

Turquoise

TQ203 - Drop Copy Gateway (FIX 5.0)

Issue 2.5.5

31 August 2018



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1.0 Introduction

The Financial Information Exchange (FIX) protocol enables access to Turquoise using a messaging standard developed for real-time electronic exchange of security transactions.

FIX enables access to the trading services and security information within Turquoise. This specification describes a conceptual overview of the FIX 5.0 SP2 protocol as well as providing technical guidance on adopting FIX 5.0 SP2 to connect to Turquoise.

Turquoise offers a drop copy gateway that will enable member firms to receive additional copies of the [Execution Report](#) messages generated by the matching system. This interface may also be used by Participants to download the current status of all their active orders in the event of a failure. The drop copy service 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 Participant and server is not supported.

FIX specification: <http://www.fixprotocol.org>

1.1 Purpose

The purpose of this document is to provide a technical description of the drop copy gateway available at Turquoise.

1.2 Readership

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 technical specifications, it is intended that these documents provide all of the details directly connected Turquoise participants require to develop to the trading services.

This document is particularly relevant to technical staff.

1.3 Document Series

This document is part of series of technical documents providing a holistic view of full trading and information services available which can be found on the Turquoise website here [‘Document Library’](#).

Interfaces and information dissemination

For further information regarding Turquoise connectivity, trading and subscription to market data, please refer to the following documentation:

- TQ102 – Connectivity Guide
- TQ103 – Trading Technical Parameters
- TQ201 - Trading Gateway (FIX 5.0) Specification
- TQ202 - Post Trade Gateway (FIX 5.0) Specification
- **TQ203 – Drop Copy Gateway (FIX 5.0) Specification (this document)**
- TQ301 – Trading Gateway (Native) Specification
- TQ401 – MITCH Level-2 Market Data Specification
- TQ501 – Guide to Reference Data Services
- TQ502 – Guide to Purchase and Sales File

Certification and Testing Services

For further information regarding Certification of Participant’s software and ongoing testing obligations with Turquoise, please refer to the following documentation:

- TQ601 – Guide to Certification
- TQ602 – Certification Report
- TQ603 – Guide to Testing Services

LSEG Group Ticker Plant

For further information regarding subscription to Turquoise market data from the Group Ticker Plant (GTP), please refer to the following documentation which can be found on the GTP website here [‘GTP Documentation Library’](#):

- GTP001 – Product Guide
- GTP002 – Technical Guide
- GTP003 – Statistics Guide

- GTP004 – Parameters Guide
- GTP005 – Testing Service Guide
- GTP006 – External Source Guide
- GTP008 – Market Attributes Guide

1.4 Document History

This document has been through the follow iterations:

Issue	Date	Description
R1 1.0	17 Mar 2010	First issue of this document published.
R1 1.1	27 Apr 2010	Second issue of this document published for Release 1 of the Turquoise test platform.
R2 1.0	24 May 2010	First issue of CDS release 2 document published.
R2.1 1.0	09 Jul 2010	First issue of CDS release 2.1 document published.
R2.1 1.2	13 Aug 2010	Issue 1.2, Release 2.1 published.
R2.1 1.3	16 Sep 2010	Issue 1.3, Release 2.1 published.
1.4	01 Apr 2011	Issue 1.4.
1.5	31 May 2011	Appended section 3.2 Sponsored Access.
1.6	06 Jul 2011	Updated sections to 4.1 and 4.4 to remove the Test Request message sent at Logon. The Test Request message at Logon will be re-introduced in a later release.
1.7	31 Oct 2011	Support for clearing interoperability.
1.8	27 April 2012	Section 6.4.5 – added exec instruction, added 1094 (PegPriceType).
1.9	31 August 2012	Section 6.4.5 – Added TradeLiquidityIndicator enum of 'C' for Turquoise Plato Uncross™ , added PassiveOnlyOrder field and PriceDifferential field.
1.10	13 February 2013	Contact details updated.

1.11	20 September 2013	The following sections have been updated, 3.4; 6.1.1;6.5.1;.
1.12	24 October 2013	Rebranding of the Turquoise random periodic uncrossing to Turquoise Plato Uncross™ ,
2.0	20 October 2014	Addition of Turquoise Plato Block Discovery™ messages. The following sections have been updated; 2.3; 2.5 and 6.5.1. Updated terms Client, User & Parties (where appropriate) to "Participant".
2.1	24 October 2014	Rebranded ITCH to MITCH.
2.3	11 April 2016	This following sections have been updated to aid clarity and/or reflect changes for the Millennium 9.0 upgrade: 2.5.2.4 - Clarified that we use a G offset for encoding and decoding base 36 values. 3.4 – Added clarity to Failover and Recovery. 3.5 – Clarified Connectivity Policy. 3.6 – Clarified Message Rate throttling behaviour. 4.1 - Clarified connection behaviour when additional messages are sent prior to the exchange of Logons. Clarified that we no longer send a reject message when receiving a second connection attempt whilst a user is already logged in. Clarified server behaviour for inbound message sequence. Clarified rapid login/logout safety mechanism. 4.2.2 – Clarified Heartbeats behaviour. 5.5 – Removed section on resending execution reports. 6.0 - Clarified what happens when an undefined tag is sent along with Administrative and Application messages. 6.2.1 – Clarified the message header which was missing the field DeliverToCompID. 6.4.1 – Clarified PartyID field behaviour. 6.5.1 Clarified ExecRestatementReason behaviour. Clarified the descriptions of OrdRejectReason and Text fields in the Execution Report. Removed PriceDifferential (27011). . Corrected the description of PegPriceType. Removed a duplicate PegPriceType tag. RoutingInst field behaviour changed as a result of the new 'Turquoise Plato™ Dark Lit Sweep' functionality. Clarified the

		<p>behaviour of the Price field. Clarified Component Block <Trading Party> behaviour.</p> <p>6.6.1 – Corrected tag PartyID (448) from value EuroCCP to EMCF.</p> <p>8.0 – Clarified Turquoise availability times.</p> <p>9.1 – Removed Appendix A ‘ Error and Reject Text Strings’.</p>
2.4	26 October 2016	<p>Updated Turquoise to Turquoise Plato™ where appropriate for Turquoise Plato™ Order Book and Turquoise Plato™ Block Discovery™ services, and updated Turquoise to Turquoise® where appropriate.</p> <p>The following sections have been amended to aid clarity and also to reflect the changes introduced in the Millennium 9.1 upgrade:</p> <p>2.5 – Clarified Order Cancellation behaviour.</p> <p>6.3.1 – Added new enum 3 in the SessionStatus tag.</p> <p>6.5.1 – Clarified MinQty, OrigClOrdID behaviour. Added LastLiquidityInd (851) and OrderBook(30001) tags.</p>
2.5	07 April 2017	<p>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:</p> <p>2.5.4, 2.7.4 – Clarified Party Identification behaviour.</p> <p>2.6, 2.7.1 – Clarified Timestamps behaviour.</p> <p>2.7.2, 6.5.1 - Added a new NoTrdRegPublications (2668) Repeating Group to the Execution Report for Pre-trade waiver flags.</p> <p>2.7.3, 6.5.1 – Clarified Order Capacities.</p> <p>6.5.1, 6.6.1, 6.6.2 – Clarified NoPartyIDs, PartyID, PartyIDSource, PartyRole behaviour and added new enums. Added PartyRoleQualifier tag, Order Attribute component block and OrderOrigination tag.</p>
2.5.1	27 June 2017	<p>The following section has been amended to aid clarity:</p> <p>6.6.1 – Clarified PartyRole behaviour</p>
2.5.2	22 August 2017	<p>The following sections has been amended to aid clarity:</p> <p>6.3.6 – Clarified SessionRejectReason behaviour.</p>

