TQD301 · TECHNICAL SPECIFICATION

Turquoise Derivatives SAIL Specification

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Contents

1 Introduction

1.1 Purpose

The purpose of this publication is to provide participants with the knowledge and technical details necessary for accessing and using the Turquoise derivatives trading system.

This SAIL specification provides essential information for participants and independent software vendors in the functional design of their application in order to interface with Turquoise using the native SOLA Access Information Language (SAIL) protocol.

1.2 Readership

The target audience for this publication is the business or Information Technology level of an organisation interested in the functional design of the Turquoise derivatives platform.

1.3 Revision History

This document has been through the following iterations:

Issue	Date	Description
1.0	21 December 2010	Publication of initial version

2 Overview

2.1 Introduction

The SAIL protocol is defined at two levels: technical and business. The technical level deals with the delivery of data while the business level defines business-related data content. This document is organized to reflect the distinction.

2.2 Message Format

All technical and business SAIL messages start with 4 bytes of Endian coded message length. An End of Text (ETX) binary 3 is added after the last character of each business message, and it is padded with spaces of 4 bytes for alignment.

Example:

```
Message: <21>xxxxxxxxxxxxxxxxxxxxx<ETX>< >
<0021> (4 bytes) length of business message. Codification Little Endian.
<xxxxxxxxxxxxxxxxxxxxx>: (21 bytes) Business Message body
<ETX>: (1 byte) End of Text, binary 3
<       > 2 spaces for alignment
```

2.3 Required Fields

Each message within the protocol is comprised of fields which are either:

R = Required
O = Optional
C = Conditional (fields which are required based on the presence, or value of other fields).

Systems should be designed to operate only when the required and conditionally required fields are present.

3 Technical Messages

A complete breakdown of all field definitions contained within these messages can be found in Section 6.

3.1 TC: User Connection

Participant to Turquoise

User Connection is the first message to be sent by the participant at the beginning of the day.

Field Name		Field Type	R/O/C
Message Type: TC		Message Type	R
Protocol Version		Protocol	R
User ID		User ID	R
Password (MD5 Encryption)		Password	R
Session ID		Session ID	O
Time (CET)		Time	R
Exchange Message ID		Exchange Message ID	O
Inactivity Interval		Numeric (x) (2)	O
Number of Message types to be received		Numeric (x) (2)	R
(1 to 99 occurrences)	Message types to be received	Message Type	R

The key fields for this message are described below.

3.1.1 Session ID

If set to blank spaces, means that the participant wants to connect to the current session ID.

3.1.2 Exchange Message ID

If equal to zeroes: start from 1st message of the session.
If equal to blanks: start from next message for Participant.
If valid Exchange Message ID: start at this message ID or the next message for the Participant.

3.1.3 Inactivity Interval

Number of missed heartbeats before considering the user disconnected. If set to 0, the user is never considered as disconnected by the system.

3.1.4 Number of Message Types to be Received

Indicates the number of message types (specified further in the message) the Participant wants to receive.

3.1.5 Message Types to be Received

A list (max 99 occurrences) of message types requested by the participant.
The following messages are sent to the Participant even if they are not part of the list: ER, TE, TO, TH, and TT.

3.2 TD: User Disconnection

Participant to Turquoise

The Trader Disconnection message is sent by the participant to the Turquoise when it wants to disconnect from the system.

Field Name	Field Type	R/O/C
Message Type = TD	Message Type	R
User ID	User ID	R
Session ID	Session ID	O

3.3 TA: Disconnection Instruction

Participant to Turquoise

This message is used by a participant to indicate the instruction(s) to execute if the connection ends.

<table>
<tr><th colspan="2">Field Name</th><th>Field Type</th><th>R/O/C</th></tr>
<tr><td colspan="2">Message Type = TA</td><td>Message Type</td><td>R</td></tr>
<tr><td colspan="2">Number of Instructions present in the message</td><td>Numeric (x) (2)</td><td>R</td></tr>
<tr><td rowspan="3">1 to 99 occurrences</td><td>Trader ID</td><td>Trade Type</td><td>R</td></tr>
<tr><td>Disconnection Instruction
Q: Cancel</td><td>Enum</td><td>R</td></tr>
<tr><td>Active: Y (ON) N (OFF)</td><td>Flag</td><td>R</td></tr>
</table>

3.4 TH: Heartbeat (Question)

Turquoise to Participant

This message is sent by Turquoise to the participant at the beginning of every Heartbeat period. For each connection, participants are allowed to send a configured number of messages per second.

