Usage |
|-------------------------|---------|---|
| Execution Report | 8 | Indicates one of the following: (i) Order or RFQ quote accepted (ii) Order or RFQ quote rejected (iii) Order or quote/RFQ quote executed (iv) Order or RFQ quote expired (v) Order or RFQ quote cancelled (vi) Order or quote cancel/replaced (vii) Trade cancellation (viii) Order status (ix) Order mass status request rejected |
| Business Message Reject | j | Indicates that an application message could not be processed. |

6.2 Message header and trailer

6.2.1 Message header

| Tag | Field Name | Req | Description |
|-----|------------|-----|-------------|
|-----|------------|-----|-------------|

| 8 | BeginString | Y | FIXT.1.1 | | | | | | |
|-------|-----------------------|---|---|-------|---------|---|--------------------|---|-----------------------|
| 9 | BodyLength | Y | Number of characters after this field up to and including the delimiter immediately preceding the CheckSum. | | | | | | |
| 35 | MsgType | Y | Message type. | | | | | | |
| 49 | SenderCompID | Y | CompID of the party sending the message. | | | | | | |
| 56 | TargetCompID | Y | CompID of the party the message is sent to. | | | | | | |
| 115 | OnBehalfOfCompID | N | Required for server-initiated application messages. This will be the CompID of the connection that originated the order referenced in the message being drop copied. | | | | | | |
| 34 | MsgSeqNum | Y | Sequence number of the message. | | | | | | |
| 43 | PossDupFlag | N | Whether the message was previously transmitted under the same MsgSeqNum (34). Absence of this field is interpreted as Original Transmission (N). <table border="1" data-bbox="683 1032 1254 1196"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Possible Duplicate</td> </tr> <tr> <td>N</td> <td>Original Transmission</td> </tr> </tbody> </table> | Value | Meaning | Y | Possible Duplicate | N | Original Transmission |
| Value | Meaning | | | | | | | | |
| Y | Possible Duplicate | | | | | | | | |
| N | Original Transmission | | | | | | | | |
| 97 | PossResend | N | Whether the message was previously transmitted under a different MsgSeqNum (34). Absence of this field is interpreted as Original Transmission (N). <table border="1" data-bbox="683 1391 1254 1554"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Possible Resend</td> </tr> <tr> <td>N</td> <td>Original Transmission</td> </tr> </tbody> </table> | Value | Meaning | Y | Possible Resend | N | Original Transmission |
| Value | Meaning | | | | | | | | |
| Y | Possible Resend | | | | | | | | |
| N | Original Transmission | | | | | | | | |
| 52 | SendingTime | N | Time the message was transmitted. Not required for incoming messages sent by the clients (even if sent by a client, no validation will be done). | | | | | | |
| 122 | OrigSendingTime | N | Time the message was originally transmitted. If the original time is not available, this should be the same value as SendingTime (52). Required if PossDupFlag (43) is Possible Duplicate (Y). | | | | | | |

| | | | | | |
|------|-----------------|---|--|--------------|----------------|
| 1128 | AppVerID | N | Version of FIX used in the message. Required if the message is generated by the server. | | |
| | | | | Value | Meaning |
| | | | | 9 | FIX50SP2 |
| 128 | DeliverToCompID | N | The value specified in the OnBehalfOfCompID(115) field. This will only be used in server initiated messages. | | |

6.2.2 Message trailer

| Tag | Field Name | Req | Description |
|-----|------------|-----|-------------|
| 10 | Checksum | Y | |

6.3 Administrative messages

6.3.1 Logon

| Tag | Field Name | Req | Description | | | | | | |
|------------------------|-------------------------------|-----|--|-------|---------|---|------------------------|---|-------------------------------|
| Standard Header | | | | | | | | | |
| 35 | MsgType | Y | A = Logon | | | | | | |
| Message Body | | | | | | | | | |
| 98 | EncryptMethod | Y | Method of encryption. <table border="1" data-bbox="708 909 1278 1021"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>None</td> </tr> </tbody> </table> | Value | Meaning | 0 | None | | |
| Value | Meaning | | | | | | | | |
| 0 | None | | | | | | | | |
| 108 | HeartBtInt | Y | Indicates the heartbeat interval in seconds. | | | | | | |
| 141 | ResetSeqNum Flag | N | Indicates whether the client and server should reset sequence numbers. Absence of this field is interpreted as Do Not Reset Sequence Numbers (N). <table border="1" data-bbox="708 1267 1278 1469"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Reset Sequence Numbers</td> </tr> <tr> <td>N</td> <td>Do Not Reset Sequence Numbers</td> </tr> </tbody> </table> | Value | Meaning | Y | Reset Sequence Numbers | N | Do Not Reset Sequence Numbers |
| Value | Meaning | | | | | | | | |
| Y | Reset Sequence Numbers | | | | | | | | |
| N | Do Not Reset Sequence Numbers | | | | | | | | |
| 554 | Password | N | Password assigned to the CompID. Required if the message is generated by the client. Maximum password length is 20 characters | | | | | | |
| 925 | NewPassword | N | New password for the CompID. Maximum password length is 20 characters | | | | | | |