		7 - Removed Reject Code section since TQ801 has all the applicable Reject reasons and codes.
2.5.3	8 September 2017	The following sections has been amended to aid clarity: 2.5 - Reference to order being amended by Market Operations is removed, reference to order replenishment is added to be in line with FIX specification 6.5.1 - Missing ExecRestatementReason (378)=100 is added
2.5.3.A	25 September 2017	1.3 Document Series updated. 2.5 updated for Turquoise Lit Auctions™ . 6.5.1 Tags 30001, 9730, 9303 and 851 updated for Turquoise Lit Auctions™ .
2.5.4	13 July 2018	The following sections have been amended to reflect new functionality to allow Sponsoring Firms to maintain the status of their Sponsored users: 6.1.2 – New message types User Request (BE) and User Response (BF) added 6.4.2 - Message layout for User Request (BE) added 6.5.2 - Message layout for User Response (BF) added 6.5.1 – The reference to pre-MIFDII order capacity removed 6.6.1 - Updated the description of PartyID (448), to reflect name change of EMCF to ECCP
2.5.5	31 August 2018	6.6.1 Addition of new CCP 'LCH SA'

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

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

2.1 Services Supported by Trading Gateway

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

2.2 Connection Configuration

2.2.1 Real-Time Connections

A real-time Participant will receive a drop copy of each eligible [Execution Report](#) immediately after it is published.

A member firm connection will be configured to receive a drop copy of all the [Execution Report](#) messages generated for the firm for the events outlined in section [2.3 Supported Events](#). The connection of a service bureau will be configured to receive drop copies for all the firms it serves. If required, a firm or service bureau connection could be configured to only receive drop copies for selected trading mnemonics.

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

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

Refer to sections [5.4 Transmission of Missed Messages](#) and [5.5 Resending Previous Execution Reports](#) for a description of how the [Execution Reports](#) published during the time a real-time Participant is disconnected from the server may be recovered.

A real-time Participant may also use the open order download service (outlined in section [2.4 Open Order Download](#)) 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 Participants. Such a Participant may only connect to the server to use the order download service outlined in section [2.4 Open Order Download](#).

2.3 Supported Events

Participants will receive drop copies of the [Execution Reports](#) generated for the following events:

- (i) Order accepted
- (ii) Order rejected
- (iii) Order executed

- (iv) Order expired
- (v) Order cancelled
- (vi) Order cancel/replaced
- (vii) Order Suspended
- (viii) Trade cancellation
- (ix) Indication triggered

2.4 Open Order Download

Any Participant may use the [Mass Order Status Request](#) message to download the current status of each active order for a specified trading mnemonic. The total number of [Mass Order Status Requests](#) that a Participant may submit is limited each day to a configurable value defined by Turquoise A Participant may request Turquoise 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 for the specified trading mnemonic. 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](#) of the partition sent in repose 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 for the specified trading mnemonic. 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 (e.g. OrderQty (38), LeavesQty (151), CumQty (14), OrdType (40), etc.). The reason for the rejection will be specified in the field OrdRejReason (103).

2.5 Execution Reports

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

ExecType	Usage	Ord Status
0	Order Accepted Indicates that a new order has been accepted. This message will also be sent unsolicited if an order was submitted by Market Operations on behalf of the Participant.	0
8	Order Rejected Indicates that an order has been rejected. The reason for the rejection is specified in the field OrdRejReason (103).	8
F	Order Executed Indicates that an order has been partially or fully filled. The execution details (e.g. price and quantity) are specified.	1, 2

C	<p>Order Expired</p> <p>Indicates that an order has expired in terms of its time qualifier or due to an execution limit. This message will also be sent in the following scenarios:</p> <ul style="list-style-type: none"> (i) When orders are expired upon entering the order book when the number of orders in the order book is at the maximum allowed level. The reason for the expiration is specified in the Text (58) field. (ii) When the remaining orders are expired at market close. (iii) When orders are expired based on the auto cancellation on disconnect/log out feature. (iv) When the incoming order is configured with the self execution prevention specifying CIO or CRO. (v) When a Turquoise Plato Uncross™ Only GFA Order has not been fully executed in the Turquoise Plato Uncross™ to which it was expected to participate, (vi) When a Continuous and Turquoise Plato Uncross™ GFA Order has not been fully executed in the Turquoise Plato Uncross™ to which it was expected to participate, (vii) When a Continuous and Turquoise Plato Uncross™ GFA Order is submitted between a Turquoise Plato Uncross™ and a the start of the next order submission interval, it will act as an IOC, with any remaining quantity being expired. (viii) When a Turquoise Plato Uncross™ GFA Order is submitted between a Turquoise Plato Uncross™ and the start of the next order submission interval, it will be immediately expired. (ix) When BIs are successfully matched by Turquoise Plato Block Discovery™™. (x) When a Turquoise Plato Uncross™ then Continuous GFA Order participates in a Turquoise Plato Uncross™. (xi) When a Turquoise Lit Auctions™ GFA Order has not been fully executed in the auction it was expected to participate in. (xii) The reason for expiration is specified in the Text (58) field. 	C
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4	<p>Order Cancelled</p> <p>Indicates that an order cancel request has been accepted and successfully processed.</p> <p>This message is also sent if the order was cancelled by Market Operations or the order cancellation is initiated by the system. In such a scenario the Execution Report will include an ExecRestatementReason (378) of Market Option (8). It will not include an OrigCOrdID (41).</p> <p>This message will also be sent if Market Operations has cancelled a trade that previously fully filled the order (which would also result in a Trade Cancel Execution Report for that trade).</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 Restatement</p> <p>This is sent when:</p> <ul style="list-style-type: none"> • Market Operations cancel a trade that previously partially filled the order; ExecRestatement Reason (378) will be Market Option (8). It will not include an OrigCOrdID (41) and will not be assigned a new Client Order ID. • When there is an iceberg order replenishment, which happens after an aggressing order has fully exhausted first the visible, and then any hidden quantities of passive iceberg orders. 	0, 1
H	<p>Trade Cancel</p> <p>Indicates that an execution has been cancelled by Market Operations. An ExecRefID (19) to identify the execution being cancelled will be included.</p>	0, 1, 4, C
I	<p>Order Status Response</p> <p>Sent for active orders if a mass status request is accepted.</p>	0,1
I	<p>Order Status Reject</p> <p>Indicates that an order mass status request has been rejected.</p>	8
L	<p>Triggered</p> <p>Stamped on Order Submission Requests sent to Participants indicating that their BI has matched at the Turquoise Investment Firm and a corresponding firm Qualifying Block Order should be submitted to the Turquoise Plato™ Order Book.</p>	0

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
2	Filled
4	Cancelled
C	Expired
1	Partially Filled
0	New
8	Rejected

2.5.2 Order and Execution Identifiers

2.5.2.1 Client Order IDs

In the case of orders, the ClOrdID (11) included in each [Execution 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.