This message indicates the first message to be processed in the Heartbeat period. If there is no pending message from the participant, the field User Sequence ID represents the next expected User Sequence ID.

Field Name	Field Type	R/O/C
Message Type = TH	Message Type	R
User Sequence ID (first User Sequence ID for next/current	User Sequence ID	R
Last Exchange Message ID (sent to participant)	Exchange Message ID	R
Time (CET)	Time	R

3.5 TI: Heartbeat (Response)

Participant to Turquoise

A Heartbeat message sent Turquoise to the participant at the beginning of every Heartbeat period must receive a response from the participant application within 'n' units specified in the Connection message. The response can be any message. If a Heartbeat is not responded to, the participant is considered as not connected and the disconnection instructions specified in the Disconnection Instructions message (TA: Disconnection Instruction) are executed.

Message TI is used to respond to a Heartbeat (TH) if no other message needs to be sent.

Field Name	Field Type	R/O/C
Message Type = TI	Message Type	R
User Sequence ID (first User Sequence ID for next/current	User Sequence ID	R
Last Exchange Message ID (sent to participant)	Exchange Message ID	R
Time (CET)	Time	R

3.6 TO: Out Of Sequence

Turquoise to Participant

This message is sent by Turquoise when the User Sequence ID in the message is out of sequence. Participant must reconnect.

Field Name	Field Type	R/O/C
Message Type = TO	Message Type	R
Received User Sequence ID	User Sequence ID	R
Expected Last User Sequence ID	User Sequence ID	R
Message Time (CET)	Time	R

3.7 TE: Technical Error Notice

Turquoise to Participant

This message is sent by the Turquoise when a technical error is encountered in the message sent by the participant. Refer to Section 5 for a full list of error codes.

Field Name	Field Type	R/O/C
Message Type = TE	Message Type	R
Received Message Type	Message Type	R
Preceding User Sequence ID received (zeroes if none)	User Sequence ID	R
Error Code	Error Code	R
Error Position	Numeric (x) (4)	R
Error Message	String (x) (100)	R
Start of message in error	String (x) (100)	R

3.7.1 Received Message Type

Refers to the message which contained the error.

3.7.2 Error Position

Determines the bytes at which an error has been detected.

3.7.3 Start of Message in Error

The first 100 characters of an erroneous message.

3.8 TM: Disconnection Instruction Acknowledgement

Turquoise to Participant

This message is sent to acknowledge receipt of **TA: Disconnection Instruction** message.

Field Name	Field Type	R/O/C
Message Type = TM	Message Type	R
Current Session ID	Session ID	R
Last User Sequence ID received	User Sequence ID	O

3.9 TK: Connection Acknowledgement

Turquoise to Participant

This message is sent to acknowledge receipt of **TC: User Connection** message.

Field Name	Field Type	R/O/C
Message Type = TK	Message Type	R
Current Session ID	Session ID	R
Last User Sequence ID received	User Sequence ID	O

3.10 TL: Disconnection Acknowledgement

Turquoise to Participant

This message is sent to acknowledge receipt of **TD: User Disconnection** message.

Field Name	Field Type	R/O/C
Message Type = TL	Message Type	R
Current Session ID	Session ID	R
Last User Sequence ID received	User Sequence ID	O

3.11 TT: End Of Transmission

Turquoise to Participant

This message is sent to indicate that the session's transmission is completed. Participant is disconnected.

Field Name	Field Type	R/O/C
Message Type = TT	Message Type	R
Ended Session ID	Session ID	R
Last User Sequence ID received	User Sequence ID	O
Time (CET)	Time	R

4 Business Messages

A complete breakdown of all field definitions contained within these messages can be found in Section 6.

4.1 Message Headers

4.1.1 Incoming Messages Header

Size: 24

This is the header required on all incoming participant business messages.

Field Name	Field Type	R/O/C
Message Type	Message Type	R
User Time (CET)	Time	R
Trader ID	Trader ID	R
User Sequence ID	User Sequence ID	R

4.1.1.1 User Sequence ID

This field contains a unique sequential number that the participant must set in all business messages. The first business message must have this number set to 1, the second set to 2, and so on.

4.1.2 Outgoing Messages Header

Size: 24

This is the header included on all outgoing Turquoise messages.

