



GENIUM INET FIX Drop

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2 References

[1]

FIX 4.4 Protocol Specification

<http://www.fixprotocol.org/specifications/fix4.4spec>

[2]

FIX 5.0 SP2 Protocol Specification

<http://fixprotocol.org/specifications/fix5.0sp2spec>

[3]

FIX Protocol Limited, Market Data Optimization Working Group:

Recommended Practices for Book Management, Version 2.00, 2007

http://fixprotocol.org/documents/2518/MDOWG_Book_Mgt_v20.doc

[4]

RFC 2045, Base64 encoding for MIME

<http://www.ietf.org/rfc/rfc2045.txt>

3 Overview

This document contains the specification for the FIX Drop interface to GENIUM INET. This document outlines the details of the drop copy session that *differ* from the regular order entry FIX session. It contains a detailed lists of all fields included in every message seen on the drop session. However, it does not go into the level of detail that the regular FIX specification does, where different flavours of the same message have different listings to illustrate subtle differences. *Please refer to the regular FIX specification for such details.*

The interface is based on the FIX Protocol 5.0 SP2 standard (Financial Information exchange). More detailed information about the standard can be found in FIX specification document see [1].

The interface implemented by NASDAQ follows the FIX specifications as far as possible. In the majority of cases the structure and semantics of the messages are identical to the standard. In some cases, the protocol has been extended to cover functions not considered by the standard. These extensions are clearly detailed in the document. In other cases, the standard is ambiguous or indicates that the details should be bilaterally agreed between the parties. In these cases this manual provides a detailed description to avoid any possible ambiguity.

To avoid possible duplication in the sources of information, this document does not include explanations of those matters that comply exactly with the standard. Therefore, the standard documentation should be considered as the main source of information for any matter that is not explicitly covered in this manual.

This specification tries not to repeat what is specified in the FIX standard. In many cases however, the FIX standard is, by necessity, more generic than that required for a specific marketplace. In other cases NASDAQ has found reason to clarify matters. NASDAQ tries to be explicit on deviations from the FIX standard specification in order to avoid confusion.

3.1 Supported messages

3.1.1 Administrative messages

Logon
Logout
Sequence Reset
Resend Request
Reject
Heartbeat
Test Request

3.1.2 Outbound Application messages

Execution Report
Trade Capture Report
Quote Status Report

3.2 NASDAQ Extensions

In order to support specific functionality of the back-end not covered by the FIX 4.4 standard protocol, a number of extensions have been made. A few messages and a number of fields have been added. Whenever an entity needed to be added, NASDAQ has tried to make use of entities from later FIX versions (FIX 5.0 SP2 in particular). Inventing new fields or messages have only been done when no other alternative existed.

Throughout this specification all deviations from the standard FIX protocol has been marked with “NASDAQ Extension”.

If a field marked as an extension has a tag number lower than 1500, it is taken from the FIX 5.0 SP2 specification. If the added field has a tag number higher than 20000, it is a new field invented by NASDAQ.

3.3 The NASDAQ Repository

This specification defines the full set of messages, fields and enumerated values that can be used. As with most FIX implementations, this only supports a small subset of all available messages, components, fields and enumerated values defined in FIX 4.4. An FPL-formatted repository corresponding to this specification is delivered separately.

NOTE: Inbound messages not conforming to this spec, will be rejected with a session-level Reject message.

4 The FIX Session

The session layer conforms to the standard FIX session. Please see the standard FIX specification for additional details.

4.1 CompIDs

The Sender- and TargetCompID uniquely define the FIX session. A session can only be active (established) between two hosts simultaneously. Any attempts to establish a second FIX session using the same CompIDs (for instance to a backup gateway) in parallel will be rejected.

- The TargetCompID for transactions sent *inbound* to the Exchange will be “GENIUM” for production and “GENIUM_TEST” for test systems.
- The SenderCompID for transactions sent *outbound* from the Exchange will be “GENIUM” for production and “GENIUM_TEST” for test systems.

4.2 SenderSubID

Each inbound business transaction must have the SenderSubID (tag 50) field set to an authenticated user. One user can be authenticated by setting the Username and Password field in the Logon message. The SenderSubID on incoming transactions will be echoed back in TargetSubID (tag 57) on outbound transactions.

4.2.1 Renewal of passwords

A new password may be set by setting the NewPassword (925) field along with the current password in the Password (554) field. This can be done with the Logon message. The SessionStatus (1409) field of the Logon returned to the client can be checked to see if the new password was accepted.