2.5.2.2 Order IDs

The server will use the OrderID (37) field to affix the order identification numbers of the matching system. Order IDs will be 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.

2.5.2.3 Execution IDs

The server will use the ExecID (17) field to affix the execution identification numbers of the matching system. Execution IDs will be unique across trading days.

2.5.2.4 Trade Match ID

The TradeMatchID (880) matches exactly with the TradeID (1003) on the Trade Capture Report of Post Trade gateway and the TradeMatchID (880) from FIX trading Gateway. This also matches the TradeMatchID field from the Native Trading gateway as well as the MITCH gateway which are in binary format. However this is in base 36 (G offset) and needs converting to an 8 byte integer for comparison.

Trade Match ID generated for a normal trade being disseminated through each gateway.

FIX Trading	Native Trading	Drop Copy	Post Trade	MITCH
TrdMatchID (880)	TradeMatchID	TrdMatchID (880)	TradeID (1003)	TradeMatchID
G5DIF33YV0	73120274710544	G5DIF33YV0	G5DIF33YV0	73120274710544

Trade Match ID from Drop Copy gateway mapped to CCP gateway for normal trade

FIX Trading	Native Trading	CCP Gateway
TrdMatchID (880)	TradeMatchID	ExecID
G5DIF33YV0	73120274710544	BG5DIF33YV0

Trade Match ID mapped to CCP gateway if the same trade was cancelled.

FIX Trading	Native Trading	CCP Gateway
TrdMatchID (880)	TradeMatchID	ExecID
G5DIF33YV0	73120274710544	1BG5DIF33YV0

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 Party Identification

ID	Description	Relevant FIX Tags
Member ID	Identifier of the member the interest is submitted under.	PartyRole (452) = 1 PartyIDSource=D PartyID (448)
Trader Group	Identifier of the trader group the interest is submitted under.	PartyRole (452) = 76 PartyIDSource (447)=D PartyID (448)
Trader ID	Identifier of the trader the interest is submitted under.	PartyRole (452) = 100 PartyIDSource (447)=D PartyID (448)
Client Reference	Client reference information applicable to an order	Account (1)
Counterparty Firm	Identifier of the counterparty firm in a trade.	PartyRole (452) = 17 PartyIDSource=D PartyID (448)
Executing Trader	Identifier of the Executing Trader relevant to the order	PartyRole (452) = 12 PartyIDSource (447)=P PartyID (448)
Client ID	Identifier of the client of the order	PartyRole (452) = 3 PartyIDSource (447)=P PartyID (448)
Investment Decision Maker	Identifier of the investment decision relevant to the order	PartyRole (452) = 122 PartyIDSource (447)=P PartyID (448)

2.6 Timestamps and Dates

The matrix below clarifies the expectations for timestamps and dates.

FIX Tag	Client Generated tag– accepted format	Server Generated tag – sent format
SendingTime (52)	UTC, YYYYMMDD-HH:MM:SS.uuuuuu and YYYYMMDD-HH:MM:SS.sss	UTC, YYYYMMDD- HH:MM:SS.uuuuuu
OrigSendingTime (122)		
TransactTime (60)		

2.7 MiFID II changes

2.7.1 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.

2.7.2 Pre-trade Waiver Flags

Transactions executed under the reference price waiver will be flagged with the 'RFPT' Waiver Flag in the [Execution Report](#) message.

2.7.3 Order Capacity

The Order Capacities are shown below.

Pre-MiFID II name	MiFID II name
Principal	Dealing on own account (DEAL)
Agency	Any other trading capacity (AOTC)
Riskless Principal	N/A
N/A	Matched Principal (MTCH)

2.7.4 Order Record Keeping Information

The participants should provide the short code with PartyRole (452) = 'Client ID (3)', 'Investment Decision Maker (122)' or 'Executing Trader (12)'. These new party identifiers are named as 'Client ID', 'Investment decision within firm' and 'Execution within firm' in the MiFID II/MiFIR RTS 24 regulatory documentation. Further information about these new party identifiers has been added in the [Party identification](#) section.

3.0 Connectivity

3.1 ComplIDs

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

The ComplID of the server will be FGW. The messages sent to the server should contain the ComplID assigned to the Participant in the field SenderComplID (49) and FGW in the field TargetComplID (56). The messages sent from the server to the Participant will contain FGW in the field SenderComplID (49) and the ComplID assigned to the Participant in the field TargetComplID (56).

3.1.1 Passwords

Each new ComplID will be assigned a password on registration. Participants are strongly encouraged 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 password policy of Turquoise, the password of each ComplID should be changed. If not, the password will expire and the Participant will be unable to login to the server. In such a case, the Participant should contact Turquoise to have its password reset. The SessionStatus (1409) of the server's [Logon](#) message will be 'Password Due to Expire (2)'.

3.2 Sponsored Access – Monitoring Participants

In order for a Member firm to be able to constantly monitor their 'Sponsored Participants' via a Drop Copy Gateway connection, they will need to register with Turquoise their 'Monitoring Participant(s)' and advise which Sponsored Participants are to be monitored by which 'Monitoring Participant'. Typically a firm will only have one 'Monitoring Participant' however it is possible to require more than one should the firm have more than one Drop Copy Gateway.

In order for a 'Sponsored Participant' to place orders, the firm's assigned 'Monitoring Participant' will need to have established a successful connection to the Drop Copy Gateway.

Should a Member Firm's 'Monitoring Participant' lose the ability to monitor their 'Sponsored Participants' (e.g. Disconnect or lose connection) and not reconnect within the configurable amount of time, their 'Sponsored Participants' will be restricted from submitting new orders, while all their existing orders will be cancelled.

3.3 Production IP Address and Ports

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

3.4 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 or site outage.

If the Participant is unexpectedly disconnected from the server, it should attempt to re-connect to primary site within a few seconds. The Participant should only attempt to connect to the secondary IP address and port if so requested by Turquoise

If a service interruption (due to Order Cache Primary failing over to its Mirror or both Order Cache Processes going down) occurs in the Drop Copy Gateway while it is servicing an [Order Mass Status Request](#), Drop Copy Gateway will send an unsolicited [Execution Report](#) with a 'Rejected' state (it would include the MassStatus ReqID (584) of the request, an ExecID (17) of "0", an ExecType (150) of Order Status (I) an OrdStatus (39) of Rejected (8)) and an OrdRejReason (103) of "10005"). When the Participant receives this, they are expected to try and re-request.

If a Participant requests an OOBID when the service is unavailable, (e.g., both Order Cache instances down) the request will be rejected with a business reject, with reason 4 – Application Unavailable.