Field Name	Field Type	R/O/C
Message Type	Message Type	R
Message Timestamp (CET)	Time	R
User Sequence ID	User Sequence ID	O
Exchange Message ID	Exchange Message ID	O
Gap Sequence ID	Numeric (x) (2)	R

4.1.2.1 User Sequence ID

- This field contains the identical User Sequence ID number present in the incoming message or it contains zeroes.
- It is set for acknowledgement only.
- For unsolicited messages (trade notice, group state change, instrument state change, etc…) it is set to zeroes.

4.1.2.2 Exchange Message ID

It represents the Turquoise identifier of the message for the current session. It is used in a Connection message as a retransmission starting point. If it contains spaces, it means that this field is not subject to re-transmission.

4.1.2.3 Gap Sequence ID

It is a Sequence Numeric (base 10) used to track gaps. It runs from 0 to 99 over and over. If the participant detects a gap, he has to reconnect with a Trader Connection message.

4.2 Data Types

4.2.1 Owner Data

Size: 50

Owner data is an optional order reference for the participant that may appear within certain messages. This field is not subject to processing.

Field Name	Field Type	R/O/C
Memo	String (x) (50)	O

4.2.2 Clearing Data

Size: 20

Clearing Data contains the participant's clearing data that must appear on specified messages.

Field Name	Field Type	R/O/C
Clearing Instruction	Clearing Instruction	R
Account Type	Enum	R
Open/Close	Enum	R
Hedge/Spec	Enum	R
Clearing Operation Mode	Enum	O
Filler (must be spaces)	String (4)	R

4.3 Order Entry

Participant to Turquoise

This message is used to enter a regular order in the system.

Field Name	Field Type	R/O/C
Incoming Messages Header (Message type = OE)	Message Type	R
Group	Group ID	R
Instrument	Instrument ID	R
Price Type	Price Type	R
Verb (Side)	Verb	R
Quantity	Quantity	R
Price	Price	C
Special Price Term	Enum	O
Additional Price	Price	R
Quantity Term	Quantity Term	O
Additional Quantity	Quantity	C
Duration Type	Enum	R
GTD Date	Date	C
Filler (must be spaces)	String (x) (4)	R
Filler (must be spaces)	String (x) (1)	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R

4.4 Order Modification

Participant to Turquoise

This message is used to modify a regular order entered through an OE: Order Entry message. The modified order has to be booked.

Field Name	Field Type	R/O/C
Incoming Messages Header (Message type = OM)	Message Type	R
Group	Group ID	R
Instrument	Instrument ID	R
Price Type	Price Type	R
Verb (Side)	Verb	R
Quantity Sign	Quantity Sign	R
Quantity	Quantity	R
Price	Price	C
Special Price Term	Enum	R
Additional Price	Price	R
Quantity Term	Quantity Term	R
Additional Quantity	Quantity	R
Duration Type	Enum	R
GTD Date	Date	C
Filler (must be spaces)	String (x) (4)	R
Filler (must be spaces)	String (x) (1)	R
Modified Order ID	Order ID	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R

4.5 KZ: Order Cancellation Acknowledgement

Turquoise to Participant

This message is used to acknowledge an XE: Order Cancellation message.

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Order ID	Order ID	R
Status	Status	R
Verb (Side)	Verb	R
Quantity	Quantity	R
Assigned Price	Price	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Original Order ID	Order ID	R
Filler (zeroes)	Numeric (x)	R

4.6 KE: Order Acknowledgment

Turquoise to Participant

This message is used to acknowledge an OE: Order Entry message.

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Order ID	Order ID	R
Status	Status	R
Verb (Side)	Verb	R
Quantity	Quantity	R
Assigned Price	Price	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Original Order ID	Order ID	R
Filler (zeroes)	Numeric (x)	R

4.7 KM: Order Modification Acknowledgment

Turquoise to Participant

This message is used to acknowledge an OM: Order Modification message.

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Order ID	Order ID	R
Status	Status	R
Verb (Side)	Verb	R
Quantity	Quantity	R
Assigned Price	Price	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Original Order ID	Order ID	R
Filler (zeroes)	Numeric (x)	R

4.8 NZ: Order Cancellation Notice (By System)

Turquoise to Participant

This message is used when an order is cancelled by Turquoise or by the system (expiration).

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Order ID	Order ID	R
Status	Status	R
Verb (Side)	Verb	R
Quantity	Quantity	R
Assigned Price	Price	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Original Order ID	Order ID	R
Filler (zeroes)	Numeric (x)	R

4.9 BD: Bulk Quote Data

Turquoise to Exchange

This message contains specific protection data and trader's data valid for further Bulk Quotes. A new BD message replaces previously entered data.

