MIT204 – POST TRADE GATEWAY (FIX 5.0)

Issue 17.0

5 Jan 2024
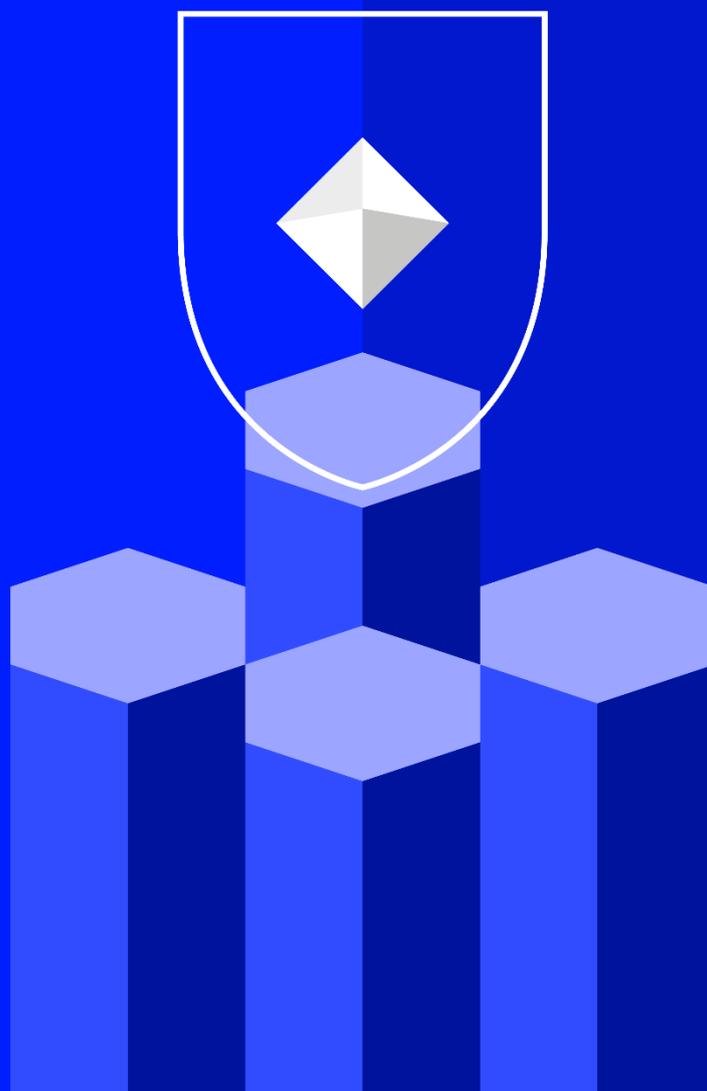
LONDON STOCK EXCHANGE

Contents

Disclaimer

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1.0 Introduction

London Stock Exchange provides a post trade gateway that will enable member firms to receive real-time information on executed trades. This interface cannot be used to submit orders or quotes 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.

1.1   Purpose

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

1.2   Readership

This document outlines how to connect to the post trade 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 London Stock Exchange customers require to develop to the new services.

This document is particularly relevant to technical staff within the Exchange's member firms.

1.3   Document series

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

The current series of documents are set out below:

– MIT201 – Guide to the New Trading System

  – MIT202 – FIX Trading (FIX 5.0) Gateway Specification
  – MIT203 – Native Trading Gateway Specification
  – MIT204 – Post Trade Gateway (FIX 5.0) Specification (this document)
  – MIT205 – Drop Copy Gateway (FIX 5.0) Specification

– MIT301 – Guide to Market Data Services

  – 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 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 document.

The latest version of this document series can be found via 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 following 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	14 June 2011	New logon functionality will now be introduced in the next functional release which is yet to be scheduled. Please refer to page 16.
9.0	23 September 2011	Ninth issue of this document published via London Stock Exchange's website and distributed to customers.
10.0	9 December 2011	Tenth issue of this document published via London Stock Exchange's website and distributed to customers.
10.1	21 December 2011	Removed unused Trade Sub Types.
10.2	28 September 2012	Amended to include new PriceDifferential tag. Published on London Stock Exchange's website and distributed to customers.
10.3	1 November 2012	Amended to include Connectivity Policy section 3.4.
10.4	22 March 2013	Amended to reflect the latest Millennium enhancements.
10.4	25 April 2013	Update to Tag 1123 in Section 7.3.1.
11.0	5 July 2013	Amended to reflect the latest Millennium enhancements.
11.1	26 July 2013	Introduction of Client and Server initiated TCRs and some further amendments to reflect the latest Millennium enhancements.
11.1	25 November 2013	Amended to reflect Description changes to Trade Capture Report – Client Initiated. Section 7.3.1.
11.2	2 June 2014	Amended to reflect the latest Millennium enhancements. Sections 2.7; 7.3.2 and 2.8.1.2.
11.3	31 October 2014	Amended to reflect rebranding ITCH to MITCH.
11.4	21 January 2015	The following sections have been amended to support the new Cross Order functionality and additional amendments. 2.4 – Removed TradePublishIndicator(1390) from Gateway level field validation. 2.7.1.5 – Clarification on the values for the MatchStatus (573) and TransactTime (60) fields in the acknowledgement of a Cancellation Request. 2.7.1.8 – Clarification on the values for the MatchStatus (573) and TransactTime (60) fields in the acknowledgement of a pre-release request. 2.8.1.2 – Clarification on the requirements for the NoSides(552) block when submitting an on-book trade cancellation request. 4.1 – Further clarifications on logon behaviour. 5.4.1.1 – Further clarifications on the AppLastSeqNum (1350) and ApplSeqNum (1181) fields in messages sent by the server. 7.3.2 – Addition of two new fields, Cross ID (548) and Cross Type (549), in the server-initiated Trade Capture Report message to support the new Cross Order functionality. 7.3.6 – Clarification on the value provided in the TransactTime (60) field in a Trade Capture Report Ack message. See 'MIT902 – Cross Orders Message Change Guidelines' for full details on all changes.

Issue	Date	Description
11.5	16 June 2015	The following sections have been amended:
		2.1.2.1 – Added some clarifications of existing behaviour.
		2.7.1.1 – Clarification of system behaviour if tag 76 not specified on a trade report.
		3.4 – Clarification of system behaviour and expected customer actions upon successful connection to the secondary gateway following a primary gateway failover.
		3.5 – New standard section on message rate throttling.
		4.1 – Clarification of system behaviour if messages are sent before the exchange of logon.
		4.2.2 – Description of system behaviour if a heartbeat interval of 0 is specified at logon.
		6.3 – Tidied document by merging sections 6.3 and 6.4. Also corrected MsgType (j not J) for Business Message Reject.
		7.3.1 – Clarification of system behaviour if tag 1123 is omitted on a PC trade cancellation request. Improved description of tag 528 OrderCapacity and tag 828 TrdType.
		7.3.2 – Corrected table formatting for tag 829 TrdSubType so that code 1022/QF is visible. Removed PriceDifferential – no longer in use.
11.6	17 August 2015	The following section has been amended:
		3.5 – Clarified behaviour of message rate throttling
11.7	16 August 2016	The following sections have been amended to aid clarity and also to reflect the changes introduced in Millennium 9.1 upgrade:
		2.1.2.1 – Clarified Trade Capture Report Requests behaviour.
		2.4 – Added SecurityID(48), removed TradeHandlingInstr(1123) and PartyID(448) from the gateway level validations.
		2.5 – Clarified SendingTime(52) behaviour.
		4.1 – Clarified Establishing a Connection behaviour.
		7.0 – Amended the behaviour of what happens when an undefined tag is sent along with Administrative and Application messages.
		7.3.1 – Clarified TransactTime behaviour.
		7.3.1, 7.3.2, 7.3.3 – Added enums for RFQ Trades.
		7.3.6 – Clarified TradeID behaviour. Added ApplLastSeqNum and ApplSeqNum fields.
		9.0 – Corrected Telnet Access time.
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:
		The interface will only support:
		i. The late cancellation of on-book trades (TrdSubType (829) = 24 = PC) ii. The cancellation of an on-book trade on the same day as the trade iii. The query/request of TCRs iv. Real-time TCRs
		Throughout the document, the request to perform a late cancellation of on-book trades will be referred to as 'PC trade reporting'.
		All off-book trade reporting functionality will be moved to TRADEcho in June 2017.
		2.4.1, 2.10.3 – Clarified Party Identification behaviour.
		2.5, 2.10.1– Clarified Timestamps and dates behaviour.
		2.10.2 – Added section on Pre-trade Waiver Flags.
		2.10.4, 7.3.1, 7.3.2 – Clarified Order Capacities.