In the unlikely event of a site outage disaster on the Turquoise system, all orders will be cancelled and all unicast and multicast connectivity will be unavailable until the secondary site is invoked.

The Participant will receive Business Rejects with reject reason 'Application Unavailable' for requests that were submitted during a failover.

3.5 Connectivity Policy

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

3.6 Message Rate Throttling

Turquoise has implemented a scheme for throttling message traffic where each Participant is only permitted to submit up to a specified number of messages per second.

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. The rates can be seen in the [Turquoise Trading Technical Parameters](#) document. 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 5 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 Participant and server are maintained as specified in the FIX protocol.

Each Participant will use the assigned IP address and port to establish a TCP/IP session with the server. The Participant will initiate a FIX session at the start of each trading day by sending the [Logon](#) message. The Participant will identify itself using the SenderCompID (49) field. The server will validate the CompID, password and IP address of the Participant.

Once the Participant is authenticated, the server will respond with a [Logon](#) message. The SessionStatus (1409) of this message will be Session Active (0). If the Participant's [Logon](#) message included the field NewPassword (925) and the Participant is authenticated, the SessionStatus (1409) of the [Logon](#) sent by the server will be Session Active (0).

When the Participant sends a logon with a sequence number higher than expected by the FIX Gateway, the FIX gateway will send a [Resend Request](#) and 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 Participant and server is in sync before sending out any missed or new application messages.

The Participant must wait for the server's Logon response before sending additional messages. If the Participant 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 Participant without sending any message.

If a logon attempt fails because of an invalid SenderCompID, TargetCompID, IP address, invalid password or because the Participant does not have the appropriate privileges, the server will break the TCP/IP connection with the Participant 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 Participant.

If a logon attempt fails because of an invalid or expired password 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 Participant.

If a logon attempt fails because of a session level failure (e.g. due to invalid EncryptMethod or DefaultAppVerID) the inbound sequence number and the outbound sequence number both will not be incremented. In this scenario 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 Participant which contains a sequence number that is less than what is expected and the PossDupFlag (43) not being 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.

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 send a [Reject](#) message and then break the TCP/IP connection with the Participant. The server will

increment the next inbound message sequence number expected from the Participant as well as its own outbound message sequence number.

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.

4.2 Maintaining a FIX Session

4.2.1 Message Sequence Numbers

As outlined in the FIX protocol, the Participant 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 Participant to identify and react to missed messages and to gracefully synchronize applications when reconnecting during a FIX session.

If any message sent by the Participant 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](#) will contain the next expected sequence number in the Text (58) field.

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 Participant is expected to employ the same logic.

4.2.2 Heartbeats

The Participant 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 Participant’s [Logon](#) message.

The server will send a [Heartbeat](#) anytime it has not transmitted a message for the heartbeat interval. The Participant 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. 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 three heartbeat intervals it will send a Test Request message to force a Heartbeat from the Participant. If inactivity continues for another three heartbeat intervals, the server will send a Logout and break the TCP/IP connection with the Participant. The Participant is expected to employ similar logic if inactivity is detected on the part of the server.

4.2.3 Increasing Expected Sequence Number

The Participant 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 Participant 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 Session

The Participant is expected to terminate each FIX connection at the end of each trading day before the server shuts down. The Participant will terminate a connection by sending the [Logout](#) message. The server will respond with a [Logout](#) to confirm the termination. The Participant will then break the TCP/IP connection with the server.

All open TCP/IP connections will be terminated by the server when it shuts down (a [Logout](#) will not 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 Participant or sever 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 Participant is authenticated, the server will respond with a [Logon](#) message. The SessionStatus (1409) of this message will be Session Active (0). If the Participant's [Logon](#) message included the field NewPassword (925) and the Participant is authenticated, the SessionStatus (1409) of the [Logon](#) sent by the server will be Session Active (0).

When the Participant sends a logon with a sequence number higher than expected by the FIX Gateway, the FIX gateway will send a [Resend Request](#) and 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 Participant and server is in sync before sending out any missed or new application messages.

The Participant must wait for the server's [Logon](#) before sending additional messages. If additional messages are received from the Participant before the exchange of [Logon](#) messages, the TCP/IP connection with the Participant will be disconnected.

Once the FIX session is re-established successfully, 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 Participant

If the Participant 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.

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

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

4.4.1.2 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 Participant in the unlikely event of an outage.

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

5.0 Recovery

5.1 Resend Requests

The Participant 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:

- To request a single message. The BeginSeqNo (7) and EndSeqNo (16) should be the same.
- 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.
- 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 Participant 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 does not handle possible resends for Participant-initiated messages and ignores the value in the PossResend (97) field of such messages.

The server may, in the circumstances outlined in sections [5.4 Transmission of Missed Messages](#) and [5.5 Resending Previous Execution Reports](#), use the PossResend (97) field to indicate that an [Execution Report](#) may have already been sent under a different MsgSeqNum (34). The Participant should validate the ExecID (17) of such a message against those of [Execution Reports](#) already received during the current trading day.

If an [Execution Report](#) with same ExecID (17) had been processed, the resent message should be ignored. If the same ExecID (17) had not been processed, the [Execution Report](#) should be processed.

5.4 Transmission of Missed Messages

The [Execution Reports](#) generated during a period when a Participant is disconnected from the server will be sent to the Participant 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”.

The [Execution Report](#) messages are automatically generated when a Participant reconnects. Participants are not required to explicitly request for the messages. The resend request applies only when the server has sent messages that a Participant has not received.

6.0 Message Formats

This section provides details on the header and trailer, the seven administrative messages and twelve application messages utilized by the server. 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.

6.1 Supported Message Types

6.1.1 Administrative Messages

All administrative messages may be initiated by either the Participant or the server. Please note that administrative messages are not validated for undefined TAGs. However, if a required field is, the message will be rejected via a Session Reject.

Message	MsgType	Usage
Logon	A	Allows the Participant and server to establish a FIX session.
Logout	5	Allows the Participant and server to terminate a FIX session.
Heartbeat	0	Allows the Participant 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 Participant 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 Participant or server to increase the expected incoming sequence number of the other party.

6.1.2 Application Messages

6.1.2.1 Participant-Initiated

Message	MsgType	Usage
Order Mass Status Request	AF	Allows the Participant to request the status of all active orders for a particular trading mnemonic.
User Request	BE	Allows the sponsoring user to submit a user activation, suspension or a user status query request.