Field Name	Field Type	R/O/C
Incoming Messages Header (Message type = BD)		R
Group	Group ID	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Filler (must be blanks)	String (x) (12)	R

4.10 KD: Bulk Quote Data Acknowledgment

Turquoise to Participant

This message is used to acknowledge a BD - Bulk Quote Data message.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message type = KD)		R
Group	Group ID	R
Trader ID	Trader ID	R
Quote ID (Identifies trader's quote on this group)	Order ID	R

4.11 Q<I>: Bulk Quote

Participant to Turquoise

This is a set of messages to enter Bulk Quotes. The second letter of Message Type indicates the quantity and price formats.

<i> = A to P (See table below)

X\Y 1	2	4	6	8
4	A	E	I	M
6	B	F	J	N
8	C	G	K	O
10	D	H	L	P

Example: A QC Message is formatted with Price 8 bytes in length and Quantity 2 bytes in length.

Field Name		Field Type	R/O/C
Incoming Messages Header (Message type Q<i>)			R
Group		Group ID	R
Quote ID (identifies trader's quote on this group)		Order ID	R
Number of Quotes		Numeric (x) (3)	R
1 to 280 occurrences	**Group**	Group ID	R
	Instrument	Instrument ID	R
	Verb (Side)	Verb	R
	Quantity Sign (+ - =)	Quantity Sign	R
	Quantity	Quantity	O
	Price	Price	O

4.12 LA: Bulk Quote Acknowledgment

Turquoise to Participant

This message acknowledges the receipt of a Bulk Quotes message

Field Name		Field Type	R/O/C
Outgoing Messages Header			R
Group		Group ID	R
Quote ID (identifies trader's quote on this group)		Order ID	R
Number of Quotes in Error		Numeric (x) (3)	R
1 to 280 occurrences	Quote number	Numeric (x) (3)	R
	Error code	Error Code	R

4.13 GC: Global Cancellation

Turquoise to Exchange

This message is sent by the Participant when he wants to cancel his quotes.

Field Name	Field Type	R/O/C
Incoming Messages Header		R
Group	Group ID	R
Type of Cancellation	Enum	R

4.14 NP: Cancellation Of All Quotes Notices

Turquoise to Participant

This message is an advice sent to a participant when his quotes have been cancelled (by the system).

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Type of Cancellation	Enum	R

4.15 RP: Market Maker Protection Subscription

Participant to Turquoise

This message has two purposes:

- Specifies to the Exchange Trading System what kind of Market Maker Protection should be enabled (standard or advanced).
- Reactivates quoting when Advanced Market Maker Protection has been triggered.

Field Name	Field Type	R/O/C
Incoming Messages Header		R
Group	Group ID	R
Protection Type	Protection Type	R

4.16 MM: Monitoring Status

Turquoise to Participant

This message is used to notify a Market Maker that he has either, not achieved, or has achieved his obligation of attaining a successful quote.

Field Name		Field Type	R/O/C
Outgoing Messages Header (Message Type = MM)			R
Group		Group ID	R
Filler (must be spaces)		String (x) (2)	R
Number of Instrument Updates		Numeric (x) (4)	R
1 to 200 occurrences	Instrument	Instrument ID	R
	Previous MM Alert Level	MM Alert Level	R
	Previous MM Alert Type	MM Alert Type	R
	MM Alert Level	MM Alert Level	R
	MM Alert Type	MM Alert Type	R
	Previous State Duration	Numeric (x) (6)	R
	Alert Start Time (CET)	Time (6)	R
	Infraction Start Time (CET)	Time (6)	R
	Daily Warning Count	Numeric (x) (4)	R
	Daily Infraction Count	Numeric (x) (4)	R
	Daily Warning Duration	Numeric (x) (6)	R
	Daily Infraction Duration	Numeric (x) (6)	R

4.17 KG: Global Cancellation Confirmation

Turquoise to Participant

This message is used to acknowledge a Global Cancellation message and is sent to a participant when his quotes have been cancelled.

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Group	Group ID	R
Trader ID	Trader ID	R
Type of Cancellation	Enum	R

4.18 XE: Order Cancellation

Participant to Turquoise

This message is sent by the Participant to cancel an order present in the book.