Issue	Date	Description
		7.1.1 – Clarified DeliverToCompID (128) behaviour.
		7.3.1 – Added NoTrdRegPublications (2668) repeating group for Post-trade Waiver Flags.
		7.3.2 – Clarified PartyID (448), PartyIDSource (447), PartyRole (452) behaviour and added new enums. Added PartyRoleQualifier (2376), AlgorithmicTradeIndicator (2667) and OrigTradeDate (1125) tags. Added OrderOrigination (1724) repeating group. Added MarketID (1301) and NoTrdRegPublications (2668) repeating group.
		Renamed all instances of enum 12 to 100 for Trader ID in PartyRole (452).
11.8.1	27 June 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:
		7.3.2 – Added enum 'G' to ExecType (150). Clarified TradeReportRefID behaviour.
11.8.2	15 August 2017	The following sections have been amended to aid clarity:
		7.2.6 – Clarified SessionRejectReason (373) behaviour.
		7.3.2 – Added enum 5 to TradeReportType (856).
		7.3.6 – Clarified TradeReportReject Reason (751) behaviour.
		7.3.9 – Clarified BusinessRejectReason (380) behaviour.
		8 – Removed Reject codes section since MIT801 has all the relevant reject codes and reasons.
11.9	28 August 2018	The following sections have been amended to aid clarity:
		7.3.1 – Description of SettlDate (64) is updated to clarify the supported format.
		7.3.1 – Description of OrderCapacity (528) is updated to removed references to pre-MIFIDII values.
		7.3.2 – Description of PartyID (448) is updated.
		7.3.2 – Description of OrderCapacity (528) is updated to removed references to pre-MIFIDII values.
12.0	5 June 2019	7.3.2 – Included the new field ContraOrderBook (33007) for RFQ trades executed against the orders in the normal order book.
13	25 March 2020	7.3.2 – Reference to trade amend was removed in TradeReportType (856) and ExecType (150).
		8 – Timings were corrected.
14	17 July 2020	London Stock Exchange Release 9.5.9
		6.4 – Description of section was updated to include new custom tag DecimalTVTIC (27020).
		7.3.2, 7.3.8 – DecimalTVTIC (27020) – New tag was added.
		7.3.2, 7.3.8 – Description of Trade ID (1003) was updated to clarify that base 10 format will be available.
15	11 February 2021	London Stock Exchange Release 9.6.0
		7.3.2 – Added new tag ProductComplex (1227).
16	21 July 2021	London Stock Exchange Release 9.6.12
		7.3.1, 7.3.2,– ClOrdID, Account – Field description updated with invalid character replacement criteria.

Issue	Date	Description
16.1	02 September 2021	London Stock Exchange Release 9.6.12
		7.3.1 Account – Field description updated with invalid character replacement criteria.
		7.3.2 Account,ClOrdId field description further updated to clarify ASCI (0) as a valid character to use.

Issue	Date	Description
17.0	5 Jan 2024	7.3.2 - Cross/BTF orders related fields removed as this order type is currently unavailable in production.
		Release 1.23.3.0 changes:
		7.3.2 New value CLSE (Closing price trade) is added in TrdType(828)

Within this document, where amendments have been made to the previous version, 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 description

Clients will receive real-time information on the trades executed on the Exchange along with notifications of any trade cancel or correction. The details of trades executed on previous trading days are not available via this service.

2.1 Connection configuration

A member firm connection will be configured by the Exchange to receive all of its trades. If required, a member firm could be configured to only receive trades for selected users and securities.

For the purpose of redundancy, the service supports the configuration of multiple post trade connections to send the same information on the activity of the selected firms/mnemonics.

2.1.1 Real-time connections

A real-time client will receive the details of each eligible trade immediately after it is executed. Please refer to Section 5 for a description of how the trades executed during the time a real-time client is disconnected from the server may be recovered.

2.1.2 Query-based service

A query-based client will not receive any real-time notifications of its eligible trades. Such clients are expected to request the server for the details of trades as and when they are needed as outlined below.

2.1.2.1 Trade Capture Report Requests/Own Trade Book Download

A client may use the Trade Capture Report Request message to request the details of all eligible trades or those that meet certain criteria. The server will respond with a Trade Capture Report Request Ack to indicate, via the TradeRequestStatus (750) and Trade RequestResult (749) fields, whether the request is successful or not. However, if the Trade Capture Report Request message is rejected due to some invalid tag/value pairs, a Reject message can also be generated as the response.

If a request is accepted, the number of Trade Capture Reports that will be sent in response to the request will be indicated in the TotNumTradeReports (748) field of the Trade Capture Report Request Ack. The server will transmit the requested Trade Capture Reports immediately after the Trade Capture Report Request Ack. Each Trade Capture Report will include the TradeRequestID (568) of the request it is sent in response to. The last Trade Capture Report will include a LastRptRequested (912) of Last Message (Y).

If a request is rejected, the reason will be specified in the field TradeRequestResult (749) of the Trade Capture Report Request Ack.

The Trade Capture Report Request message can only be used to request a snapshot of the current eligible trades. It cannot be used to subscribe to Trade Capture Reports.

Note that the sequence of Trade Capture Reports disseminated based on a Trade Capture Report Request will be that of the sequence of submission of the trades, provided the request is for trades constrained to a single partition. If the request is for trades belonging to multiple partitions, the sequence of Trade Capture Reports disseminated may not be in the sequence of original submission.

Request for all Trades

The Trade Capture Report Request should include a TradeRequestType (569) of All Trades (0) if the client wishes to request the details of all eligible trades.

Request for selected Trades

The Trade Capture Report Request should include a TradeRequestType (569) of Trades Matching Specified Criteria (1) if the client wishes to request the details of eligible trades for a selected set of instruments or for a specified party, trade type or order.

The SecurityID (48) field of the Trade Capture Report Request may be used if the request relates to a single instrument.

The ExecType (150) field of the message may be used if the request is limited to cancelled trades, corrected trades or trades that have not been cancelled or corrected.

If a particular Trade Capture Report Request contains multiple criteria (e.g., SecurityID and Account), the server will treat it as a request for trades that match all of the specified criteria. If no trades match the specified criteria, the server will reject the request with a TradeRequest Result (749) of Cannot Match Selection Criteria (100).

If a user submits a TradeRequestType (569) outside the Millennium IT supported range, but supported by FIX (i.e., 2,3,4. 0 and 1 are supported by Millennium IT), the system will reject the request with a Trade Capture Report Request Ack with TradeRequestResult (749) set to 100 (Cannot Match Selection Criteria).

If a user submits a TradeRequestType (569) outside FIX supported range (i.e., outside 0,1,2,3,4), the system will send a Reject (session-level) with a SessionRejectReason (373) of 5 (Value out of range for this tag).

2.2   Trade Information

The FIX Trade Capture Report message is utilised by the service to transmit the details of each trade. A separate Trade Capture Report will be sent for each side of a trade. In the case of a trade, TradeHandlingInstr (1123) will be Trade Confirmation (0), ExecType (150) will be Trade (F), MatchStatus (573) will be Matched (0), TradeReportTransType (487) will be New (0) and TradeReportType (856) will be Submit (0) (in certain cases of PC trade reports, TradeReportTransType (487) may be set to Replace(2)).

For example, if a PC trade is submitted which is published immediately, the submitting party first receives a Trade Capture Report Ack followed by a Trade Capture Report (where TradeReportTransType (487) set to Replace (2)).

Each message will contain both basic and value-added information on the trade (e.g., price quantity, consideration, settlement date, accrued interest, etc.), the security (e.g., ISIN) and the parties (e.g., trading firm). It will also contain information related to the computation of execution fees (e.g., maker or taker, trade type, etc.).

2.2.2   Trade, Execution and Order Identifiers

2.2.2.1   Trade Report ID

The TradeReportID (571) of each Trade Capture Report is unique across trading days. A Trade Capture Report published to notify a client of a trade cancel includes the TradeReportID of the message that was published to report the trade in the TradeReportRefID (572) field.

2.2.2.2   Trade ID

The Trade Capture Reports published to report the two sides of a particular trade will contain the same TradeID (1003). Trade IDs are unique across trading days. A Trade Capture Report published to notify a client of a trade cancel or correction includes the TradeID (1003) of the relevant trade.

2.2.2.3   Execution ID

A Trade Capture Report will contain the Execution ID of the Execution Report message sent by the Trading Gateway to report the execution of an order to the firm that submitted it. This Execution ID will be specified in the SideExecID (1427) field of the Trade Capture Report.

The Execution Reports published to report the two sides of an execution will contain different Execution IDs which are unique across trading days.

2.2.2.4   Trade Link ID

A Trade Capture Report will contain the Trade Link ID which will be the same for all orders within aggression of an order.

All the Trade Capture Reports which were generated from an auction will have the same Trade Link ID.

2.2.2.5   Order IDs

The matching system's order identification number for the executed order will be included in the OrderID (37) field of the Trade Capture Report.

Order IDs are unique across trading days. In terms of the FIX protocol, unlike ClOrdID (11) which requires a chaining through Cancel/Replace Requests and Cancel Requests, the OrderID (37) of an order will remain constant throughout its life.

2.2.2.6 Client Order IDs

In the case of orders, the ClOrdID (11) included in the Trade Capture Report will be that specified when the order was submitted. An order's ClOrdID (11) will be updated each time an Order Cancel/Replace Request or an Order Cancel Request is accepted.

In the case of quotes, the ClOrdID (11) included in the Trade Capture Report will be the QuoteID (117) or QuoteEntryID (299) of the executed quote.

2.2.2.7 Trade Type

The late cancellation on an on-book trade will be specified in the TrdType (828) field (value '24 – PC Trade').

2.2.2.8 Information for billing

Each Trade Capture Report will specify the methodology under which a trade was executed (e.g., continuous trading, auction, etc.), the type of interest (e.g., order, quote, etc.) and whether an order was a maker or taker of liquidity via the MatchType (574), OrderCategory (1115) and SideLiquidityInd (1444) fields respectively.

In the case of trades executed during an auction, both sides of the trade will be flagged as passive.

2.3   Trade cancels

Market Operations may cancel a trade on behalf of a member firm. The server will transmit Trade Capture Reports to the relevant clients to notify them of a trade cancel.