6.1.2.2 Server-Initiated

Message	MsgType	Usage
Execution Report	8	Indicates one of the following: (i) Order accepted (ii) Order rejected (iii) Order executed (iv) Order expired (v) Order cancelled (vi) Order cancel/replaced (vii) Trade cancellation (viii) Order mass status request rejected
User Response	BF	Response to a User Request message

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. <table border="0"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>FGW</td> <td>Drop Copy Gateway</td> </tr> </tbody> </table>	Value	Meaning	FGW	Drop Copy Gateway		
Value	Meaning								
FGW	Drop Copy Gateway								
115	OnBehalfOf CompID	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="0"> <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="0"> <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.				
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. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>FIX50SP2</td> </tr> </tbody> </table>	Value	Meaning	9	FIX50SP2
Value	Meaning						
9	FIX50SP2						
128	DeliverToCompID	N	The value specified in the OnBehalfOfCompID(115) field will be stamped; 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. Value Meaning <hr/> 0 None
108	HeartBtInt	Y	Indicates the heartbeat interval in seconds.
141	ResetSeqNum Flag	N	Indicates whether the Participant and server should reset sequence numbers. Absence of this field is interpreted as Do Not Reset Sequence Numbers (N). Value Meaning <hr/> Y Reset Sequence Numbers <hr/> N Do Not Reset Sequence Numbers
554	Password	Y	Password assigned to the CompID. Required if the message is generated by the Participant.
925	NewPassword	N	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 <hr/> 0 Session Active <hr/> 2 Password Due to Expire <hr/> 3 New session password does not comply with policy
1137	DefaultAppVerID	Y	Default version of FIX messages used in this session. Value Meaning <hr/> 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	<p>Status of the FIX session. Required if the message is generated by the server.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Session logout complete</td> </tr> <tr> <td>5</td> <td>Invalid password</td> </tr> <tr> <td>6</td> <td>Account locked</td> </tr> <tr> <td>7</td> <td>Logons are not allowed at this time</td> </tr> <tr> <td>8</td> <td>Password expired</td> </tr> <tr> <td>100</td> <td>Other</td> </tr> <tr> <td>101</td> <td>Logout due to session level failure</td> </tr> <tr> <td>102</td> <td>Logout by Market Operations</td> </tr> </tbody> </table>	Value	Meaning	4	Session logout complete	5	Invalid password	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 Operations
Value	Meaning																				
4	Session logout complete																				
5	Invalid password																				
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 Operations																				
58	Text	N	<p>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.</p> <p>In other cases the field will contain the reason for the logout.</p>																		
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	SessionRejectReason	N	Code specifying the reason for the reject. Refer to TQ801 for a list of reject codes.
58	Text	N	Text specifying the reason for the rejection.
Standard Trailer			

6.3.7 Sequence Reset

Tag	Field Name	Req	Description						
<u>Standard Header</u>									
35	MsgType	Y	4 = Sequence Reset						
Message Body									
36	NewSeqNo	Y	Sequence number of the next message to be transmitted.						
123	GapFillFlag	N	<p>Mode in which the message is being used. Absence of this field is interpreted as Sequence Reset (N).</p> <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								
<u>Standard Trailer</u>									

6.4 Application Messages: (Participant-Initiated)

6.4.1 Order Mass Status Request

Tag	Field Name	Req	Description				
<u>Standard Header</u>							
35	MsgType	Y	AF = Order Mass Status Request				
Message Body							
584	MassStatus ReqID	Y	Participant specified identifier of the mass status request.				
585	MassStatus ReqType	Y	<p>Type of mass status request.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>All open orders of specified PartyID</td> </tr> </tbody> </table>	Value	Meaning	8	All open orders of specified PartyID
Value	Meaning						
8	All open orders of specified PartyID						

453	NoPartyIDs	Y	Number of party identifiers. The value in this field can be "1" or "2".
➔	448	PartyID	Y Identifier of the trader group
➔	447	PartyID Source	Y Value Meaning ----- D Proprietary/Custom Code
➔	452	Party Role	Y Role of the PartyID (448). Value Meaning ----- 76 Trader Group
Standard Trailer			

6.4.2 User Request

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	BE = UserRequest
Message Body			
923	UserRequestID	Y	Client specified unique identifier of the user request. Maximum allowed length is 20. The server does not validate each UserRequestID for uniqueness. It is recommended that the clients ensure unique UserRequestIDs per user.
924	UserRequestType	Y	Indicates the action required by the user request. Value Meaning ----- 4 Request individual user status ----- 103 Suspend user ----- 104 Activate user
553	Username	Y	User ID of the sponsored user. Maximum allowed length is 11.
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			
17	ExecID	Y	Server specified identifier of the message. Will be "0" if ExecType (150) is Order Status (I).
880	TrdMatchID	N	Will contain the unique trade identifier sent with each trade to the CCPs without the 'B/S' prefix to indicate the side and '1' to indicate a cancelled trade. Required if ExecType (150) = F, or H.
11	ClOrdID	Y	Participant specified identifier of the order.
41	OrigClOrdID	N	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.
37	OrderID	N	Server specified identifier of the order.
198	SecondaryOrderID	Y	Indicates the corresponding Market Data (MITCH) Order ID. This is a 16 character hexadecimal ascii string that needs converting to 8 byte binary for comparison with the MITCH Order ID
584	MassStatus ReqID	N	Participant specified identifier of the mass status request. Required is the message in sent in response to such a request.
2668	NoTrdRegPublications	N	The number of regulatory publication rules in the repeating group. Will be set to 1 for the RFPT Pre-trade flag.

➔	2669	TrdRegPublicationType	N	<p>Specifies the type of regulatory trade publication.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Pre-trade transparency waiver</td> </tr> </tbody> </table>	Value	Meaning	0	Pre-trade transparency waiver
Value	Meaning							
0	Pre-trade transparency waiver							
➔	2670	TrdRegPublicationReason	N	<p>Populated when Execution Type is F or H. The Pre-trade Waiver Flags section describes in which scenarios the values are populated.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>RFPT</td> </tr> </tbody> </table>	Value	Meaning	3	RFPT
Value	Meaning							
3	RFPT							
Component Block <Order Attributes>			N	Please refer to section 6.6.2.				
1724	OrderOrigination		N	<p>Whether the order was generated via Direct Electronic Access (DEA) or not. Only the following value can be sent by the customer.</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>DEA</td> </tr> </tbody> </table>	Value	Meaning	5	DEA
Value	Meaning							
5	DEA							
912	LastRpt Requested		N	<p>Indicates the last message sent in response to a mass order status request.</p> <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	<p>Reason the execution report was generated.</p> <table border="1"> <thead> <tr> <th data-bbox="730 434 799 461">Value</th> <th data-bbox="842 434 943 461">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 506 746 533">0</td> <td data-bbox="842 506 895 533">New</td> </tr> <tr> <td data-bbox="730 577 746 604">4</td> <td data-bbox="842 577 954 604">Cancelled</td> </tr> <tr> <td data-bbox="730 649 746 676">5</td> <td data-bbox="842 649 948 676">Replaced</td> </tr> <tr> <td data-bbox="730 721 746 748">8</td> <td data-bbox="842 721 943 748">Rejected</td> </tr> <tr> <td data-bbox="730 792 746 819">C</td> <td data-bbox="842 792 927 819">Expired</td> </tr> <tr> <td data-bbox="730 864 746 891">D</td> <td data-bbox="842 864 943 891">Restated</td> </tr> <tr> <td data-bbox="730 936 746 963">F</td> <td data-bbox="842 936 906 963">Trade</td> </tr> <tr> <td data-bbox="730 1008 746 1034">H</td> <td data-bbox="842 1008 986 1034">Trade Cancel</td> </tr> <tr> <td data-bbox="730 1079 746 1106">I</td> <td data-bbox="842 1079 979 1106">Order Status</td> </tr> <tr> <td data-bbox="730 1151 746 1178">L</td> <td data-bbox="842 1151 948 1178">Triggered</td> </tr> </tbody> </table>	Value	Meaning	0	New	4	Cancelled	5	Replaced	8	Rejected	C	Expired	D	Restated	F	Trade	H	Trade Cancel	I	Order Status	L	Triggered
Value	Meaning																								
0	New																								
4	Cancelled																								
5	Replaced																								
8	Rejected																								
C	Expired																								
D	Restated																								
F	Trade																								
H	Trade Cancel																								
I	Order Status																								
L	Triggered																								
30001	OrderBook	Y	<p>Populated for all execution reports generated from the Turquoise Lit™ Order Book, Turquoise Lit Auctions™ Order Book and the Turquoise Plato™ Order Book.</p> <table border="1"> <thead> <tr> <th data-bbox="730 1375 799 1402">Value</th> <th data-bbox="842 1375 943 1402">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 1447 746 1473">1</td> <td data-bbox="842 1447 938 1473">Regular</td> </tr> </tbody> </table>	Value	Meaning	1	Regular																		
Value	Meaning																								
1	Regular																								
19	ExecRefID	N	<p>Reference to the execution being cancelled. Required if ExecType (150) is Trade Cancel (H).</p>																						