| | | | | | |
|-------------------------|--|---|--|--------------|------------------------|
| 1409 | SessionStatus | N | Status of the FIX session or the request to change the password. Required if the message is generated by the server. | | |
| | | | | Value | Meaning |
| | | | | 0 | Session Active |
| | | | | 2 | Password Due to Expire |
| 3 | New session password does not comply with policy | | | | |
| 1137 | DefaultAppVerID | Y | Default version of FIX messages used in this session. This will be validated by the server. | | |
| | | | | Value | Meaning |
| | | | | 9 | FIX50SP2 |
| Standard Trailer | | | | | |

6.3.2 Logout

| Tag | Field Name | Req | Description |
|------------------------|------------|-----|-------------|
| Standard Header | | | |
| 35 | MsgType | Y | 5 = Logout |
| Message Body | | | |

| | | | | |
|-------------------------|---------------------------|---|--|--|
| 1409 | SessionStatus | N | Status of the FIX session. Required if the message is generated by the server. | |
| | | | Value | Meaning |
| | | | 3 | New session password does not comply with policy |
| | | | 4 | Session logout complete |
| | | | 6 | Account locked |
| | | | 7 | Logons are not allowed at this time |
| | | | 8 | Password expired |
| | | | 100 | Other |
| | | | 101 | Logout due to session level failure |
| | | | 102 | Logout by market supervision |
| 104 | Application not available | | | |
| 58 | Text | N | The field will contain the next expected sequence number if the server terminated the connection after receiving a sequence number that was less than what was expected. In other cases the field will contain the reason for the logout. | |
| Standard Trailer | | | | |

6.3.3 Heartbeat

| Tag | Field Name | Req | Description |
|------------------------|------------|-----|--|
| Standard Header | | | |
| 35 | MsgType | Y | 0 = Heartbeat |
| Message Body | | | |
| 112 | TestReqID | N | Required if the heartbeat is a response to a Test Request. The value in this field should echo the TestReqID (112) received in the Test Request. |

| |
|-------------------------|
| Standard Trailer |
|-------------------------|

6.3.4 Test request

| Tag | Field Name | Req | Description |
|-------------------------|------------|-----|-----------------------------|
| Standard Header | | | |
| 35 | MsgType | Y | 1 = Test Request |
| Message Body | | | |
| 112 | TestReqID | Y | Identifier for the request. |
| Standard Trailer | | | |

6.3.5 Resend request

| Tag | Field Name | Req | Description |
|-------------------------|------------|-----|--|
| Standard Header | | | |
| 35 | MsgType | Y | 2 = Resend Request |
| Message Body | | | |
| 7 | BeginSeqNo | Y | Sequence number of first message in range. |
| 16 | EndSeqNo | Y | Sequence number of last message in range. |
| Standard Trailer | | | |

6.3.6 Reject

| Tag | Field Name | Req | Description |
|------------------------|------------|-----|-------------|
| Standard Header | | | |
| 35 | MsgType | Y | 3 = Reject |
| Message Body | | | |

| | | | |
|-----|------------|---|--|
| 45 | RefSeqNum | Y | MsgSeqNum (34) of the rejected message. |
| 372 | RefMsgType | N | MsgType (35) of the rejected message. |
| 371 | RefTagID | N | If a message is rejected due to an issue with a particular field its tag number will be indicated. |

| | | | | |
|-----|--|---|---|--|
| 373 | SessionReject Reason | N | Code specifying the reason for the reject | |
| | | | Session Reject Reason | Meaning |
| | | | 1 | Required tag missing |
| | | | 2 | Tag not defined for this message type |
| | | | 4 | Tag specified without a value |
| | | | 5 | Value is incorrect (out of range) for this tag |
| | | | 6 | Incorrect data format for value |
| | | | 9 | CompID problem |
| | | | 10 | SendingTime accuracy problem |
| | | | 11 | Invalid MsgType |
| | | | 13 | Tag appears more than once |
| | | | 14 | Tag specified out of required order |
| | | | 15 | Repeating group fields out of order |
| | | | 16 | Incorrect NumInGroup count for repeating group |
| 18 | Invalid or unsupported application version | | | |
| 99 | Other | | | |
| 58 | Text | N | Text specifying the reason for the rejection. | |