The cancelled trade will be identified in the TradeReportRefID (572) and TradeID (1003) fields.

In the case of a trade cancel, TradeReportTransType (487) will be Cancel (1) and TradeReportType (856) will be Trade Break (7).

2.4   Application Level Validations

Following field specific validations are performed at gateway level:

1. SecurityID(48)
2. TradeReportType(856)
3. TradeReportTransType(487)
4. NoSides (552)
5. Side(54)
6. NoPartyIDs (453)
7. PartyIDSource(447)
8. PartyRole(452)
9. OrderCapacity(528)
10. TradeID(1003)

2.4.1   Party Identifiers

ID	Description	PartyRole (452)
Executing Firm	The trading firm the executed order was submitted under.	1
Trading Group	The unit of the firm the executed order was submitted under. Must be specified when reporting a trade.	76
Counterparty	Identifier of the counterparty firm in a trade.	17
Trader ID	Trader ID of the trader who executed the trade.	100
Clearing Organisation	Clearing member for the particular trade.	21
Entering Firm	The firm which entered the trade.	7
Executing trader	Identifier of the Executing trader relevant to the order/quote or RFQ.	12
Client ID	Identifier of the client of the order/quote or RFQ.	3
Investment Decision Maker	Identifier of the investment decision relevant to the order/quote or RFQ.	122

2.5   Timestamps and dates

The matrix below clarifies the expectations for timestamps and dates.

Fix Tag	Client Generated tag– accepted format	Server Generated format – sent format
SendingTime (52)	UTC,	UTC,
OrigSendingTime (122)	YYYMMDD-HH:MM:SS.uuuuuu and YYYYMMDD-HH:MM:SS.sss	YYYYMMDD-HH:MM:SS.uuuuuu
TransactTime (60)		
OrigTradeDate (1125)	N/A	

2.6   Encryption

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

2.7   Late cancellation of on-book trades

The server supports the following methodology for the reporting of a PC trade:

i.   **Single-sided trade report** – The trade is reported by only one of the counterparties which should include both counterparties of the trade in a single Trade Capture Report. A Trade Capture Report Ack will be used by the server to acknowledge the receipt of or reject a trade report. The server will transmit a Trade Capture Report if the trade is confirmed. Clients can cancel a confirmed trade.

Please note, a client will receive a rejection for PC trade reports with or PC (Previous Day Contra) where the trade date is the same as the submission date.

2.7.1   Late cancellation of on-book trades

The system supports the late cancellation of on-book trades (TrdSubType (829) = 24 (PC – Previous Day Contra)).

The client should submit the request via a Trade Capture Report containing both sides of the cancellation (i.e., NoSides (552) = 2). Each of the sides groups will contain a Parties block which contains information of only the party which participated in the particular side of the cancellation. The firm which reports the cancellation to the system will be identified via PartyRole (452) of ExecutingFirm (1) and the contra-party will be identified via PartyRole(452) of CounterpartyFirm (17). The trader group which participated in the cancellation is required to be identified via PartyRole (452) of TraderGroup (76) for the Executing Firm while the trade group of the counterparty can also be specified optionally. If a TraderGroup (76) is not specified for the side that contains the Counterparty Firm, then the Default user of the Counterparty firm is taken as the TraderGroup. It is also possible to (optionally) enter the trader who executed cancellation via PartyRole (452) of TraderID(12).

The message should include a cancellation identifier agreed by the two counterparties in the field FirmTradeID (1041). The Trade Capture Report should also include a TradeReportTrans Type (487) of New (0), a TradeReportType (856) of Submit (0) and a TradeHandlingInstr (1123) of Two-Party Report (1).

2.7.2   Acknowledgement of a late cancellation

The request will be acknowledged by the server via a Trade Capture Report Ack. The late cancellation report being acknowledged will be identified in FirmTradeID (1041) field. The TrdRptStatus (939) field will indicate whether the cancellation report is Accepted (0) or Rejected (1). If a cancellation report is rejected, the reason for the rejection will be specified in the TradeReportRejectReason (751) field. The MatchStatus (573) of the message will be Unmatched (1). The TransactTime (60) will contain the same value submitted with the request.

2.7.3   Confirmation of a late trade cancellation

If the cancellation is confirmed, the service will transmit a Trade Capture Report with a TradeHandlingInstr (1123) of Trade Confirmation (0). The identifier assigned to the cancellation will be specified as the TradeID (1003).

The Trade Capture Report transmitted by the service will also include a TradeReportTransType (487) of Replace (2), a MatchStatus (573) of Matched (0), a ExecType (150) of Trade (F), a TradeReportType (856) of Submit (0), a TradeHandlingInstr (1123) of Trade Confirmed (0) and a OrigTradeHandlingInstr (1124) of Two-Party Report (1).

The Trade Capture Report transmitted by the server for the counterparty will include all the details above with the exception of TradeReportTransType (487) being set to New (0).

2.8   Cancellation of on-book trades (same day)

This section outlines event flow for the cancellation of on-book trades by participants.

An on-book trade will only be cancelled if requests to cancel it are received from both counterparties. Each counterparty is required to submit its cancel request separately via a Trade Capture Report. The server will use a Trade Capture Report Ack to acknowledge or reject each such request. Once both cancel requests are received, the server will confirm the trade cancellation to each of the counterparties via separate Trade Capture Reports. A counterparty may not withdraw a pending trade cancellation request. Unmatched trade cancellation requests do not carry forward to the next trading day.

2.8.1   Submitting a cancellation request

A client should submit a cancel request via a Trade Capture Report. The message should include the identifier assigned to the trade by Exchange in the TradeID (1003) field. The message should also include a TradeReportType (856) of Trade Report Cancel (6), a TradeReportTransType (487) of New (0), NoSides (552) =1 and the identity of the instrument.

2.8.1.1   Security Identification

Instruments may be identified using the SecurityID (48) field. The Trade Capture Report Ack message transmitted by the server in response to a Trade Capture Report will contain the identity of the instrument in the SecurityID (48) Symbol (55) field. The Trade Capture Report Ack message transmitted by the server in response to a Trade Capture Report will contain the identity of the instrument in the SecurityID (48) field.

2.8.1.2   Trader group

Privilege to submit requests are assigned at the level of trader groups whereas the privilege to cancel on-book trades (same day) is granted at the CompID level. A Trade Capture Report submitted by a client for an on-book trade cancellation should contain the Side(54) field in the NoSides(552) block.

If the NoSides(552) block does not contain the Side(54) field in the on-book trade cancellation message, the system will reject the message. The NoPartyID(453) group is ignored on the TCR submitted for the cancellation of an on-book trade (same day).

2.8.2   Acknowledgement of the cancellation request

A cancel request will be acknowledged by the server via a Trade Capture Report Ack. The request being acknowledged will be identified via the TradeID (1003) field. The TrdRptStatus (939) will indicate whether the request is Accepted (0) or Rejected (1). If a cancel request is rejected, the reason for the rejection will be specified in the Trade ReportRejectReason (751) field. The MatchStatus (573) of the message will be Matched (0).

2.8.3   Confirmation of the cancellation

The trade will be cancelled by the system if requests to cancel it are received and confirmed from both counterparties. The server will transmit a Trade Capture Report to each of the two counterparties to confirm the cancellation.

Each message will include an ExecType (150) of Trade Cancel (H) and a TradeReportType (856) of Trade Report Cancel (6). The trade being cancelled will be identified via the TradeID (1003) and TradeReportRefID (572) fields. The messages will include a Trade HandlingInstr (1123) of Trade Confirmation (0), a TradeReportTransType (487) of Cancel (1) and a MatchStatus (573) of Unmatched (1).

2.9   Trade Identifiers

2.9.1   Firm Trade ID

The server does not validate the FirmTradeID (1041) of each trade for uniqueness.

Customers should note that Firm Trade ID (1041) is limited to 50 characters. Any Trade Capture Report submitted with a length greater than this will be rejected via a Reject message (35=3) with a Session Reject Reason (373) = 5 and Text (58) = "Value out of range for this tag."

2.9.2   Trade ID

The Trade ID (1003) of each trade confirmed by the service is unique across trading days.

2.10 MiFID II changes

2.10.1 Timestamping at Microsecond granularity

All server-generated timestamps will now be in microsecond granularity. It is not mandatory for client-generated timestamps to be in microsecond granularity. Further details are described in the Timestamps and dates section.

2.10.2 Pre-trade Waiver Flags

Pre-trade Waiver Flags have been added to the server generated Trade Capture Reports.

2.10.3 Order Record Keeping Information

The existing Party identification tags will be used to capture data on Client ID, Investment decision within firm and Execution within firm. Refer to the Party identifiers section for details about the new tags introduced.

FIX tags have been introduced to the server-generated Trade Capture Report to capture additional order attributes, such as if the order submitted was part of DEA involvement (Sponsored Access or DMA), if it was generated via an algorithm and if it was part of a market making strategy. Here are details of the tags:

- OrderOrigination (1724) – the same value that was submitted in the order/quote/RFQ.
- OrderAttributeType (2594) – the same value as submitted in the order/quote/RFQ. This tag is part of the NoOrderAttributes repeating group, and will have the value '2 – 'Liquidity Provision'.
- AlgorithmicTradeIndicator (2667) – will be set to '1 – True' if OrderAttributeType (2594) = '4 – 'Algorithm' is submitted in the order/quote/RFQ.