378	Exec Restatement Reason	N	Reason the order was restated. Required if ExecType (150) is Restated (D) or the order is cancelled by Market Operations. Value Meaning <hr/> 8 Market Option (Order/Trade is cancelled by Market operations) <hr/> 100 Order replenishment (with a new Public Order ID)
39	OrdStatus	Y	Current status of the order. Value Meaning <hr/> 0 New <hr/> 1 Partially Filled <hr/> 2 Filled <hr/> 4 Cancelled <hr/> 8 Rejected <hr/> 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). The value in this field should be disregarded if Exec Type is not Rejected (8) or Expired(C). Please refer to TQ801 for the Reject Codes and Reasons.
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).
31	LastPx	N	Price of this fill. Required if ExecType (150) is Trade (F).

151	LeavesQty	N	Quantity available for further execution. Will be "0" if OrdStatus (39) is Filled (2), Cancelled (4), Rejected (8) or Expired (C).								
14	CumQty	N	Total cumulative quantity filled.								
55	Symbol	N	MTF Common Symbol. (Max. length 8 bytes)								
48	SecurityID	N	Identifier of the instrument.								
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>4</td> <td>ISIN</td> </tr> </tbody> </table>	Value	Meaning	4	ISIN				
Value	Meaning										
4	ISIN										
9303	RoutingInst	N	Indicates the book which generated the execution report message <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>Turquoise Lit™ Order Book</td> </tr> <tr> <td>A</td> <td>Turquoise Lit Auctions™ Order Book</td> </tr> <tr> <td>M</td> <td>Turquoise Plato™ Order Book</td> </tr> </tbody> </table>	Value	Meaning	I	Turquoise Lit™ Order Book	A	Turquoise Lit Auctions™ Order Book	M	Turquoise Plato™ Order Book
Value	Meaning										
I	Turquoise Lit™ Order Book										
A	Turquoise Lit Auctions™ Order Book										
M	Turquoise Plato™ Order Book										
15	Currency	N	Currency Code as per ISO 4217 Currency Code List								
207	SecurityExchange	N	Market Identifier Code as per ISO 10383								

18	Execlnst	N	<p>Applicable to the Turquoise Plato™ Order Book only.</p> <p>Indicates if the order should participate in the Turquoise Plato Uncross™ Only or in Continuous trading Only or both.</p> <p>If unspecified the order will participate in both continuous and Turquoise Plato Uncross™ events (by default), unless an election has been made by the Participant to change the default Execution Instruction applied to their Order when omitted (for that Participant).</p> <table border="1" data-bbox="715 734 1289 1115"> <thead> <tr> <th data-bbox="730 741 799 763">Value</th> <th data-bbox="842 741 943 763">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 813 746 835">w</td> <td data-bbox="842 813 1209 864">Turquoise Plato Uncross™ then Continuous</td> </tr> <tr> <td data-bbox="730 913 746 936">x</td> <td data-bbox="842 913 1209 965">Continuous and Turquoise Plato Uncross™</td> </tr> <tr> <td data-bbox="730 1014 746 1037">y</td> <td data-bbox="842 1014 1018 1037">Continuous only</td> </tr> <tr> <td data-bbox="730 1086 746 1108">z</td> <td data-bbox="842 1086 1209 1108">Turquoise Plato Uncross™ only</td> </tr> </tbody> </table>	Value	Meaning	w	Turquoise Plato Uncross™ then Continuous	x	Continuous and Turquoise Plato Uncross™	y	Continuous only	z	Turquoise Plato Uncross™ only
Value	Meaning												
w	Turquoise Plato Uncross™ then Continuous												
x	Continuous and Turquoise Plato Uncross™												
y	Continuous only												
z	Turquoise Plato Uncross™ only												

9730	TradeLiquidityIndicator	N	<p>Whether the order added or removed liquidity.</p> <p>Required only for messages generated for trades or trade cancellations. Will be populated for both automatic trades (AT) and auction trades (UT).</p> <p>Possible values are:</p> <table border="1"> <thead> <tr> <th data-bbox="730 622 799 651">Value</th> <th data-bbox="836 622 938 651">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 696 746 725">A</td> <td data-bbox="836 696 1007 725">Added Liquidity</td> </tr> <tr> <td data-bbox="730 770 746 799">R</td> <td data-bbox="836 770 1038 799">Removed Liquidity</td> </tr> <tr> <td data-bbox="730 913 746 943">C</td> <td data-bbox="890 837 1262 1016"> <ul style="list-style-type: none"> • Turquoise Plato Uncross™ in Turquoise Plato™ Order Book Execution • Turquoise Lit Auctions™ Order Book Execution </td> </tr> <tr> <td data-bbox="730 1077 746 1106">S</td> <td data-bbox="836 1061 1257 1122">Block Discovery Execution- Turquoise Plato Uncross™</td> </tr> <tr> <td data-bbox="730 1173 746 1202">T</td> <td data-bbox="836 1158 1145 1218">Block Discovery Execution – Continuous Trading</td> </tr> </tbody> </table>	Value	Meaning	A	Added Liquidity	R	Removed Liquidity	C	<ul style="list-style-type: none"> • Turquoise Plato Uncross™ in Turquoise Plato™ Order Book Execution • Turquoise Lit Auctions™ Order Book Execution 	S	Block Discovery Execution- Turquoise Plato Uncross™	T	Block Discovery Execution – Continuous Trading
Value	Meaning														
A	Added Liquidity														
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S	Block Discovery Execution- Turquoise Plato Uncross™														
T	Block Discovery Execution – Continuous Trading														
1094	PegPriceType	N	<p>Pegged Price of the order. Only Applicable to Turquoise Plato™ Order Book. Will always have the value 0.</p> <table border="1"> <thead> <tr> <th data-bbox="730 1384 799 1413">Value</th> <th data-bbox="836 1384 938 1413">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 1458 746 1487">0</td> <td data-bbox="836 1458 1082 1487">Default peg (Mid Point)</td> </tr> </tbody> </table>	Value	Meaning	0	Default peg (Mid Point)								
Value	Meaning														
0	Default peg (Mid Point)														