| |
|-------------------------|
| Standard Trailer |
|-------------------------|

6.3.7 Sequence reset

| Tag | Field Name | Req | Description | | | | | | |
|-------------------------|----------------|-----|--|-------|---------|---|----------|---|----------------|
| Standard Header | | | | | | | | | |
| 35 | MsgType | Y | 4 = Sequence Reset | | | | | | |
| Message Body | | | | | | | | | |
| 36 | NewSeqNo | Y | Sequence number of the next message to be transmitted. | | | | | | |
| 123 | GapFillFlag | N | Mode in which the message is being used. Absence of this field is interpreted as Sequence Reset (N). <table border="1"><thead><tr><th>Value</th><th>Meaning</th></tr></thead><tbody><tr><td>Y</td><td>Gap Fill</td></tr><tr><td>N</td><td>Sequence Reset</td></tr></tbody></table> | Value | Meaning | Y | Gap Fill | N | Sequence Reset |
| Value | Meaning | | | | | | | | |
| Y | Gap Fill | | | | | | | | |
| N | Sequence Reset | | | | | | | | |
| Standard Trailer | | | | | | | | | |

6.4 Application messages (client-initiated)

6.4.1 Order mass status request

| Tag | Field Name | Req | Description | | | | | | | | |
|------------------------|--|-----|--|-------|---------|---|--|---|--------------------------------------|-----|---|
| Standard Header | | | | | | | | | | | |
| 35 | MsgType | Y | AF = Order Mass Status Request | | | | | | | | |
| Message Body | | | | | | | | | | | |
| 584 | MassStatusReqID | Y | Client specified identifier of the mass status request. | | | | | | | | |
| 585 | MassStatusReqType | Y | Type of mass status request. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>All open orders for a specified security</td> </tr> <tr> <td>8</td> <td>All open orders of specified PartyID</td> </tr> <tr> <td>100</td> <td>All open orders for a specified segment</td> </tr> </tbody> </table> | Value | Meaning | 1 | All open orders for a specified security | 8 | All open orders of specified PartyID | 100 | All open orders for a specified segment |
| Value | Meaning | | | | | | | | | | |
| 1 | All open orders for a specified security | | | | | | | | | | |
| 8 | All open orders of specified PartyID | | | | | | | | | | |
| 100 | All open orders for a specified segment | | | | | | | | | | |
| 48 | SecurityID | N | Identifier of the instrument the order mass status is requested for. Required if MassStatus ReqType (585) is '1' | | | | | | | | |
| 22 | SecurityIDSource | N | Identifier of the source of the SecurityID (48) value. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>Exchange Symbol</td> </tr> </tbody> </table> | Value | Meaning | 8 | Exchange Symbol | | | | |
| Value | Meaning | | | | | | | | | | |
| 8 | Exchange Symbol | | | | | | | | | | |
| 1300 | MarketSegmentID | N | Identifier of the segment the order mass status is requested for. Required if MassStatus ReqType (585) is '100' | | | | | | | | |

| 453 | NoPartyIDs | | Y | Number of party identifiers. The value in this field can be "1" | | | | |
|-------------------------|-------------------------|----------------|---|--|-------|---------|----|-------------------------|
| ➔ | 448 | PartyID | Y | Identifier of the Trader Group. | | | | |
| ➔ | 447 | PartyID Source | Y | <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>Proprietary/Custom Code</td> </tr> </tbody> </table> | Value | Meaning | D | Proprietary/Custom Code |
| Value | Meaning | | | | | | | |
| D | Proprietary/Custom Code | | | | | | | |
| ➔ | 452 | Party Role | Y | Role of the PartyID (448). <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>76</td> <td>Trader Group</td> </tr> </tbody> </table> | Value | Meaning | 76 | Trader Group |
| Value | Meaning | | | | | | | |
| 76 | Trader Group | | | | | | | |
| Standard Trailer | | | | | | | | |

6.5 Application messages (server-initiated)

6.5.1 Execution report

| Tag | Field Name | Req | Description |
|------------------------|------------|-----|--|
| Standard Header | | | |
| 35 | MsgType | Y | 8 = Execution Report |
| Message Body | | | |
| 1180 | ApplID | Y | Identity of the partition that generated the message. |
| 17 | ExecID | Y | Server specified identifier of the message. This will be a base 62 encoded value in ASCII format. Will be "0" if ExecType (150) is Order Status (I). |
| 11 | ClOrdID | Y | Client specified identifier of the order. |