2.10.4 Order capacities

The changes to 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)

Until MiFID II go-live, tag OrderCapacity(528) = R will be treated as Riskless Principal. After MiFID II go-live, it will be treated as Matched Principal (MTCH).

3.0 Connectivity

3.1   CompIDs

The CompID of each client must be registered with The Exchange 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 gateway server will be assigned a CompID. The CompID of the server is 'PTGW'. The messages sent to the server should contain the CompID assigned to the client in the field SenderCompID (49) and CompID of the server in the field TargetCompID (56). The messages sent from the server to the client will contain CompID of the server 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 which must be changed 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 message sent by the server to confirm the establishment of a FIX connection. If accepted, the new password will be effective for subsequent logins.

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 log in to the server. In such a case, the client should contact London Stock Exchange.

New passwords should adhere to the rules below:

- Minimum length – eight characters
- Maximum length – 14 characters
- Minimum numeric characters – one character
- Minimum alpha characters – one character
- Minimum special characters – one character

3.2   Production IP addresses and ports

The IP addresses and ports for the post trade gateway will be published in a separate configuration document which can be found on the Millennium Exchange Technical Information website.

3.3   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.

3.4   Connectivity Policy

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

Upon successful connection to the secondary gateway, it is important to note that the system will increment the server side outbound sequence number (i.e., customer inbound sequence number) by 5,000. Since customers need to comply with FIX Session rules, they should submit a Resend Request (handled by the FIX Session layer) after receiving a response to the login request. This would result in syncing the inbound sequence number on the customer side. In this scenario, there is a low probability that the customer might receive duplicate messages (i.e., messages the customer has already received before the failover). All these duplicate messages will have PossResend (97) field set to "Y". The customer is expected to perform a check for duplicate messages with PossResend (97) set "Y". The customer might receive Business Rejects with reject reason 'Application not Available' for requests that were submitted during a failover (also low probability). It should be noted that these requests have not been accepted by the system and the customer should resubmit if required.

Information on London Stock Exchange's Connectivity Policy can be found via the following link:
http://www.londonstockexchange.com/products-and-services/technical-library/technical-guidance-notes/technical-guidance-notes.htm

3.5   Message Rate Throttling

London Stock Exchange has implemented 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 is provided in the MIT201 Guide to the New Trading System document, and also in the *Trading Technical Parameters* document, both available via the following link:
http://www.londonstockexchange.com/products-and-services/technical-library/millennium-exchange-technical-specifications/millennium-exchange-technical-specifications.htm.

Every message which exceeds the maximum rate of a CompID will be rejected via a Business Message Reject (with BusinessRejectReason (380) of Other (0) and Text (58) field = "Message rate exceeded"). 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 (with SessionStatus (1409) = 102 (Logout by market operations) and Text (58) = "Maximum Message Rate Exceeded") and, five seconds afterwards, will terminate the TCP/IP connection.

Please note that client Heartbeat messages, reject messages and any other client-initiated administrative messages are not counted towards the throttling limits.

4.0 FIX connections and sessions

4.1   Establishing a FIX connection

FIX connections and sessions between the client and server are maintained as specified in the FIX protocol.

Each client will use the assigned IP address and port to establish a TCP/IP session with the server. The client will initiate a FIX session at the start of each trading day by sending the Logon message.

The connection will be terminated if the first message received after establishing the connection is incorrect (i.e., not the Login message) or is garbled. The client will identify itself using the SenderCompID (49) field. The server will validate the CompID, password and IP address of the client.

Once the client is authenticated, the server will respond with a Logon message. The SessionStatus (1409) of this message will be Session Active (0). If the client's Logon message included the field NewPassword (925) and the client is authenticated, the SessionStatus (1409) of the Logon message sent by the server will indicate whether the new password is accepted or rejected.

The client must wait for the server's Logon message before sending additional messages. If the client sends messages prior to sending the Logon message or prior to receiving the Logon response, the server will break the TCP/IP connection with the client without sending any message.

If a logon attempt fails because of an invalid SenderCompID, TargetCompID, IP address, invalid password or because the user does not have the appropriate privileges, the server will break the TCP/IP connection with the client without sending a Logout or Reject message. If during a logon of a SenderCompID, the server receives a second connection attempt via different TCP/IP connection while a valid FIX session is already underway for that same SenderCompID, the server will break the TCP/IP connection with the second connection without sending a Logout or Reject message. As the logon attempt failed, the server will not increment the next inbound message sequence number expected from the client.

If a logon attempt fails because of a locked CompID or if logins are not currently permitted, the server will send a Logout message and then break the TCP/IP connection with the client. In both these scenarios, the next inbound sequence number expected from the client and the outbound sequence number will not be incremented. The message sequence number '1' will be sent with the Logout message.

If a logon attempt fails because of a session level failure (e.g., due to invalid EncryptMethod or DefaultApplVerID, etc.) neither the inbound sequence number nor the outbound sequence number will be incremented. The message sequence number '1' will be sent with the Logout message.

However, if a session level failure occurs due to a message sent by a client which contains a sequence number that is less than what is expected and the PossDupFlag (43) is not set to "Y", then the server will send a Logout message and terminate the FIX connection. In this scenario, the inbound sequence number will not be incremented but the outbound sequence number will be incremented.

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.

If, during a logon of a SenderCompID, the server receives a second connection attempt via the same TCP/IP connection while a valid FIX session is already underway for that same SenderCompID, the server will immediately break the TCP/IP connection with the client without sending any messages. If the server receives another connection attempt from the same SenderCompID while a session is already established, the connection attempt will be rejected via a Reject message without breaking the existing TCP/IP connection with the client. The server will increment the next inbound message sequence number expected from the client as well as its own outbound message sequence number.

The impact of logon failures on sequence numbers is summarised in the table below:

Reason for Logon Failure	Session status (of logout)	Inbound Sequence Number	Outbound Sequence Number
Invalid or expired password	8 (password expired)	Does not increase	Does not increase (defaulted to 1)
Locked/suspended/ inactivated CompID	6 (account locked)	Does not increase	Does not increase (defaulted to 1)
Logins are not currently permitted	7 (logins are not allowed)	Does not increase	Does not increase (defaulted to 1)
Session level failure (e.g., due to invalid EncryptMethod or DefaultApplVerID etc)	101 (logout session level failure)	Does not increase	Does not increase (defaulted to 1)
Login sequence number is less than the expected sequence number	101 (logout session level failure)	Does not increase	Incremented by 1
Second connection attempt	n/a	Incremented by 1	Incremented by 1

4.2   Maintaining a FIX session

4.2.1   Message Sequence Numbers

As outlined in the FIX protocol, the client and server will each maintain a separate and independent set of incoming and outgoing message sequence numbers. Sequence numbers should be initialised 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 synchronise applications when reconnecting during a FIX session.

If any message sent by the client contains a sequence number that is less than what is expected and the PossDupFlag (43) is not set to "Y", the server will send a Logout message and terminate the FIX connection. The Logout message will contain the next expected sequence number.

A FIX session may not continue to the next trading day. The server will initialise its sequence numbers at the start of each trading 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 message 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 log in if the HeartBtInt is set to 0. Therefore, if the server receives a logon with HeartBtInt = 0, the user will receive a logout message with SessionStatus = 101 (Logout due to session level failure) and Text = 'HeartBtInt should be greater than zero'.

If the server detects inactivity for a period longer than the HeartBtInt (108) specified in the client's Logon message, it will send a Test Request message to force a Heartbeat message from the client. The server will send a Logout message 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.

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 message to confirm the termination. 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 (no Logout message 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   Resetting Sequence Numbers: Starting a new FIX session

4.4.1.1   Reset initiated by the client

If the client requires both parties to initialise (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 message with the ResetSeqNumFlag (141) field set to "Y" to confirm the initialisation of sequence numbers.

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

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

4.4.1.2   Reset initiated by the server

Millennium Exchange 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 a process or site outage.

However, in case the sequence numbers needs to be reset, clients are required to support a manual request by the Exchange to initialise sequence numbers prior to the next login attempt.

5.0 Recovery

5.1 Resend Requests

The client may use the Resend Request message to recover any lost messages. As outlined in the FIX 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).

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

The server may, in the circumstances outlined in Sections 5.4 and 5.5, use the PossResend (97) field to indicate that a Trade Capture Report may have already been sent under a different MsgSeqNum (34). The client should validate the TradeReportID (571) of such a message against that of previous Trade Capture Reports received from the server during the current trading day.

If a Trade Capture Report with the same TradeReportID (571) had been processed, the resent Trade Capture Report should be ignored. If the same TradeReportID (571) had not been processed, the message should be processed.

The server does not handle possible resends for client-initiated messages and ignores the value in the PossResend (97) field of such messages.

5.4 Transmission of missed messages

The Trade Capture 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".

5.4.1 Application sequencing and recovery

The server supports the application sequencing and recovery features introduced in Service Pack 2 for FIX 5.0. A client may use the Application Message Request to recover missed trades in scenarios such as the following:

i.   Trades are missed due to a late connection or disconnection during the day.
ii. Session level recovery via a Resend Request is unavailable due to a sequence number reset initiated by the client or server.
iii. All or some of the trades transmitted by the server during the current day are lost due to a failure at the client site.

5.4.1.1 Application sequencing by server

The matching system consists of a series of parallel partitions each of which provide the matching service for an exclusive set of securities.