27010	PassiveOnlyOrder	N	<p>Value submitted with the order.</p> <table border="1"> <thead> <tr> <th data-bbox="730 434 799 461">Value</th> <th data-bbox="890 434 991 461">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 506 746 533">0</td> <td data-bbox="890 506 1034 533">No constraint</td> </tr> <tr> <td data-bbox="730 607 762 633">99</td> <td data-bbox="890 573 1278 663">Only accept order if it will not match with visible (TQ LIT) contra order. Otherwise expire order</td> </tr> <tr> <td data-bbox="730 719 778 745">100</td> <td data-bbox="890 707 1270 757">Only accept order if setting new visible BBO, otherwise expire order</td> </tr> <tr> <td data-bbox="730 831 746 857">1</td> <td data-bbox="890 797 1230 887">Only accept order if setting new BBO or joining existing BBO. Otherwise expire order</td> </tr> <tr> <td data-bbox="730 965 746 992">2</td> <td data-bbox="890 931 1262 1021">Only accept order if will be at BBO or within one visible price-point. Otherwise expire order</td> </tr> <tr> <td data-bbox="730 1077 746 1104">3</td> <td data-bbox="890 1055 1262 1144">Only accept order if will be at BBO or within two visible price-points. Otherwise expire order</td> </tr> </tbody> </table>	Value	Meaning	0	No constraint	99	Only accept order if it will not match with visible (TQ LIT) contra order. Otherwise expire order	100	Only accept order if setting new visible BBO, otherwise expire order	1	Only accept order if setting new BBO or joining existing BBO. Otherwise expire order	2	Only accept order if will be at BBO or within one visible price-point. Otherwise expire order	3	Only accept order if will be at BBO or within two visible price-points. Otherwise expire order
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2	Only accept order if will be at BBO or within one visible price-point. Otherwise expire order																
3	Only accept order if will be at BBO or within two visible price-points. Otherwise expire order																
27012	Reputational Score	N	Reputational Score for the Participant at the time of the Turquoise Investment Firm match														
278	MDEntryID	N	Public Order ID														
20000	TypeOfTrade	N	<p>Indicates whether the executed portion of a passive order is visible or hidden. Required only of ExecType (150) = F - Trade. If ExecType(150) = F(Trade), then 2 will be stamped for all ERs</p> <table border="1"> <thead> <tr> <th data-bbox="730 1503 799 1529">Value</th> <th data-bbox="826 1503 927 1529">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 1574 746 1601">0</td> <td data-bbox="826 1574 906 1601">Visible</td> </tr> <tr> <td data-bbox="730 1641 746 1668">1</td> <td data-bbox="826 1641 906 1668">Hidden</td> </tr> <tr> <td data-bbox="730 1709 746 1736">2</td> <td data-bbox="826 1709 970 1736">Not specified</td> </tr> </tbody> </table>	Value	Meaning	0	Visible	1	Hidden	2	Not specified						
Value	Meaning																
0	Visible																
1	Hidden																
2	Not specified																
Component Block <Trading Party>	Y	Identifier of the trading party. If an invalid Trader Group (76) is specified in the order, the party block with the invalid Trader Group (76) will not be included in the rejected Execution Report.															

1	Account	N	Participant reference information.												
40	OrdType	Y	Type of the order. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Market</td> </tr> <tr> <td>2</td> <td>Limit</td> </tr> <tr> <td>P</td> <td>Pegged</td> </tr> </tbody> </table>	Value	Meaning	1	Market	2	Limit	P	Pegged				
Value	Meaning														
1	Market														
2	Limit														
P	Pegged														
59	TimeInForce	N	Time qualifier of the order. Absence of this field is interpreted as Day (0). <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Day</td> </tr> <tr> <td>3</td> <td>Immediate or Cancel (IOC)</td> </tr> <tr> <td>4</td> <td>Fill or Kill (FOK)</td> </tr> <tr> <td>6</td> <td>Good Till Date (GTD)</td> </tr> <tr> <td>9</td> <td>Good for Auction (GFA)</td> </tr> </tbody> </table>	Value	Meaning	0	Day	3	Immediate or Cancel (IOC)	4	Fill or Kill (FOK)	6	Good Till Date (GTD)	9	Good for Auction (GFA)
Value	Meaning														
0	Day														
3	Immediate or Cancel (IOC)														
4	Fill or Kill (FOK)														
6	Good Till Date (GTD)														
9	Good for Auction (GFA)														
126	ExpireTime	N	Time the order expires which must be a time during the current trading day.												
54	Side	N	Side of the order that was executed. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Buy</td> </tr> <tr> <td>2</td> <td>Sell</td> </tr> </tbody> </table>	Value	Meaning	1	Buy	2	Sell						
Value	Meaning														
1	Buy														
2	Sell														
38	OrderQty	N	Total order quantity.												
1138	DisplayQty	N	Quantity currently displayed in the order book.												
110	MinQty	N	Minimum Quantity of the order.												

44	Price	N	Limit price. Required if OrdType (40) is Limit (2) and optional if OrdTyp(40)=P"								
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	N	Capacity of the order. <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Any other trading capacity (AOTC)</td> </tr> <tr> <td>P</td> <td>Dealing on own account (DEAL)</td> </tr> <tr> <td>R</td> <td>Matched Principal (MTCH)</td> </tr> </tbody> </table>	Value	Meaning	A	Any other trading capacity (AOTC)	P	Dealing on own account (DEAL)	R	Matched Principal (MTCH)
Value	Meaning										
A	Any other trading capacity (AOTC)										
P	Dealing on own account (DEAL)										
R	Matched Principal (MTCH)										
1084	DisplayMethod	N	Value Meaning <table border="1"> <tbody> <tr> <td>4</td> <td>Undisclosed (Hidden Order)</td> </tr> <tr> <td>3</td> <td>Random (randomize value)</td> </tr> </tbody> </table> <p>If this is populated with value "4" while a value which is greater than 0 is populated in DisplayQty (1138), the order will be considered as a Hidden (Reserve) Order. If this is populated with value "3" while a value which is greater than 0 and less than the Order Quantity is populated in DisplayQty (1138), the DisplayQty (1138) after replenishment will be random.</p> <p>If blank while a value which is greater than 0 and less than the Order Quantity is populated in DisplayQty (1138), the DisplayQty (1138) after a replenishment will be "fixed peak"</p>	4	Undisclosed (Hidden Order)	3	Random (randomize value)				
4	Undisclosed (Hidden Order)										
3	Random (randomize value)										
60	TransactTime	Y	Time the transaction represented by the Execution Report occurred.								
526	SecondaryCIOrdID	N	A secondary id assigned by the trading party								