| 41 | OrigCLOrdID | N | <p>OrigCLOrdID (41), if any that was submitted with the order cancel or cancel/replace request.</p> <p>Will be filled with the actual original client order ID of the order irrespective of the fact whether OrigCLOrdID was specified (valid or invalid value) or not in the order cancel or cancel/replace request.</p> <p>Note that if the order cancel or cancel/replace was unsolicited, this field will not be stamped.</p> | | | | |
|-------|-------------------|---|---|-------|---------|---|--------------|
| 37 | OrderID | Y | Server specified identifier of the order with 11 characters. This will be a base 62 encoded value in ASCII format. | | | | |
| 584 | MassStatus ReqID | N | Client specified identifier of the Order Mass Status Request. Required is the message in sent in response to such a request. | | | | |
| 912 | LastRpt Requested | N | Indicates the last message sent in response to a mass order status request. This will be set for the last message sent for each partition. | | | | |
| | | | <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Last Message</td> </tr> </tbody> </table> | Value | Meaning | Y | Last Message |
| Value | Meaning | | | | | | |
| Y | Last Message | | | | | | |

| | | | | |
|-----|-------------------------|---|--|-----------------------------|
| 150 | ExecType | Y | Reason the execution report was generated. | |
| | | | Value | Meaning |
| | | | 0 | New |
| | | | 4 | Cancelled |
| | | | 5 | Replaced |
| | | | 8 | Rejected |
| | | | C | Expired |
| | | | D | Restated |
| | | | F | Trade |
| | | | H | Trade Cancel |
| | | | I | Order Status |
| G | Trade Correct | | | |
| 880 | TrdMatchID | N | Identifier of the trade. This will be a 62 base encoded value in ASCII format. Required if ExecType (150) is Trade (F), Trade Correct (G) or Trade Cancel (H). | |
| 19 | ExecRefID | N | Reference to the execution being cancelled. Required if ExecType (150) is Trade Cancel (H) or Trade Correct (G). | |
| 378 | Exec Restatement Reason | N | Reason the order was restated. Required if ExecType (150) is Restated (D) or if the execution report is sent for an unsolicited cancellation | |
| | | | Value | Meaning |
| | | | 8 | Market Option |
| | | | 5 | Partial decline of OrderQty |

| | | | | |
|------|------------------------|---|--|---|
| 39 | OrdStatus | Y | Current status of the order. | |
| | | | Value | Meaning |
| | | | 0 | New |
| | | | 1 | Partially Filled |
| | | | 2 | Filled |
| | | | 4 | Cancelled |
| | | | 8 | Rejected |
| C | Expired | | | |
| 103 | OrdRejReason | N | Code specifying the reason for the reject. Populated always if ExecType (150) is Rejected (8) and in certain cases for expirations (ExecType = C). | |
| | | | OrdRej Reason | Meaning |
| | | | 2 | Exchange closed |
| | | | 5 | Unknown order |
| | | | 6 | Duplicate order (ie. Duplicate ClOrdID) |
| | | | 16 | Price exceeds current price band |
| | | | 18 | Invalid price increment |
| 1904 | Invalid Order Capacity | | | |
| 58 | Text | N | Text specifying the reason for the rejection, cancellation or expiration | |
| 32 | LastQty | N | Quantity executed in this fill. Required if ExecType (150) is Trade (F) or Trade Correct (G). | |

| | | | | |
|-------|------------------|---|--|-----------------|
| 31 | LastPx | N | Price of this fill. Required if ExecType (150) is Trade (F) or Trade Correct (G). Will not be populated if Exec Type (150) is Restated (D). | |
| 669 | LastParPx | N | Price of this fill expressed in price units. Optionally computed if LastPx(31) is specified and the trade is for a fixed income instrument quoted on discount rate or yield. | |
| 30005 | ConvertedYield | N | Converted yield value of an order's limit price. If computed, it will be on the Price (44) of an order belonging to a fixed income instrument quoted on percentage-of-par (i.e. on price). | |
| 32021 | ParPx | N | Converted clean price of an order's limit price. If computed, it will be on the Price (44) of an order belonging to a fixed income instrument quoted on discount rate or yield. | |
| 236 | Yield | N | Implied yield of this Optionally computed if LastPx (31) is specified and the trade is for a fixed income instrument quoted on price. | |
| 151 | LeavesQty | Y | Quantity available for further execution. Will be "0" when the order moves to a terminal state. | |
| 14 | CumQty | Y | Total cumulative quantity filled. Will always be "0" in the case of a quote. | |
| 48 | SecurityID | Y | Identifier of the instrument. | |
| 22 | SecurityIDSource | Y | Identifier of the source of the SecurityID (48) value. | |
| | | | Value | Meaning |
| | | | 8 | Exchange Symbol |
| 453 | NoPartyIDs | Y | Number of party identifiers. The value in this field can be "4" or "5" or "6". | |