Each Trade Capture Report transmitted by the server will include the identity of the matching partition that generated the trade and the partition's internal sequence number for the trade in the fields AppIID (1180) and ApplSeqNum (1181) respectively. As the matching partitions operate in parallel and employ the same application sequencing scheme, an ApplSeqNum (1181) is only unique per AppIID (1180). The ApplSeqNum of each AppIID will be initialised to "1" at the start of each trading day.

As a client will only receive a subset of the trades executed by each matching partition, the field ApplLastSeqNum (1350) is also included in each Trade Capture Report. This field will contain the ApplSeqNum of the last Trade Capture Report or Trade Capture Report Ack sent to the client. This will enable clients to distinguish deliberate sequence gaps from application errors by comparing the value of ApplLastSeqNum (1350) to the ApplSeqNum (1181) of the last received Trade Capture Report from the same ApplID (1180).

ApplLastSeqNum (1350) is not included in the first Trade Capture Report transmitted to a client. It is also important to note that since the TCR Ack does not contain ApplSeqNum (1181) field, if the last received message was a TCR ack, then ApplLastSeqNum (1350) will show a gap when there was none. A Trade Capture Report sent as a response to Trade Capture Report Request will not contain ApplLastSeqNum (1350).

The Exchange may change the number of partitions and the securities each serves with due notice to clients.

5.4.1.2   Detecting an application sequence gap

A client can detect a dropped message by comparing the ApplLastSeqNum (1350) of each new Trade Capture Report against the ApplSeqNum (1181) of the last trade received from the same ApplID (1180).

In the case of a reconnection, the client can either wait for the next Trade Capture Report to determine whether trades have been missed or issue a request for the most current ApplSeqNum for each ApplID.

Requesting the Latest ApplSeqNum

The client may use the Application Message Request to request the latest ApplSeqNum for one or more ApplIDs. The ApplReqType (1347) of the message should be Request for Last ApplLastSeqNum (2).

Response to Request for Latest ApplSeqNum

The server will respond to the Application Message Request with an Application Message Request Ack. If the request was unsuccessful for a particular ApplID, the reason will be specified in the field ApplResponseError (1354). In the case of a successful request, the ApplSeqNum of the last trade generated for the client by each ApplID will be specified in the field RefApplLastSeqNum (1357).

5.4.1.3   Requesting retransmission of missed trades

The client may use the Application Message Request to recover any lost trades. The ApplReqType (1347) of the message should be Retransmission of Application Messages (0). The message may be used in one of four modes:

i.   To request a single trade. The ApplBegSeqNum (1182) and ApplEndSeqNum (1183) should be the same.

To request a specific range of trades. The ApplBegSeqNum (1182) should be the first trade of the range and the ApplEndSeqNum (1183) should be the last of the range.

To request all trades after a particular trade. The ApplBegSeqNum (1182) should be the application sequence number immediately after that of the last processed trade and the ApplEndSeqNum (1183) should be zero (0).

To request all trades for the day. The ApplBegSeqNum (1182) should be one (1) and the ApplEndSeqNum (1183) should be zero (0).

In all cases, the client should identify the matching partition to which the request relates via the field RefApplID (1355).

5.4.1.4   Response to a trade Retransmission Request

The server will respond to the Application Message Request with an Application Message Request Ack to indicate whether the retransmission request is successful or not. If the request was unsuccessful for a particular ApplID, the reason will be specified in the field ApplResponseError (1354).

In the case of a successful retransmission request, the server will resend the requested Trade Capture Reports and Trade Capture Report Acks immediately after the Application Message Request Ack. Each Trade Capture Report and Trade Capture Report Ack will include an ApplResendFlag (1352) of "Y" to indicate that it is resent in response to an Application Message Request. The resent messages will not include the field ApplLastSeqNum (1350). A Trade Capture Report ACK will not be sent if the initial Trade Capture Report is rejected at Gateway level.

5.4.1.5   Disconnection prior to completion of Retransmission

If the FIX connection is terminated prior to the completion of the Trade Capture Report retransmission, the client should submit a new Application Message Request once it reconnects to the server.

5.5   Resending trade capture reports

If the client's application does not support the application sequencing and recovery features of FIX, it may manually inform the service desk that it would like the server to resend all of the Trade Capture Reports generated during the current trading day that it is eligible to receive when it next logs in. All resent Trade Capture 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.

6.0 Supported message types

This section lists all administrative and application message types supported by the server. Any message not included in this section will be ignored by the server.

6.1   Administrative Messages

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

Message	MsgType	Usage
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.
Logon	A	Allows the client and server to establish a FIX session.
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.
Logout	5	Allows the client and server to terminate a FIX session.

6.2   Application Messages (Client)[1]

Message	MsgType	Usage
Application Message Request	BW	Allows the client to request one of the following: i. Retransmission of missed trades ii. Latest ApplSeqNum of each ApplID
Trade Capture Report	AE	Allows the client to report a late cancellation of an on-book trade (PC trade) or cancel an on-book trade (on the day).
Trade Capture Report Request	AD	Allows the client to query/request for a set of Trade Capture Reports from the server.

6.3   Application Messages (Server)

Message	MsgType	Usage
Trade Capture Report	AE	Indicates one of the following: i. Trade ii. Trade Bust
Application Message Request Ack	BX	Indicates whether a request to retransmit trades or for the latest ApplSeqNum is successful or not.
Trade Capture Report Ack	AR	Acknowledges the receipt of a Trade Capture Report message from the client.
Trade Capture Report Request Ack	AQ	Acknowledges the receipt of a Trade Capture Report Request message from the client.
Business Message Reject	j	Indicates that an application message sent by the client could not be processed.

6.4   Variations from the FIX Protocol

The server conforms to the FIX protocol except as follows:

i.   The TradeRequestResult (749) field of the Trade Capture Report Request Ack includes custom values.
ii.   The Trade Capture Report Request includes the fields MatchType (574) and Account (1).
iii. The TrdSubType (829) field of the Trade Capture Report contains custom values.
iv.   The Trade Capture Report message includes AccountType(581) field.
v.   The Trade Capture Report message includes custom fields Original Price (20100), Clearing Type (20110), Novated Indicator (20111) and DecimalTVTIC (27020).

7.0 Message formats

This section provides details on the header and trailer, the seven administrative messages and eight application messages utilised by the post trade gateway. Client-initiated messages not included in this section are rejected by the server via a Reject or Business Message Reject. All fields are encoded in using printable ASCII.

The system will ignore an undefined tag sent along with any Administrative message and will process the rest of the message. However if an undefined tag is sent along with an Application message, then the system will completely reject the message.

7.1 Message header and trailer

7.1.1 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	The message type.

Value	Meaning
0	Heartbeat
1	Test Request
2	Resend Request
3	Reject
4	Sequence Reset
5	Logout
A	Logon
AD	Trade Capture Report Request
AE	Trade Capture Report
AQ	Trade Capture Report Request Ack
AR	Trade Capture Report Ack
BW	Application Message Request
BX	Application Message Request Ack
j	Business Message Reject

Tag	Field name	Req	Description
49	SenderCompID	Y	CompID of the party sending the message.
56	TargetCompID	Y	CompID of the party the message is sent to.
34	MsgSeqNum	Y	The 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).

Value	Meaning
Y	Possible Duplicate
N	Original Transmission

Tag	Field name	Req	Description		
97	PossResend	N	Whether the message was previously transmitted under a different MsgSeqNum (34). Absence of this field is interpreted as Original Transmission (N).		
			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). Required for outgoing messages sent by the server.		
115	OnBehalfOfCompID	N	The ID of the party which the message is on behalf of; will only be used in client-initiated messages.		
128	DeliverToCompID	N	The value specified in the OnBehalfOfCompID(115) field will be stamped; will only be used in server-initiated messages. Won't be received for RFQ-related messages.		
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	ApplVerID	N	Version of FIX used in the message. Required if the message is generated by the server.		
			Value	**Meaning**	
			9	FIX50SP2	

7.1.2 Message Trailer

Tag	Field name	Req	Description
10	CheckSum	Y	

7.2 Administrative messages

7.2.1 Logon

Tag	Field name	Req	Description	
Standard Header				
35	MsgType	Y	A = Logon	
Message Body				
98	EncryptMethod	Y	The method of encryption.	
			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).	
			Value	**Meaning**
			Y	Reset Sequence Numbers
			N	Do Not Reset Sequence Numbers

Tag	Field name	Req	Description	
554	Password	N	The password assigned to the CompID. Required if the message is generated by the client.	
925	NewPassword	N	The new password for the CompID.	
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 Password Does Not Comply with Policy
1137	DefaultApplVerID	Y	Default version of FIX messages used in this session.	
			Value	**Meaning**
			9	FIX50SP2
Standard Trailer				

7.2.2   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**
			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 Service Desk
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				

7.2.3   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			

7.2.4   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			

7.2.5   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			

7.2.6   Reject

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	3 = Reject
Message Body			
45	RefSeqNum	Y	MsgSeqNum (34) of the rejected message.
371	RefTagID	N	If a message is rejected due to an issue with a particular field, its tag number will be indicated.
372	RefMsgType	N	MsgType (35) of the rejected message.