583	CIOrdLinkID	N	Permits order originators to tie together groups of orders in which trades resulting from orders are associated for a specific purpose. e.g. Calculation of average execution price.												
851	LastLiquidityInd	N	Whether the order added or removed liquidity. Required only for messages generated for trades or trade cancellations. For other execution types, the value in this tag should be ignored. Will be populated for both trades executed during Continuous trading or during Turquoise Plato Uncross™ events. Possible values are: <table border="1"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Added Liquidity</td> </tr> <tr> <td>2</td> <td>Removed Liquidity</td> </tr> <tr> <td>4</td> <td>Turquoise Lit Auctions™ or Turquoise Plato™ Order Book Turquoise Plato Uncross™ Execution</td> </tr> <tr> <td>8</td> <td>Turquoise Plato Block Discovery™ Execution – Continuous Trading</td> </tr> <tr> <td>9</td> <td>Turquoise Plato Block Discovery™ Execution- Turquoise Plato Uncross™</td> </tr> </tbody> </table>	Value	Meaning	1	Added Liquidity	2	Removed Liquidity	4	Turquoise Lit Auctions™ or Turquoise Plato™ Order Book Turquoise Plato Uncross™ Execution	8	Turquoise Plato Block Discovery™ Execution – Continuous Trading	9	Turquoise Plato Block Discovery™ Execution- Turquoise Plato Uncross™
Value	Meaning														
1	Added Liquidity														
2	Removed Liquidity														
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8	Turquoise Plato Block Discovery™ Execution – Continuous Trading														
9	Turquoise Plato Block Discovery™ Execution- Turquoise Plato Uncross™														
Standard Trailer															

6.5.2 User Response

Tag	Field Name	Req	Description
Standard Header			
35	MsgType	Y	BF = UserResponse
Message Body			
923	UserRequestID	Y	Client specified identifier of the user request (MsgType=BE) the response corresponds to.
553	Username	Y	User ID of the sponsored user in the corresponding user request.

926	UserStaus	Y	Indicates the status of the user.
			Value Meaning
			3 User Not Recognised
			6 Other
			103 User suspended
104 User active			
927	UserStatusText	N	Gives the reason for rejecting the user request.
Standard Trailer			

6.6 Components of Application Messages

6.6.1 Trading Party

Tag	Field Name	Req	Description
453	NoPartyIDs	Y	Number of party identifiers. The value in this field can be "4", "5" or "6".

➔	448	PartyID	Y	<p>Identifier of the party.</p> <p>If a trade is cleared when the PartyRole = CounterPartyFirm (17), PartyID will be stamped with the CCP value.</p> <p>ECCP</p> <hr/> <p>LCH</p> <hr/> <p>X-Clear</p> <hr/> <p>LCH SA</p> <p>If a trade is internalized when PartyRole = CounterPartyFirm (17), PartyID will be stamped with the Executing Firm.</p> <p>If a trade is not cleared when PartyRole = CounterPartyFirm (17), PartyID will be stamped with Contra Broker Firm.</p> <p>If the optional field TraderID (PartyRole=100) is specified in New Order or Order Cancel/Replace Request message, Execution Report message will stamp the value specified in the New order or the latest order modification request. However, TraderID specified in Order Cancel Request messages are ignored by the system.</p> <p>Short code in a range from 4 to 4294967295 can be used to identify the Client, Investment Decision Maker or Executing Trader.</p> <p>Value '0' is valid only for Client ID (PartyRole = 3) and Investment Decision Maker (PartyRole = 122) party roles. Value '1' and '2' are valid only for Client ID (PartyRole = 3). Value '3' is valid only for Executing Trader (PartyRole = 12).</p> <p>Short Code is valid only for Client ID (3) Investment Decision Maker (122) and Executing Trader (12) party roles</p> <table border="1" data-bbox="655 1653 1168 1872"> <thead> <tr> <th>Value</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>None</td> </tr> <tr> <td>1</td> <td>AGGR (Aggregated Order)</td> </tr> <tr> <td>2</td> <td>PNAL (Pending Allocations)</td> </tr> <tr> <td>3</td> <td>CLIENT</td> </tr> </tbody> </table>	Value	Meaning	0	None	1	AGGR (Aggregated Order)	2	PNAL (Pending Allocations)	3	CLIENT
Value	Meaning													
0	None													
1	AGGR (Aggregated Order)													
2	PNAL (Pending Allocations)													
3	CLIENT													

➔	447	PartyIDSource	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> <tr> <td>P</td> <td>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	PartyRole	Y	<p>Role of the specified PartyID (448). Counterparty Firm (17) will only be populated if Exec Type (150) is Trade (F) or Trade Cancel (H).</p> <table border="1"> <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																	
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76	Trader Group																	
3	Client ID																	
122	Investment Decision Maker																	
12	Executing Trader																	
➔	2376	PartyRoleQualifier	N	<p>Provides a further qualification for the value specified in the PartyRole (452).</p> <table border="1"> <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																	

6.6.2 Order Attributes

Tag	Field Name	Req	Description
2593	NoOrderAttributes	N	Number of order attributes.

➔	2594	OrderAttributeType	N	<p>Indicates if the order was generated via an algorithm or is submitted as a part of liquidity provision (i.e. as a part of the market making strategy).</p> <table border="1"> <thead> <tr> <th data-bbox="639 533 730 562">Value</th> <th data-bbox="746 533 847 562">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="676 577 692 607">4</td> <td data-bbox="746 577 847 607">Algorithm</td> </tr> <tr> <td data-bbox="676 622 692 651">2</td> <td data-bbox="746 622 943 651">Liquidity Provision</td> </tr> </tbody> </table>	Value	Meaning	4	Algorithm	2	Liquidity Provision
Value	Meaning									
4	Algorithm									
2	Liquidity Provision									
	2595	OrderAttributeValue	N	<p>Mandatory if OrderAttributeType (2594) is specified.</p> <table border="1"> <thead> <tr> <th data-bbox="639 779 730 808">Value</th> <th data-bbox="746 779 847 808">Meaning</th> </tr> </thead> <tbody> <tr> <td data-bbox="676 824 692 853">Y</td> <td data-bbox="746 824 791 853">Yes</td> </tr> </tbody> </table>	Value	Meaning	Y	Yes		
Value	Meaning									
Y	Yes									

7.0 Service availability

Customer Activity	Availability
Telnet Access	04.00 – 20:15
Login Access	04.00 – 20:15

Disclaimer

This service description is being distributed by Turquoise Global Holdings Limited only to, and is directed only at (a) persons who have professional experience in matters relating to investments who fall within Article 19(1) of the FSMA 2000 (Financial Promotion) Order 2005 and (b) persons to whom it may otherwise lawfully be communicated (together “relevant persons”). Any investment or investment activity to which this document relates is available only to and will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this service description or any of its contents.

Turquoise Global Holdings Limited is an authorised investment firm by the Financial Conduct Authority.

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