| ➔ | 448 | PartyID | Y | <p>Identifier of the party.</p> <p>This could contain a value stated below or a code/identifier (i.e. 4 - 4294967295) provided by the user depending on the value specified in the Party Role (452) field.</p> <table border="1" data-bbox="826 600 1310 1066"> <thead> <tr> <th data-bbox="826 600 1029 692">Value</th> <th data-bbox="1029 600 1310 692">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 692 1029 784">0</td> <td data-bbox="1029 692 1310 784">None</td> </tr> <tr> <td data-bbox="826 784 1029 875">1</td> <td data-bbox="1029 784 1310 875">AGGR</td> </tr> <tr> <td data-bbox="826 875 1029 967">2</td> <td data-bbox="1029 875 1310 967">PNAL</td> </tr> <tr> <td data-bbox="826 967 1029 1066">3</td> <td data-bbox="1029 967 1310 1066">CLIENT</td> </tr> </tbody> </table> | Value | Meaning | 0 | None | 1 | AGGR | 2 | PNAL | 3 | CLIENT |
|-------|-------------------------|----------------|---|--|-------|---------|---|-------------------------|---|------------|---|------|---|--------|
| Value | Meaning | | | | | | | | | | | | | |
| 0 | None | | | | | | | | | | | | | |
| 1 | AGGR | | | | | | | | | | | | | |
| 2 | PNAL | | | | | | | | | | | | | |
| 3 | CLIENT | | | | | | | | | | | | | |
| ➔ | 447 | PartyID Source | Y | <table border="1" data-bbox="826 1122 1310 1285"> <thead> <tr> <th data-bbox="826 1122 943 1178">Value</th> <th data-bbox="943 1122 1310 1178">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 1178 943 1234">D</td> <td data-bbox="943 1178 1310 1234">Proprietary/Custom Code</td> </tr> <tr> <td data-bbox="826 1234 943 1285">P</td> <td data-bbox="943 1234 1310 1285">Short Code</td> </tr> </tbody> </table> | Value | Meaning | D | Proprietary/Custom Code | P | Short Code | | | | |
| Value | Meaning | | | | | | | | | | | | | |
| D | Proprietary/Custom Code | | | | | | | | | | | | | |
| P | Short Code | | | | | | | | | | | | | |

| ➔ | 452 | Party Role | Y | <p>Role of the PartyID (448). It is mandatory to have Party Role Trader Group (76), Client ID (3) Investor ID (122) and Executing Trader (12).</p> <p>Counterparty Firm (17) will only be populated if Exec Type (150) is set to any of the following values:</p> <ul style="list-style-type: none"> Trade (F), Trade Cancel (H) or Trade Correct (G) for any order . <p>If a trade is cleared, the Counterparty Firm (17) will be populated with CCP</p> <table border="1" data-bbox="826 972 1321 1391"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>Trader ID</td> </tr> <tr> <td>17</td> <td>Counterparty Firm</td> </tr> <tr> <td>76</td> <td>Trader Group</td> </tr> <tr> <td>3</td> <td>Client ID</td> </tr> <tr> <td>122</td> <td>Investment Decision Maker</td> </tr> <tr> <td>12</td> <td>Executing Trader</td> </tr> </tbody> </table> | Value | Meaning | 100 | Trader ID | 17 | Counterparty Firm | 76 | Trader Group | 3 | Client ID | 122 | Investment Decision Maker | 12 | Executing Trader |
|-------|---------------------------|---------------------|---|--|-------|---------|-----|-----------|----|----------------------|----|----------------|---|-----------|-----|---------------------------|----|------------------|
| Value | Meaning | | | | | | | | | | | | | | | | | |
| 100 | Trader ID | | | | | | | | | | | | | | | | | |
| 17 | Counterparty Firm | | | | | | | | | | | | | | | | | |
| 76 | Trader Group | | | | | | | | | | | | | | | | | |
| 3 | Client ID | | | | | | | | | | | | | | | | | |
| 122 | Investment Decision Maker | | | | | | | | | | | | | | | | | |
| 12 | Executing Trader | | | | | | | | | | | | | | | | | |
| ➔ | 2376 | PartyRole Qualifier | N | <p>Provides a further qualification for the value specified in the Party Role (452)</p> <p>Mandatory if Party Role (452) is set to 3, 12 or 122 when the PartyID is a short code (i.e. 4-4294967295)</p> <table border="1" data-bbox="826 1671 1321 2040"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>22</td> <td>Algorithm</td> </tr> <tr> <td>23</td> <td>Firm or Legal Entity</td> </tr> <tr> <td>24</td> <td>Natural Person</td> </tr> </tbody> </table> | Value | Meaning | 22 | Algorithm | 23 | Firm or Legal Entity | 24 | Natural Person | | | | | | |
| Value | Meaning | | | | | | | | | | | | | | | | | |
| 22 | Algorithm | | | | | | | | | | | | | | | | | |
| 23 | Firm or Legal Entity | | | | | | | | | | | | | | | | | |
| 24 | Natural Person | | | | | | | | | | | | | | | | | |