Tag	Field Name	Req	Description
373	SessionReject Reason	N	Code specifying the reason for the reject. Please refer to MIT801 for a list of reject codes.
58	Text	N	Text specifying the SessionRejectReason(373).
Standard Trailer			

7.2.7   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	The mode in which the message is being used. Absence of this field is interpreted as Sequence Reset (N).		
			Value	**Meaning**	
			Y	Gap Fill	
			N	Sequence Reset	
Standard Trailer					

7.3   Application messages

7.3.1   Trade Capture Report – Client Initiated

Tag	Field name	Req	Description
Standard Header			
35	MsgType	Y	AE = Trade Capture Report
Message Body			
1041	FirmTradeID	N	Used for TrdSubType (829) = 24 (PC – Previous Day Contra) report submission. Maximum of 50 characters.
1003	TradeID	N	Identifier of the trade. Required for on-book trade cancellations. Maximum of 10 characters.
1123	TradeHandlingInstr	Y	Used for TrdSubType (829) = 24 (PC – Previous Day Contra) report submission. Maximum of 50 characters.
			Value **Meaning**
			1 Two-Party Report
856	TradeReportType	Y	Type of trade report.
			Value '6' should be used for on-book trade cancellation and '0' should be used for PC trade submission.
			Value **Meaning**
			0 Submit
			6 Trade Report Cancel
487	TradeReportTrans Type	Y	Type of request.
			Value **Meaning**
			0 New
828	TrdType	N	Type of the trade. Value '54' should be used for PC report submission.
			Value **Meaning**
			0 Regular Trade
			54 PC Trade
			99 RFQ Trades
829	TrdSubType	N	**Description**
			24 PC – Previous Day Contra
60	TransactTime	N	Date and time the trade was executed on the participant's system. Required for PC trade report submission. The value should be in the past.

Tag	Field name	Req	Description
32	LastQty	N	Traded quantity. Required for PC trade report submission. The system will not validate the LastQty submitted for an on-book cancellation with the original values. It is not possible to submit trades with zero or negative value for LastQty(32). It is possible to submit sizes which do not conform to the lot size of the instrument and consisting of fractional values. This field should not contain more than 14 characters, excluding the decimal point, and should not use more than eight decimal places when used.
31	LastPx	N	Traded price. Required for PC trade report submission. The system will not validate the LastPx submitted for an on-book cancellation with the original values. It is not possible to submit trades with zero or negative value for LastPx(31). This field should not contain more than 14 characters, excluding the decimal point and should not use more than eight decimal places when used.
64	SettlDate	N	Required for PC trade report submission. Should be the current or future date.
			This field is not required and will not be validated when submitting off-book trade cancel requests and pre-release requests.
			The format should be YYYYMMDD.
48	SecurityID	Y	Unique Instrument ID assigned to the instrument in the Millennium Exchange.
22	SecurityIDSource	Y	**Value** **Meaning**
			8 Exchange Symbol
552	NoSides	Y	Number of sides which should always be "2".
➡ 54	Side	Y	Side of the pre-negotiated trade.
			Value **Meaning**
			1 Buy
			2 Sell
➡ 453	NoPartyIDs	Y	Number of party identifiers.
➡ ➡	448 PartyID	Y	Identifier of the party.
➡ ➡	447 PartyID Source	Y	**Value** **Meaning**
			D Proprietary/Custom Code
➡ ➡	452 Party Role	Y	Role of the specified PartyID (448).
			Value **Meaning**
			1 Executing Firm
			17 Contra Firm
			100 Trader ID
			24 Clearing Organisation
			76 Trader Group
			For PC trades, the Trader Group (76) is required to be specified in the party block that contains Executing Firm (1) as a Party Role (452). It can be optionally present in the party block that contains Counterparty Firm (17) as a Party Role (452). For on-book trade cancellations, the party block should contain Executing Firm(1) and Trader Group (76).

Tag	Field name	Req	Description
➡ 528	OrderCapacity	N	Capacity of the firm that executed the PC trade. Required if TradeHandlingInstr (1123) is Two-Party Report (1) or One-Party Report for Pass Through (3). For PC trades, the field is required for the side block that contains Executing Firm (1) Party Role (452). It should be omitted from the side block that contains Counterparty Firm (17) Party Role (452).
			If this is not specified for the side block that contains the Executing Firm(1) PartyRole (452) when submitting PC trades, the trade will be rejected with reject code '7806' and reason 'Capacity not specified for Executing Firm'.
			This field is not required and will not be validated for PC cancel requests.
			Capacity of the order.

Value	Meaning
A	Any other trading capacity (AOTC)
P	Dealing on own account (DEAL)
R	Matched Principal (MTCH)

Tag	Field name	Req	Description
➡ 581	AccountType	N	Clearing account type.
			For PC trades, the field can be optionally set for the side block that contains Executing Firm (1) Party Role (452). It should be omitted from the side block that contains Counterparty Firm (17) Party Role (452).

Value	Meaning
1	Client
3	House

Tag	Field name	Req	Description
➡ 1	Account	N	Client reference information. A maximum of 10 characters.
			Note: The valid range of ASCII characters (decimal) to preserve data integrity is 0 and 32-126 except:
			− 35 # (hash)
			− 47 / (forward slash)
			− 59 ; (semi colon)
			− 92 \ (back slash)
			If client had specified characters outside of this range in Order/Quote/RFQ, then they will be replaced by London Stock Exchange with "-" (hyphen).

Standard Trailer

7.3.2   Trade Capture Report – Server Initiated

Tag	Field name	Req	Description
Standard Header			
35	MsgType	Y	AE = Trade Capture Report
Message Body			
1180	ApplID	Y	Identifier of the partition.
1181	ApplSeqNum	Y	Partition's sequence number for trade.
1350	ApplLastSeqNum	N	ApplSeqNum of last trade generated for client. Required if ApplResendFlag (1352) is "N" and TradeRequestID (568) is not present. Tag 1350 will not be populated on the first TCR sent to the client (since zero is not a valid value).
1352	ApplResendFlag	N	Whether the message is sent in response to an Application Request. Absence of this field is interpreted as Original Transmission (N).

Value	Meaning
Y	Response to Application Message Request
N	Original Transmission

Tag	Field name	Req	Description
568	TradeRequestID	N	Identifier of the Trade Capture Report the message is sent in response to.
912	LastRptRequested	N	Indicates the last message sent in response to a Trade Capture Report Request.

Value	Meaning
Y	Last Message

Tag	Field name	Req	Description
571	TradeReportID	Y	Identifier of the message.
1003	TradeID	Y	Identifier of the trade. If an on-book trade is being cancelled, then the TradeID assigned to the particular trade by the system needs to be referred in this field. Trade ID will be a 36 base encoded value in ASCII format. The base 10 format is available in tag 27020 DecimalTVTIC.
820	TradeLinkID	Y	Identifier of the transaction in which the trade was executed.
1041	FirmTradeID	N	Identifer assigned to a PC trade by the counterparties.
572	TradeReportRefID	N	Reference to trade being cancelled Required if ExecType (150) is Trade Cancel (H) or Trade Correct (G).
1123	TradeHandlingInstr	Y	Handling instructions to client.

Value	Meaning
0	Trade Confirmation
1	Two-Party Report (i.e., Single party submission)

The system will validate the TradeHandlingInstr sent for an on-book trade cancellation request.

Tag	Field name	Req	Description
856	TradeReportType	Y	Type of trade report.

Value	Meaning
0	Submit
6	Trade Report Cancel
7	Trade Break

Tag	Field name	Req	Description
150	ExecType	Y	Type of execution being reported. This field is mandatory for any on-book trade published by the system and any trade or cancellation request confirmed by the server for PC trades. For PC trade submission, value 'F' will be stamped.

Value	Meaning
F	Trade
H	Trade Cancel

Tag	Field name	Req	Description
20110	Clearing Type	Y	Defines whether the particular instrument is cleared or not. Required for messages published by the system. When a trade is cleared, this should be set to '1' (Cleared). When a trade is not cleared, this should be set to '0' (Not Cleared).

Value	Meaning
0	Not Cleared
1	Cleared

Tag	Field name	Req	Description
20111	NovatedIndicator	Y	Defines whether the trade needs to be sent to clearing system. Required for messages published by the system. When a trade is internalized, this should be set to '0' (No). When a trade is cleared, this should be set to '1' (Yes). When a trade is not cleared, this should be set to '0' (No).

Value	Meaning
0	No
1	Yes

Tag	Field name	Req	Description
487	TradeReportTrans Type	Y	Type of transaction being reported.

Value	Meaning
0	New
1	Cancel
2	Replace

Tag	Field name	Req	Description
573	MatchStatus	Y	Status of the trade.

Value	Meaning
0	Matched
1	Unmatched

Tag	Field name	Req	Description
1124	OrigTradeHandling Instr	N	Model under which PC trade was confirmed. Required if TrdType (828) is PC Trade (54)

Value	Meaning
1	Two-Party Report

Tag	Field name		Req	Description
828	TrdType		Y	Type of trade.

Value	Meaning
0	Regular Trade
54	PC Trade
99	RFQ Trades
67	CLSE (Closing price trade)

Tag	Field name		Req	Description
829	TrdSubType		N	**Description**

	Description
24	PC – Previous Day Contra

Tag	Field name		Req	Description
60	TransactTime		Y	Time trade or cancellation occurred. If a PC trade is reported, this is the date and time it was executed on the participant's system. This field should be mapped to the Transact Time of the internal TCR.
32	LastQty		Y	Traded quantity.
31	LastPx		Y	Traded price.
64	SettlDate		N	Date on which the trade will settle. Stamped for on-book trades and PC trade submission.
574	MatchType		Y	Point in matching process trade was matched.