Field Name	Field Type	R/O/C
Incoming Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Cancelled Order ID	Order ID	R

4.19 NT: Execution Notice

Turquoise to Participant

This message is an execution notice for a trade.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NT)		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Reference ID (Order ID or Quote ID)	Order ID	R
Verb (Side)	Verb	R
Quantity Traded	Quantity	R
Trade Price	Price	R
Time of the Trade (CET)	Time	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Special Trade Indicator	Special Trade Indicator	R
Price Type	Price Type	R
Trade Type	Trade Type	R
Filler (zeroes)	Numeric (x) (6)	O
Trade Number	Trade Number	R
Trade Memo	String (x) (50)	R
Original Reference ID	Order ID	R
ID Code for the Counterpart Participant	Firm ID	R

4.20 NX: Execution Cancellation Notice

Turquoise to Participant

This message is an execution cancellation notice.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NX)		R
Group	Group ID	R
Instrument	Instrument ID	R
Trader ID	Trader ID	R
Reference ID (Order ID or Quote ID)	Order ID	R
Verb (Side)	Verb	R
Quantity Traded	Quantity	R
Trade Price	Price	R
Time of the Trade (CET)	Time	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Special Trade Indicator	Special Trade Indicator	R
Price Type	Price Type	R
Trade Type	Trade Type	R
Filler (zeroes)	Numeric (x) (6)	O
Trade Number	Trade Number	R
Trade Memo	String (x) (50)	R
Original Reference ID	Order ID	R
ID Code for the Counterpart Participant	Firm ID	R

4.21 NL: Leg Execution Notice

Turquoise to Participant

This message reports the execution notice for a leg of a strategy trade.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NL)		R
Group	Group ID	R
Instrument ID	Instrument ID	R
Trader ID	Trader ID	R
Reference ID	Order ID	R
Verb (Side)	Verb	R
Quantity Traded	Quantity	O
Trade Price	Price	R
Trade Time (CET)	Time	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Special Trade Indicator	Special Trade Indicator	O
Price Type	Price Type	R
Trade Type	Trade Type	R
Filler (zeroes)	Numeric (x) (6)	R
Trade Number	Trade Number	R
Trade Memo (when captured by the Exchange)	String (x) (50)	O
Original Reference ID	Order ID	R
ID Code for the Counterpart Participant	Firm ID	R
Strategy Group	Group ID	R
Strategy Instrument ID	Instrument ID	R
Strategy Verb (Side)	Verb	R
Strategy Trade Number	Trade Number	R
Leg Number	Leg Number	R

4.22 NY: Leg Execution Cancellation Notice

Turquoise to Participant

This message reports the execution cancellation notice for a leg of the strategy trade.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NY)		R
Group	Group ID	R
Instrument ID	Instrument ID	R
Trader ID	Trader ID	R
Reference ID	Order ID	R
Verb (Side)	Verb	R
Quantity Traded	Quantity	O
Trade Price	Price	R
Trade Time (CET)	Time	R
Clearing Data (Refer to Section 4.2.2)		O
Owner Data (Refer to Section 4.2.1)		R
Special Trade Indicator	Special Trade Indicator	O
Price Type	Price Type	R
Trade Type	Trade Type	R
Filler (zeroes)	Numeric (x) (6)	R
Trade Number	Trade Number	R
Trade Memo (when captured by the Turquoise)	String (x) (50)	O
Original Reference ID	Order ID	R
ID Code for the Counterpart Participant	Firm ID	R
Strategy Group	Group ID	R
Strategy Instrument ID	Instrument ID	R
Strategy Verb (Side)	Verb	R
Strategy Trade Number	Trade Number	R
Leg Number	Leg Number	R

4.23 ER: Error Notice

Turquoise to Participant

This message is an error notification. It is sent in response to a message from the participant when the system cannot process it.

Field Name	Field Type	R/O/C
Outgoing Messages Header		R
Error Code	Error Code	R
Error Description	String (x) (100)	R

4.24 RQ: Request For Quote

Participant to Turquoise

This message is sent by the participant to broadcast a Request for Quote message to other participants.

Field Name	Field Type	R/O/C
Incoming Messages Header		R
Group	Group ID	R
Instrument	Instrument ID	R
Quantity	Quantity	O

4.25 NG: Group State Change

Turquoise to Participant

This message indicates a Group state change.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NG)		R
Group	Group ID	R
Group State	Group State	R

4.26 NI: Instrument State Change

Turquoise to Participant

This message indicates an Instrument state change.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = NI)		R
Group	Group ID	R
Instrument	Instrument ID	R
Instrument State	Instrument State	R

4.27 KO: Standard Acknowledgment

Turquoise to Participant

This message is sent as an acknowledgment for the RQ: Request for Quote message.