| 1 | Account | N | Client reference information. | | | | | | |
|-------|-----------------------------|---|---|-------|---------|---|-----------------------------|---|-------|
| 40 | OrdType | Y | Value submitted with the order. | | | | | | |
| 59 | TimeInForce | N | Value submitted with the order | | | | | | |
| 54 | Side | Y | Value submitted with the order. | | | | | | |
| 38 | OrderQty | Y | Value submitted with the order. For quotes, the quantity may not always be set to the bid or offer size submitted with the last quote. Refer the appendix for further details | | | | | | |
| 1138 | DisplayQty | N | Quantity currently displayed in the order book. | | | | | | |
| 1084 | DisplayMethod | N | Whether the order is a reserve order. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Undisclosed (Reserve Order)</td> </tr> </tbody> </table> | Value | Meaning | 4 | Undisclosed (Reserve Order) | | |
| Value | Meaning | | | | | | | | |
| 4 | Undisclosed (Reserve Order) | | | | | | | | |
| 110 | MinQty | N | If a value is specified it should be ignored. | | | | | | |
| 44 | Price | N | Value submitted with the order. | | | | | | |
| 1091 | PreTrade Anonymity | N | Value submitted with the order. Absence of this field is interpreted as Anonymous (Y). | | | | | | |
| 581 | AccountType | N | Type of account associated with the order. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Client</td> </tr> <tr> <td>3</td> <td>House</td> </tr> </tbody> </table> | Value | Meaning | 1 | Client | 3 | House |
| Value | Meaning | | | | | | | | |
| 1 | Client | | | | | | | | |
| 3 | House | | | | | | | | |

| | | | | |
|-------|---|---|---|---|
| 528 | OrderCapacity | Y | Capacity of the order. | |
| | | | Value | Meaning |
| | | | A | Any other trading capacity (AOTC) - Agency |
| | | | P | Dealing on own account (DEAL) - Principal |
| | | | G | Dealing on own account (DEAL) - Proprietary |
| | | | R | Matched Principal (MTCH) |
| U | Dealing on own account (DEAL) – Unmatched Principal | | | |
| 60 | TransactTime | Y | Time the transaction represented by the Execution Report occurred. | |
| 526 | SecondaryCIOrdID | N | Value submitted with the order. | |
| 583 | CIOrdLinkID | N | Value submitted with the order. | |
| 9730 | TradeLiquidityIndicator | N | Whether the order added or removed liquidity. | |
| | | | Required if Exec Type (150) is set to Trade (F) or Trade Cancel (H). For other Exec Types, the value in this field should be ignored. | |
| | | | This field will not be populated for RFQ trades. | |
| | | | Possible values are: | |
| | | | Value | Meaning |
| | | | A | Added Liquidity |
| | | | R | Removed Liquidity |
| 30004 | OrderSource | N | Value submitted with the order. | |
| 6 | AvgPx | N | Average price of all fills for an order, a side of quote or RFQ. Will be updated for trade cancels as well. | |

| | | | | | |
|-------|----------------------|-----------------------|---|--|--|
| 18 | ExecInst | | N | Value submitted with the order. If not defined on new order message, will be the default applied according to order's owner's user setup. | |
| 30001 | OrderBook | | Y | Value | Meaning |
| | | | | 1 | Regular |
| | | | | 11 | RFQ Trades (Not applicable to orders) |
| 278 | MDEntryID | | Y | Public Order ID | |
| 20000 | TypeOfTrade | | N | Indicates whether the executed portion is visible or hidden. Required only if ExecType (150) = F - Trade. Value / Meaning 0 Visible 1 Hidden 2 Not specified (ie. Ignore this field) | |
| 30006 | RFQID | | N | Server specified identifier of a private RFQ. | |
| 694 | QuoteRespType | | N | Value | Meaning |
| | | | | 3 | Expired |
| | | | | 11 | Cancelled (This value is only populated when the RFQ quotes are mass cancelled.) |
| 2668 | NoTrdRegPublications | | N | The number of regulatory publication rules in the repeating group. | |
| ➔ | 2669 | TrdRegPublicationType | N | Specifies the type of regulatory trade publication. | |
| | | | | Value | Meaning |
| | | | | 0 | Pre-trade transparency waiver |