Value	Meaning
2	PC Trade (Two-Party Report)
4	Continuous Trading
7	Auction
22	RFQ Trades

Tag	Field name		Req	Description
48	SecurityID		Y	Unique Instrument ID assigned to the instrument in the Millennium Exchange.
22	SecurityIDSource		Y	**Value** / **Meaning**

Value	Meaning
8	Exchange Symbol

Tag	Field name		Req	Description
454	NoSecurityAltID		N	If present, value in this field will always be "1".
➡	455	SecurityAltID	N	Identification number of the instrument.
➡	456	SecurityAltID Source	N	Type of instrument identification used. Required if SecurityAltID (455) is specified.

Value	Meaning
4	ISIN

Tag	Field name		Req	Description
552	NoSides		Y	Number of sides which will always be "1".
➡	54	Side	Y	Side of the executed order.

Value	Meaning
1	Buy
2	Sell

Tag		Field name		Req	Description
➡		1427	SideExecID	N	Identifier of the execution received by the order. Required only for messages sent by the server if TrdType(828) is Regular Trade (0). (i.e., not required for messages sent by clients for submitting PC trades).
➡		453	NoPartyIDs	N	Number of party identifiers.
➡	➡	448	PartyID	N	Identifier of the party.

If a trade is internalised, the Counterparty Firm (17) will be populated with the user's own Firm ID.

If an on-book trade is cleared, the Counterparty Firm (17) will be populated with the CCP.

If an on-book trade is cleared, the Clearing Organization (24) will be populated with the Clearing Member.

If an on-book trade is not cleared, the Counterparty Firm (17) will be populated with the Contra Party Firm ID.

Value	Meaning
0	None
1	AGGR
2	PNAL
3	CLIENT

Other than the above values, this could contain a short code identifier (i.e., 4 – 4294967295) provided by the user in case of the on-book trade.

Tag		Field name		Req	Description
➡	➡	447	PartyID Source	N	Value 'P' will only be applicable to on-book trades.

Value	Meaning
D	Proprietary/Custom Code
P	Short Code

Tag		Field name		Req	Description
➡	➡	452	Party Role	N	Role of the specified PartyID (448).

Trade Capture Report sent for PC trades will always have PartyRole(452) = 7 populated. If the Entering Firm (7) is not provided, the value specified in Executing Firm (1) field will be used. This field will not be added for on-book trades.

In all messages published by the server Executing Firm(1), Counterparty Firm(17) and Trader Group(76) will be populated. If the particular order was specified with a Trader ID(100) at order entry, then that information will also be published in the TCR.

Value	Meaning
1	Executing Firm
7	Entering Firm
17	Contra Firm
100	Trader ID
76	Trader Group
24	Clearing Organization

Below values will only be applicable to on-book trades and will always be populated:

Tag		Field name		Req	Description
					Value **Meaning**
					3 Client ID
					122 Investment Decision Maker
					12 Executing Trader
➡	➡	2376	PartyRoleQualifier	N	Provides a further qualification for the value specified in the PartyRole (452).
					Value **Meaning**
					22 Algorithm
					23 Firm or Legal Entity
					24 Natural Person
					This field is only applicable to on-book trades.
➡		625	Trading SessionSubID	N	Defines trading phase during which the particular trade has taken place. All trades that take place during the closing price crossing session should have this field set to 'z'.
➡		1115	OrderCategory	Y	Type of interest behind trade. Tag 1115 for PC trades can be populated in the server-generated TCR based on an on/off switch.
					Value **Meaning**
					1 Order
					2 Quote
					3 PC Trade
					r RFQ Trades
➡		1444	SideLiquidity Ind	N	Whether the order added or removed liquidity.
					Value **Meaning**
					1 Added Liquidity
					2 Removed Liquidity
					4 Auction
➡		37	OrderID	N	Identifier of the executed order as specified by the matching system. This will be a 62 base encoded value in ASCII format.
➡		11	ClOrdID	N	Identifier of the executed order as specified by the entering firm.

For tag 11 ClOrdID:

Note: The valid range of ASCII characters (decimal) to preserve data integrity and not to cause an issue on CCP side is 0 and 32-126 except:

- 35 # (hash)
- 47 / (forward slash)
- 59 ; (semi colon)
- 92 \ (back slash)

If client had specified characters outside of this range in Order/Quote/RFQ, then they will be replaced by London Stock Exchange with "-" (hyphen).

Tag		Field name	Req	Description
➡		528	OrderCapacity	Y	Capacity of the firm that placed the order.

Value	Meaning
A	Any other trading capacity (AOTC)
P	Dealing on own account (DEAL)
R	Matched Principal (MTCH)

➡ 1 Account N

Client Reference specified at order entry and PC entry.

Note: The valid range of ASCII characters (decimal) to preserve data integrity and not to cause an issue on CCP side is 0 and 32-126 except:

- 35 # (hash)
- 47 / (forward slash)
- 59 ; (semi colon)
- 92 \ (back slash)

If client had specified characters outside of this range in Order/Quote/RFQ, then they will be replaced by London Stock Exchange with "-" (hyphen).

➡ 581 AccountType Y

Clearing account type.

Value	Meaning
1	Client
3	House

For PC trades, value will be the one submitted in the trade report for the block that contains Executing Firm (1) Party Role (452); this will not be for the side block that contains Counterparty Firm (17) Party Role (452) in PC Trades.

For on-book trades, the field will be populated with the value submitted in the order.

➡ 2667 Algorithmic TradeIndicator N

Whether the order, quote or RFQ was generated via an algorithm.

Value	Meaning
1	True

This field is only applicable to on-book trades.

➡ 1724 OrderOrigination N

Whether the order, quote or RFQ was generated via Direct Electronic Access (DEA) or not.

Value	Meaning
5	DEA

This field is only applicable to on-book trades.

➡ 2593 NoOrderAttributes N

No of Order Attributes

The NoOrderAttributes block is only applicable to on-book trades.

➡ ➡ 2594 OrderAttributeType N

Provides information about the order. States if the order has been submitted as a part of liquidity provision activity (i.e., as a part of the market making strategy).

Value	Meaning
2	Liquidity Provision

Tag	Field name	Req	Description
➡ ➡ 2595	OrderAttributeValue	N	Will be populated if OrderAttributeType (2594) is specified.
			Value **Meaning**
			Y Yes
1301	MarketID	N	The market posting the trade (MIC Code).
			Value **Meaning**
			XLON London Stock Exchange
			XLOM London Stock Exchange – MTF
			AIMX AIM MTF
2668	NoTrdRegPublications	N	The number of regulatory publication rules in the repeating group.
➡ 2669	TrdReg PublicationType	N	Specifies the type of regulatory trade publication.
			Value **Meaning**
			0 Pre-trade transparency waiver
➡ 2670	TrdRegPublication Reason	N	Additional reason for trade publication type specified in TrdRegPublication Type(2669). Populated when Execution Type is F or H.
			Populated when TrdRegPublicationType (2669) = 0 (pre-trade waiver).
			Value **Meaning**
			4 ILQD
1125	OrigTradeDate	N	Specifies the original date and time of the trade. For trade cancellations, the original trade date and time is stamped.
33007	ContraOrderBook	N	Identifier of the order book of the contra order of an RFQ execution (i.e., when TrdType = 99 (RFQ Trades)).
			Absence of this field is interpreted as RFQ Trade book for an RFQ trade (i.e., when TrdType = 99 (RFQTrades)).
			Value **Meaning**
			1 Regular
			This field is not applicable to any other trade type
27020	DecimalTVTIC	Y	The base 10 format of TradeID (TVTIC) (1003). This is the same value as provided by the GTP Trade ID and Native Trade Match ID (TVTIC).
1227	ProductComplex	N	Segment of the instrument
Standard Trailer			

7.3.3   Trade Capture Report Request

Tag	Field name	Req	Description
Standard Header			
35	MsgType	Y	AD = Trade Capture Report Request
Message Body			
568	TradeRequestID	Y	Identifier for the trade request.
569	TradeRequestType	Y	**Value** / **Meaning** 0 — All Trades 1 — Trades Matching Specified Criteria If none of the criteria below are specified, this will return all trades for the particular participant.
150	ExecType	N	**Value** / **Meaning** F — Trade G — Trade Correct H — Trade Cancel
828	TrdType	N	**Value** / **Meaning** 0 — All Regular Trades 54 — All PC Trades 99 — RFQ Trades
829	TrdSubType	N	Conditionally required if TradeType denotes an PC trade. The system will not validate the TrdSubType on an PC cancellation. **Description** 24 — PC – Previous Day Contra
48	SecurityID	N	Unique Instrument ID assigned to the instrument in the Millennium Exchange.
454	NoSecurityAltID	N	If present, value in this field should always be "1".
➡ 455	SecurityAltID	N	Identification number of the instrument.
➡ 456	SecurityAltID Source	N	Type of instrument identification used. Required if SecurityAltID (455) is specified. When an ISIN is specified, all trades related to that ISIN will be disseminated (irrespective of the fact that whether the same ISIN had been used in multiple instruments). **Value** / **Meaning** 4 — ISIN
54	Side	N	Side of the executed order. **Value** / **Meaning** 1 — Buy 2 — Sell