Field Name	Field Type	R/O/C
Outgoing Messages Header (Message Type = KO)		R
Trader ID	Trade Type	R
Original Message Type (RQ)	Message Type	R

5 Error Codes

The following table displays the error codes and text that will appear in error responses.

Error Code	Error Description
0001	User Identification is incorrect
0002	Protocol Version is not supported
0003	Message Type is not supported
0004	Session ID is not active
0006	Message Type requested is not supported
0008	Message is too short
0009	Message is too long
0010	Message contains Binary Data
0011	No Heartbeat Activity: Disconnection
0012	Message Type is Out Of Context
0013	User ID has been deactivated: Disconnection
0014	Syntax Error + <detailed text>
0100	Firm is Forbidden to trade on this Group
0101	Duration Type is Forbidden for current Group state
0102	Verb field (Side) cannot be modified
0103	Order is not active
0104	Price Type is forbidden for this instrument
0105	Price Term is Forbidden for current Instrument state
0108	Duration Type is Forbidden for current Instrument state
0109	Order cannot be processed: No opposite limit
0110	Price does not represent a valid tick increment for this Instrument
0111	Duration Type is invalid for this Price Type
0112	Cross Order price must be within the Instrument trading limits
0113	Cross Order price is outside bid/ask price spread
0201	GTD date must be equal to or greater than current day
0202	GTD date must be equal to or less than Instrument expiration date
0203	GTD date must be filled only if Duration Type is equal to GTD
0300	Quantity Term is Forbidden for current Instrument state
0302	Quantity must be less than or equal to Maximum Improvement Quantity
0303	Quantity Term is not authorized for this Order Type
0304	Additional Quantity must be less than Order Quantity
0305	Additional Quantity is too small
0306	Minimum quantity cannot be modified
0307	Quantity Term is forbidden for Duration Type
0308	Order quantity is outside the instrument quantity threshold
0309	Quantities must be multiples of lot size
0402	Trader ID field cannot be modified
0403	Market Maker not authorized for Group

0500	Order price is outside the instrument price threshold
0501	Price field is mandatory for Limit Orders
0502	Price field must not be filled for this Price Type
0503	Order cannot be modified or cancelled
0504	Additional Price is forbidden for Price Term
0505	Order price must be greater than additional price
0506	Order price must be lower than additional price
0507	Additional price must be lower than last price or last day price
0508	Additional price must be greater than last price or last day price
0509	Order rejected. Cannot trade outside instrument price thresholds.
0700	Only one quote per Instrument and per Side is accepted
0701	Quote is not present in the Instrument Book
0702	Market Maker Protection in progress; Quote not processed.
0703	Advanced Market Maker Protection not enabled for this Group
0704	Buy and Sell must not cross for the same instrument
0705	Number of quotes is not in sync with the message length
0707	Market Maker Protection state must be re-activated
0708	Trader ID has no quote for this Group
0709	All the Instruments must belong to the same Group
0710	Clearing Data has not been initialized
1000	Cross orders forbidden in Pre-opening phase.
1001	Instrument does not exist
1002	Group ID does not exist
1003	Trader ID is invalid
1004	Message Type is forbidden for current Instrument state
2000	Technical error; function not performed. Contact Technical Help Desk.
2001	Gateway State forbids this command. Contact Technical Help Desk.
2002	Function only partially performed. Contact Technical Help Desk.

6 Field Definitions

The following table displays the format, length, and description for each field and further explanation of the field types.

Under the Format column note that:

A = Alphabetic
N = Numeric
X = Alphanumeric

Field Name	Format	Length	Description
Account Type	X	1	Must contain one of the following values: 1: Client 2: House 4: Market Maker 5: Non-Segregated Client
Additional Price	X	10	If Special Price Term = S, this field represents the trigger price: i.e. the price from which a STOP order will be triggered. Mandatory if Special Price Term is different from spaces.
Additional Quantity	N	8	It must be different from 0 if Quantity Term = M or D.
Assigned Price	X	10	It is the price stored in the system. It would be the limit price for a limit order and the booked price assigned by the system to a partially filled order.
Clearing Instruction	X	12	Client Account Number
Clearing Operation Mode	X	1	Indicates the pre-posting action to be taken by the Clearing System when a trade has occurred. Space: No clearing operation mode
Date	X	8	Year, Month and Day (YYYYMMDD)
Duration Type	X	1	Must contain one of the following values: J: Valid for the current Day only ((Day) D: Order is Valid until GTD date (GTD) F: Valid until instrument expiration (GTC) E: Immediate order, cannot be booked (FAK)
Enum	X	1	Actual values can be found in this section.
Error Code	N	4	All Error Codes can be found in Section 5.
Exchange Message ID	X	6	Identifies a message sent by the exchange for a Participant connection. If Exchange Message ID is blank, the message will not be included in retransmitted messages.