| ➔ | 2670 | TrdRegPublicationReason | N | <p>Additional reason for trade publication type specified in TrdRegPublicationType(2669). Reasons may be specific to regulatory trade publication rules. This field will be populated when ExecType is F and H.</p> <table border="1" data-bbox="826 622 1323 857"> <thead> <tr> <th data-bbox="826 622 963 674">Value</th> <th data-bbox="963 622 1323 674">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 674 963 763">4</td> <td data-bbox="963 674 1323 763">Pre-trade ILQD (only valid in the quote ER)</td> </tr> <tr> <td data-bbox="826 763 963 857">5</td> <td data-bbox="963 763 1323 857">Pre-trade SIZE (only valid in the quote ER)</td> </tr> </tbody> </table> | Value | Meaning | 4 | Pre-trade ILQD (only valid in the quote ER) | 5 | Pre-trade SIZE (only valid in the quote ER) |
|-------|---|-------------------------|---|--|-------|---------|---|---|---|---|
| Value | Meaning | | | | | | | | | |
| 4 | Pre-trade ILQD (only valid in the quote ER) | | | | | | | | | |
| 5 | Pre-trade SIZE (only valid in the quote ER) | | | | | | | | | |
| 2593 | NoOrderAttributes | | N | No of Order Attributes | | | | | | |
| ➔ | 2594 | OrderAttributeType | N | <p>Indicates if the order was generated via an algorithm.</p> <table border="1" data-bbox="826 1084 1323 1361"> <thead> <tr> <th data-bbox="826 1084 1026 1173">Value</th> <th data-bbox="1026 1084 1323 1173">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 1173 1026 1263">4</td> <td data-bbox="1026 1173 1323 1263">Algorithm</td> </tr> <tr> <td data-bbox="826 1263 1026 1361">2</td> <td data-bbox="1026 1263 1323 1361">Reserved</td> </tr> </tbody> </table> | Value | Meaning | 4 | Algorithm | 2 | Reserved |
| Value | Meaning | | | | | | | | | |
| 4 | Algorithm | | | | | | | | | |
| 2 | Reserved | | | | | | | | | |
| ➔ | 2595 | OrderAttributeValue | N | <p>Mandatory if OrderAttributeType (2594) is specified</p> <table border="1" data-bbox="826 1487 1323 1677"> <thead> <tr> <th data-bbox="826 1487 1026 1576">Value</th> <th data-bbox="1026 1487 1323 1576">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 1576 1026 1677">Y</td> <td data-bbox="1026 1576 1323 1677">Yes</td> </tr> </tbody> </table> | Value | Meaning | Y | Yes | | |
| Value | Meaning | | | | | | | | | |
| Y | Yes | | | | | | | | | |

| 1724 | OrderOrigination | N | <p>Indicates whether the order or quote was generated via Direct Electronic Access (DEA) or not. Only the following values will be accepted.</p> <table border="1" data-bbox="826 521 1310 707"> <thead> <tr> <th data-bbox="826 521 1031 611">Value</th> <th data-bbox="1031 521 1310 611">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 611 1031 707">5</td> <td data-bbox="1031 611 1310 707">DEA</td> </tr> </tbody> </table> | Value | Meaning | 5 | DEA | | | | | | |
|-------|----------------------------------|---|---|-------|---------|---|---------|---|-----------------------|---|--------------|---|----------------------------------|
| Value | Meaning | | | | | | | | | | | | |
| 5 | DEA | | | | | | | | | | | | |
| 33005 | DelayPublicationInstruction | N | <p>Denotes the publication instruction of the delayed RFQ trade. Only populated for RFQ Trades which are disseminated to the Requester and the matched Market Maker.</p> <p>Absence of this field is interpreted as 'Immediately Published'.</p> <table border="1" data-bbox="826 1189 1310 1570"> <thead> <tr> <th data-bbox="826 1189 943 1279">Value</th> <th data-bbox="943 1189 1310 1279">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 1279 943 1346">1</td> <td data-bbox="943 1279 1310 1346">Delayed</td> </tr> <tr> <td data-bbox="826 1346 943 1413">2</td> <td data-bbox="943 1346 1310 1413">Delayed and Published</td> </tr> <tr> <td data-bbox="826 1413 943 1480">3</td> <td data-bbox="943 1413 1310 1480">Pre-released</td> </tr> <tr> <td data-bbox="826 1480 943 1570">4</td> <td data-bbox="943 1480 1310 1570">Delayed and Published in advance</td> </tr> </tbody> </table> | Value | Meaning | 1 | Delayed | 2 | Delayed and Published | 3 | Pre-released | 4 | Delayed and Published in advance |
| Value | Meaning | | | | | | | | | | | | |
| 1 | Delayed | | | | | | | | | | | | |
| 2 | Delayed and Published | | | | | | | | | | | | |
| 3 | Pre-released | | | | | | | | | | | | |
| 4 | Delayed and Published in advance | | | | | | | | | | | | |

| 33007 | ContraOrderBook | N | <p>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.</p> <p>Absence of this field is interpreted as RFQ Trades book for RFQ related executions.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Regular</td> </tr> </tbody> </table> | Value | Meaning | 1 | Regular |
|-------------------------|-----------------|---|--|-------|---------|---|---------|
| Value | Meaning | | | | | | |
| 1 | Regular | | | | | | |
| 27020 | DecimalTVTIC | N | This is the decimal value of the base 36/62 encoded TradeMatchID (Fix Tag: 880) | | | | |
| Standard Trailer | | | | | | | |