Tag	Field name		Req	Description
574	MatchType		N	Point in matching process trade was matched.
				Value / **Meaning**
				2 / PC Trade (Two-Party Report)
				4 / Continuous Trading
				7 / Auction
				22 / RFQ Trades
11	ClOrdID		N	Identifier of the executed order as specified by the entering firm.
37	OrderID		N	Identifier of the executed order as specified by matching system.
453	NoPartyIDs		N	Number of party identifiers.
➥	448	PartyID	N	Identifier of the party.
➥	447	PartyIDSource	N	**Value** / **Meaning**
				D / Proprietary/Custom Code
➥	452	PartyRole	N	Role of the specified PartyID (448).
				Value / **Meaning**
				1 / Executing Firm
				7 / Entering Firm
				100 / Trader ID
				17 / Counterparty Firm
				76 / Trader Group
				24 / Clearing Organisation
22	SecurityIDSource		N	Required if SecurityID (48) is specified.
				Value / **Meaning**
				8 / Exchange Symbol
1	Account		N	Client reference for the trade.
Standard Trailer				

7.3.4   Application Message Request

Tag	Field name	Req	Description
Standard Header			
35	MsgType	Y	BW = Application Message Request
Message Body			
1346	ApplReqID	Y	Client specified unique identifier of the request.
1347	ApplReqType	Y	Type of request.
			Value / **Meaning**
			0 / Retransmission of Application Messages
			2 / Request for Last ApplLastSeqNum

Tag	Field name		Req	Description
1351	NoApplIDs		Y	Number of AppIIDs to which the request relates.
➡	1355	RefApplID	Y	Identifier of the matching partition.
➡	1182	ApplBeg SeqNum	N	Application sequence number of first message in range to be resent. Required if ApplReqType (1347) is Retransmission of Application Messages (0).
➡	1183	ApplEnd SeqNum	N	Application sequence number of last message in range to be resent. Required if ApplReqType (1347) is Retransmission of Application Messages (0).
Standard Trailer				

7.3.5 Application Message Request Ack

Tag	Field name		Req	Description	
Standard Header					
35	MsgType		Y	BX = Application Message Request Ack	
Message Body					
1353	ApplResponseID		Y	Server specified identifier of the acknowledgement.	
1346	ApplReqID		Y	Identifier of the request being acknowledged.	
1347	ApplReqType		Y	Type of request being acknowledged.	
				Value	**Meaning**
				0	Retransmission of Application Messages
				2	Request for Last ApplLastSeqNum
1351	NoApplIDs		Y	Number of AppIIDs to which the request relates.	
➡	1355	RefApplID	Y	Identifier of the matching partition.	
➡	1182	ApplBeg SeqNum	N	Application sequence number of first message in range to be resent. Required if ApplReqType (1347) is Retransmission of Application Messages (0).	
➡	1183	ApplEnd SeqNum		Application sequence number of last message in range to be resent. Required if ApplReqType (1347) is Retransmission of Application Messages (0).	
➡	1357	RefAppl LastSeq Num		ApplSeqNum of the last trade generated for the client. Required if ApplReqType (1347) is Request for Last ApplLastSeqNum (2) and ApplResponseError (1354) is not specified.	
➡	1354	Appl Response Error	N	Reason request is rejected.	
				Value	**Meaning**
				0	ApplID Does Not Exist
				1	Requested Trades are Not Available
				2	Client Not Authorised
Standard Trailer					

7.3.6 Trade Capture Report Ack

Tag	Field name	Req	Description
Standard Header			
35	MsgType	Y	AR = Trade Capture Report Ack
Message Body			
1003	TradeID	N	Server-assigned identifier of the trade.
1041	FirmTradeID	N	Value submitted with the trade report. Required only for the messages generated by the server to respond to client-generated messages with regard to PC trades.
856	TradeReportType	Y	Value submitted with the trade report. This field will not be populated if the trade report gets rejected when a value is not specified in the trade report submitted by the client.
1181	ApplSeqNum	N	Partition's sequence number for trade.
1350	ApplLastSeqNum	N	ApplSeqNum of last trade generated for client. Required if ApplResendFlag (1352) is "N" and TradeRequestID (568) is not present.
751	TradeReportReject Reason	N	Code specifying the reason for rejection. Please refer to MIT801 for a list of reject codes. Required if TrdRptStatus (939) is Rejected (1).
58	Text	N	Text specifying the reason for the rejection.
487	TradeReportTrans Type	N	Value submitted with the trade report. This field will not be populated if the trade report gets rejected when a value is not specified in the trade report submitted by the client.
939	TrdRptStatus	Y	Specifies whether the Trade Capture Report was accepted or rejected.
			Value **Meaning**
			0 Accepted
			1 Rejected
1123	TradeHandlingInstr	Y	Value submitted with the trade report.
573	MatchStatus	N	Status of the pre-negotiated trade.
			Value **Meaning**
			0 Matched
			1 Unmatched
48	SecurityID	Y	Unique Instrument ID assigned to the instrument in the Millennium Exchange.
22	SecurityIDSource	Y	**Value** **Meaning**
			8 Exchange Symbol
32	LastQty	N	Value submitted with the trade report. Will not be populated for TCR Acks generated for cancel request.
31	LastPx	N	Value submitted with the trade report. Will not be populated for TCR Acks generated for cancel request.
828	TrdType	N	Value submitted with the trade report.
60	TransactTime	N	If acknowledging a PC trade sent with an empty TransactTime or invalid value, the value returned will be the time the message was generated by the server. Otherwise, the value submitted in the original trade report.

Tag	Field name	Req	Description	
1352	ApplResendFlag	N	Whether the message is sent in response to an Application Message Request. Absence of this field is interpreted as Original Transmission (N).	
			Value	**Meaning**
			Y	Response to Application Message Request
			N	Original Transmission
			Will not be used in messages sent by clients for submitting PC trades.	

7.3.7   Trade Capture Report Request Ack

Tag	Field name	Req	Description	
Standard Header				
35	MsgType	Y	AQ = Trade Capture Report Request Ack	
Message Body				
568	TradeRequestID	Y	Identifier of the request being acknowledged.	
569	TradeRequestType	Y	Value specified in the request.	
750	TradeRequestStatus	Y	Whether the request is accepted or rejected.	
			Value	**Meaning**
			0	Accepted
			2	Rejected
749	TradeRequestResult	Y	Reason the request is rejected.	
			Value	**Meaning**
			0	Successful
			8	TradeRequestType not supported
			9	Not Authorized/Max number of requests exceeded
			100	Cannot match selection criteria
			200	Request Limit for Day Reached
748	TotNumTradeReports	N	Number of Trade Capture Reports that will be sent in response to the request. Required if TradeRequestStatus (750) is Accepted (0).	
Standard Trailer				

7.3.8   Trade Capture Report Cancellation of On-Book Trades

Tag	Field name			Req	Description
Standard Header					
35	MsgType			Y	AE = Trade Capture Report
Message Body					
1003	TradeID			Y	Server-assigned identifier of the trade. The base 10 format is available in tag 27020 DecimalTVTIC.
856	TradeReportType			Y	Type of trade report.
					Value / **Meaning**
					6 — Trade Report Cancel
487	TradeReportTrans Type			Y	Type of request.
					Value / **Meaning**
					0 — New
828	TrdType			N	**Value** / **Meaning**
					0 — Regular Trade
48	SecurityID			Y	Unique Instrument ID assigned to the instrument in the Millennium Exchange.
22	SecurityIDSource			Y	**Value** / **Meaning**
					8 — Exchange Symbol
60	TransactTime			N	Time the message was generated by the client.
552	NoSides			Y	Number of sides. The value in this field should always be "1".
➡	54	Side		Y	Side of the order.
					Value / **Meaning**
					1 — Buy
					2 — Sell
➡	453	NoPartyIDs		N	Number of party identifiers.
➡	➡	448	PartyID	N	Identifier of the party.
➡	➡	447	PartyID Source	N	**Value** / **Meaning**
					D — Proprietary/Custom Code
➡	➡	452	Party Role	N	Role of the specified PartyID (448). For on-book trade cancellations, the party block should contain Executing Firm (1) and Trader Group (76).
					Value / **Meaning**
					1 — Executing Firm
					17 — Contra Firm
					100 — Trader ID
					24 — Clearing Organisation
					76 — Trader Group
27020	DecimalTVTIC			Y	The base 10 format of TradeID (TVTIC) (1003). This is the same value as provided by the GTP Trade ID and Native Trade Match ID (TVTIC).
Standard Trailer					

7.3.9   Business Message Reject

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	j = Business Message Reject
Message Body			
379	BusinessRejectRefI D	N	Client-specified identifier (e.g., Firm Trade ID) of the rejected message if it is available.
45	RefSeqNum	Y	MsgSeqNum (34) of the rejected message.
372	RefMsgType	Y	MsgType (35) of the rejected message.
371	RefTagID	N	If a message is rejected to due to an issue with a particular field its tag number will be indicated.
379	BusinessReject RefID	N	Client-specified identifier (e.g., Firm Trade ID) of the rejected message if it is available.

Message	Identifier
TradeCaptureReport	FirmTradeID(1041)
TradeCaptureReportRequest	TradeRequestID(568)
ApplicationMessageRequest	ApplReqID(1346)

Tag	Field Name	Req	Description
380	BusinessReject Reason	Y	Code specifying the reason for the reject. Please refer to MIT801 for a list of reject codes.
58	Text	N	Text specifying the BusinessRejectReason(380)
Standard Trailer			

8.0 Service availability

Customer activity	Availability
Telnet Access	04.00 – 17:40
Login Access	04.00 – 17:40
TCR Message Receipt	07:15 – 17:40
OTBD Requests	05:00 – 17:40
Trade Report Entry	07:15 – 17:15

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

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