Firm ID	X	4	Identifies a firm referenced in the Turquoise database.
Flag	X	1	Y: Yes N: No
Group ID	X	2	Group Identification within the system. A Group is composed of instruments.
Group State	X	1	This parameter indicates the new status of the group. For message type NG, it contains one of the following values: C: Consultation Start E: No Cancel Period P: Pre-opening O: Opening S: Continuous Trading Session F: Consultation End N: Exchange Intervention M: Mini-batch B: Post Session I: Prohibited Z: Interrupted
GTD Date	X	8	Year, Month and Day (YYYYMMDD) Must be present if Duration type = D. Represents the order's last active day.
Hedge/Spec	X	1	Must contain one of the following values: H: Hedger S: Speculator
ID Code for the Counterpart Participant	X	4	Will contain counterpart firm when allowed by Exchange rules.
Instrument ID	X	4	Instrument identification within a Group
Instrument State	X	1	Can contain the following values: N: Normal. The instrument follows group state processing F: Forbidden. Trading is forbidden for this instrument. Orders and quotes are rejected. R: Reserved. Orders and quotes are restricted if the group is in Trading status.
Leg Number	N	2	ID. of the Leg of the Strategy Instrument. Maximum value of 40.
Memo	X	50	Free text zone, which can be used to transmit additional information for processing. No validations are carried out on this field.
Message Type	X	2	Type of Message
MM Alert Level	N	1	Indicates the severity level of the alert: 0: OK 1: Warning 2: Infraction

MM Alert Type	N	1	Indicates the reason for the alert: 0: OK 1: Prices missing 2: Bid Price missing 3: Ask Price missing 4: Spread too wide 5: Quantities too small 6: Bid Quantity too small 7: Ask Quantity too small
Modified Order ID	X	1	Order ID of the original order being modified.
Numeric (x)	N	X	Absolute number. Used to identify the number of occurrences for fields. X determines field length in bytes.

Open/Close	X	1	This data field indicates how the participant's position will be handled by the clearing system. Must contain one of the following values: Any number of Legs or Single Security: O: All Legs are Open, or Single Security C: All Legs are Closed, or Single Security 2 Legged Strategy: 1: 1st Leg Open, 2nd Leg Close 2: 1st Leg Close, 2nd Leg Open 3 Legged Strategy: 3: 1st Leg Open, 2nd Leg Open, 3rd Leg Close 4: 1st Leg Open, 2nd Leg Close, 3rd Leg Open 5: 1st Leg Open, 2nd Leg Close, 3rd Leg Close 6: 1st Leg Close, 2nd Leg Open, 3rd Leg Open 7: 1st Leg Close, 2nd Leg Open, 3rd Leg Close 8: 1st Leg Close, 2nd Leg Close, 3rd Leg Open 4 Legged Strategy: A: 1st Leg Open, 2nd Leg Open, 3rd Leg Open, 4th Leg Close B: 1st Leg Open, 2nd Leg Open, 3rd Leg Close, 4th Leg Open D: 1st Leg Open, 2nd Leg Open, 3rd Leg Close, 4th Leg Close E: 1st Leg Open, 2nd Leg Close, 3rd Leg Open, 4th Leg Open F: 1st Leg Open, 2nd Leg Close, 3rd Leg Open, 4th Leg Close G: 1st Leg Open, 2nd Leg Close, 3rd Leg Close, 4th Leg Open H: 1st Leg Open, 2nd Leg Close, 3rd Leg Close, 4th Leg Close I: 1st Leg Close, 2nd Leg Open, 3rd Leg Open, 4th Leg Open J: 1st Leg Close, 2nd Leg Open, 3rd Leg Open, 4th Leg Close K: 1st Leg Close, 2nd Leg Open, 3rd Leg Close, 4th Leg Open L: 1st Leg Close, 2nd Leg Open, 3rd Leg Close, 4th Leg Close M: 1st Leg Close, 2nd Leg Close, 3rd Leg Open, 4th Leg Open N: 1st Leg Close, 2nd Leg Close, 3rd Leg Open, 4th Leg Close P: 1st Leg Close, 2nd Leg Close, 3rd Leg Close, 4th Leg Open
Order ID	X	8	Identifies an order. Associated with Group ID and Instrument ID; it is the Order Key identifier.
Original Order ID	X	8	First Order ID assigned to the order by the trading
Original Reference ID	X	8	References either the Original Order ID of the traded order, or the Quote ID of the quote that has traded.