6.6 Application Messages: Others

6.6.1 Business Message Reject

| Tag | Field Name | Req | Description |
|------------------------|------------|-----|--|
| Standard Header | | | |
| 35 | MsgType | Y | j = Business Message Reject |
| Message Body | | | |
| 45 | RefSeqNum | Y | MsgSeqNum (34) of the rejected message. |
| 371 | RefTagID | N | If a message is rejected due to an issue with a particular field its tag number will be indicated. |
| 372 | RefMsgType | Y | MsgType (35) of the rejected message. |

| | | | |
|-------------------------|-----------------------|---|--|
| 379 | BusinessReject RefID | N | Client specified identifier (e.g. ClOrdID, QuoteMsgID, etc.) of the rejected message if it is available. |
| 380 | BusinessReject Reason | Y | Code specifying the reason for the rejection. |
| 58 | Text | N | Text specifying the reason for the rejection. |
| Standard Trailer | | | |

7 REJECT CODES

7.1 Reject

| Session Reject Reason | Meaning |
|-----------------------|--|
| 1 | Required tag missing |
| 2 | Tag not defined for this message type |
| 4 | Tag specified without a value |
| 5 | Value is incorrect (out of range) for this tag |
| 6 | Incorrect data format for value |
| 9 | CompID problem |
| 11 | Invalid MsgType |
| 13 | Tag appears more than once |
| 14 | Tag specified out of required order |
| 15 | Repeating group fields out of order |
| 16 | Incorrect NumInGroup count for repeating group |
| 18 | Invalid or unsupported application version |
| 99 | Other |

7.2 Execution report

| OrdRej Reason | Meaning |
|---------------|---|
| 1 | Unknown SecurityID |
| 2 | Exchange closed |
| 5 | Unknown order |
| 6 | Duplicate order (i.e. duplicate ClOrdID) |
| 16 | Price exceeds current price band |
| 18 | Invalid price increment |
| 20 | SecurityID/SecurityIDSource not specified |
| 10000 | No open orders for specified Party ID |
| 10001 | Request limit for day reached |
| 10003 | Order download not permitted for specified Party ID |
| 10004 | Not authorised to request an open order download |
| 10005 | Open order download not permitted at this time |
| 10006 | Unknown Party ID |
| 10008 | No open orders for specified instrument |
| 10009 | Segment not Specified |
| 10010 | Unknown Segment |
| 10011 | No open orders for specified segment |

7.3 Business Message Reject

| OrdRej Reason | Meaning |
|---------------|--------------------------|
| 0 | Other |
| 3 | Unsupported Message Type |
| 4 | Application unavailable |

8 APPENDIX

8.1 Quantity Calculation for Quotes

The quantity of a partially executed quote is calculated differently to an order when the quote is amended. When amending a quote, the bid/ offer quantity of the latest quote amendment is considered as the leaves quantity. Then the quantity of the relevant side of the quote is derived by adding this leaves quantity and the total executed quantity of the quote (for the corresponding side).

Note that the Cumulative Executed Size is sent as 0 in the Execution Report for Quotes.

For example:

- Submit a dual sided quote - Bid 2000@10.25 and Offer 1800@10.28
- The bid executes partially for 300@10.25. The Execution Report sent out for the partial execution will have;
 - Order Quantity = 2000
 - Leaves Quantity = 1700
 - Executed Quantity = 300
- Submit another quote by the same user for the same instrument - Bid 2000@10.23 and Offer 1800@10.28
- The bid executes partially for 225@10.23. The Execution Report sent out for the partial execution will have;
 - Order Quantity = 2300 (New Leaves Qty + Total Executed Size = 2000 + 300 = 2300)
 - Leaves Quantity = 1775 (New Leaves Qty - Executed Size = 2000 - 225 = 1775)
 - Executed Quantity = 225
- Submit a dual sided quote - Bid 2000@10.25 and Offer 1800@10.28
- The bid executes partially for 300@10.25. The Execution Report sent out for the partial execution will have;
 - Order Quantity = 2000

- Leaves Quantity = 1700
 - Executed Quantity = 300
- Submit another quote by the same user for the same instrument - Bid 1500@10.23 and Offer 1800@10.28
- The bid executes partially for 225@10.23. The Execution Report sent out for the partial execution will have;
 - Order Quantity = 1800 (New Leaves Qty + Total Executed Size = 1500 + 300 = 1800)
 - Leaves Quantity = 1275 (New Leaves Qty - Executed Size = 1500 - 225 = 1275)
 - Executed Quantity = 225

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