Password	X	8	This is used to validate the user's connection to the SAIL interface. The password is provided by service desk.
Price	X	10	Price format with format indicator and price mantis. Format indicator (1): If the format indicator is Alpha, it means that the price is negative (A means negative value with no decimal, B means negative value with 1 decimal, C means negative value with 2 decimals, etc). If the format indicator is Numeric, it means that the price is positive (0 means positive value with no decimal, 1 means positive value with one decimal, 2 means positive value with 2 decimals, etc). The maximum is 4 decimal places for both positive and negative values. If the format indicator is set to spaces, it means that the price is not significant. Price mantis (9): The mantis represents the price value including the number of decimals defined in the format indicator. Examples: Format indicator = 2; Price mantis = 3509438; Price = 35094.38 Format indicator = A; Price mantis = 3567838; Price = -3567838 Format indicator = < >; Price mantis = 3567838; Price = not significant
Price Type	X	1	Must contain one of the following values for regular order: L : Limit (price set in message) M : At best opposite price (Top Order) W: At any price (Market Order)
Protection Type	A	1	Type of protection requested by the Market Maker. Allowable values are: N: Standard Protection A: Advanced Protection
Protocol	X	2	Protocol ID. Current value is A0 (Base version)

Quantity	N	8	Number of contracts or shares
Quantity Sign	X	1	For a quote or an order update, it identifies how to handle the quantity: "+" : add the incoming quantity to the booked quantity "-" : subtract the incoming quantity from the booked quantity "=": replace the booked quantity with the incoming quantity Note: The "+" and "-"are available only for Quotes. They are not available for Orders.
Quantity Term	X	1	M: Minimum D: Disclosed Space: None
Reference ID	X	8	It references the order (Order ID) or the quote (Quote ID) that has traded.
Session ID	X	4	Identifies the current session ID
Special Price Term	X	1	If included, must contain one of the following values: S: STOP Spaces: None
Special Trade Indicator	X	1	Identifies a particular trade type. < >: Normal Trade A : As Of Trade L : Late Trade 1 : Exchange Granted 1 (EG1) 2 : Exchange Granted 2 (EG2)
Status	X	1	This parameter indicates the processing result of the order entry, order modification, or order cancellation. This parameter takes the following values: " ": Order put in the Order Book (having possibly been partially executed) X: Order executed in full (or partially and the remaining part could not be put in the Order Book) (Fill & Kill) E: The order has been eliminated by the trading System A: Order cancelled by the trader
Strategy Group	X	2	Strategy Group Identification within the system. A Group is composed of instruments.
Strategy Instrument ID	X	4	Strategy Instrument identification within a Group
Strategy Verb	X	1	Verb of the Strategy Order as specified in the NT message of the Strategy.

Strategy Trade Number	N	8	Trade Number of the Strategy Order as specified in the NT message of the Strategy.
String (x)		X	Free text depending on the context
Time	N	6	HHMMSS Time should always be in Central European Time (CET).
Trade Memo	X	50	Text entered by Turquoise when it is a Manual Trade Entry.
Trade Number	N	8	Identifies the trade number for an instrument and one day
Trade Type	X	1	Identifies the origin of the trade: M: Trade entered by Turquoise F: Traded during Continuous Trading following FIFO Algorithm
Trader ID	X	8	Identifies the trader: 4 first characters: Firm Identifier 4 Last characters: Trader Identifier
Type of Cancellation	X	1	It must be 'Q' for quotes. Automatic cancellation of orders upon disconnection is not supported.
User ID	X	8	Identifies the User for a connection. The User ID must be referenced in the Turquoise configuration database.
User Sequence ID	N	8	Identifies all the incoming business messages for one connection. Must be sequential and start at 1 at the beginning of the day. Used by Turquoise to track gaps in message sequence.
Verb	X	1	Identifies an order/quote side: B : Buy S : Sell

Turquoise Services Limited/Turquoise Trading Limited

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

http://www.tradeturquoise.com