4.2.2 Expired passwords

If the password has expired when a client tries to log in, the system will respond with a Logout message with SessionStatus set to 8 – Password expired. To gain access, the client must issue a new Logon message with NewPassword set (along with the expired password in Password). If the new password is not valid, the system will respond with another Logout message. SessionStatus will be set to 3 – New session password does not comply with policy. The client will be able to log in again with another new password.

4.3 Logon

At Logon, clients are identified by:

- CompIDs
- IP Address

The Logon Username and Password fields are used to authenticate the client. When the client is authenticated, the system responds with a Logon message to the client.

4.4 Heartbeat intervals

Heartbeat intervals are negotiated at Logon using the HeartBtInt (108) field. The system allows heartbeat intervals greater than 10 seconds. **Recommended heartbeat interval is 30 s.** A heartbeat interval set lower than 10 seconds will result in a Logout response.

4.5 Encryption

The system does not support encryption.

4.6 Datatypes and required fields

This specification does not change the datatype on any fields defined in the standard FIX specification. There may be places where this specification restricts the value range of a field further than specified in standard FIX. This will be clearly marked in the spec.

All fields listed in this specification that are marked as required in the standard specification, are required also in this specification. This document specifies additional fields as required. These fields are marked with a 'Q' in the required column of the message listings.

4.7 Character encoding

In order to support the Scandinavian characters present in the back-end system, such as å, ä and ö, the FIX gateway will use the 8-bit standard ISO-8859-1 encoding, often called Latin-1. The lower 7 bits are compatible with the standard 7-bit ASCII character encoding.

4.8 Session lifetime

The FIX session lifetime is restricted to one trading day. The session lifetime is not ended at connectivity loss or even Logouts. The sequence numbers are reset to one each morning.

4.9 Failover and message recovery

At reconnect and Logon standard FIX message recovery is performed. All FIX sessions have at least one primary and one secondary gateway to which the session states are fully replicated. This means that regardless to which gateway a client connects, full message recovery is provided.

A client cannot have the same FIX session active towards multiple gateway instances simultaneously.

With BISTECH 3.0 release, FIX API Drop Copy channel works in active-active structure. In other words, the secondary gateway is also actively serving as the primary gateway. With this architectural structure, the time required for the passive gateway to be active is eliminated, and a faster transition from the primary gateway to the secondary gateway is aimed.

The user is normally expected to connect to the primary gateway. If the user has a problem connecting to the primary gateway, it will be possible to switch to the secondary gateway with the same user and port. It is not possible to initiate a session with the same user to both the primary and secondary gateways at the same time.

FIX DC users can connect to the secondary gateway with the last sequence number which is valid on the primary server. If requested, the messages can be recovered from the beginning or for a certain sequence interval on the secondary gateway.

Exchange may consider to shut down or restart the gateway(s) depending on the scope of the problem on the gateway(s).

4.10 FIX Session Level Test Cases

This implementation is fully compliant with the session-level test cases specified in the standard FIX 4.4 Specification, Volume 2, section "FIX Session-level Test Cases and Expected Behaviors". The only exception is the encryption test cases.

4.11 The Standard Header

All FIX messages contain a Standard Header. The header contains important information such as session identifiers (CompIDs), sequence numbers and message type and length etc.

Tag num	FIX Field name	Req'd	Comment
8	BeginString	Y	Identifies beginning of new message and protocol version. ALWAYS FIRST FIELD IN MESSAGE. Valid values: FIXT.1.1
9	BodyLength	Y	Message length, in bytes, forward to the CheckSum field. ALWAYS SECOND FIELD IN MESSAGE.
35	MsgType	Y	Defines message type ALWAYS THIRD FIELD IN MESSAGE.
49	SenderCompID	Y	As specified in separate agreement
50	SenderSubID		Required on inbound transactions. Must be set to a valid authenticated user.
56	TargetCompID	Y	As specified in separate agreement

57		TargetSubID		Should not be populated on inbound transactions. Will contain the value of incoming SenderSubID on outbound transactions. In some cases, such as in unsolicited cancels, TargetSubID will not be set.
34		MsgSeqNum	Y	Integer message sequence number.
43		PossDupFlag		Indicates possible retransmission of message with this sequence number. Always required for retransmitted messages
97		PossResend		Indicates that message may contain information that has been sent under another sequence number. Required when message may be duplicate of another message sent under a different sequence number.
52		SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT")
122		OrigSendingTime		Original time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"). Required for message resent as a result of a ResendRequest.

4.11.1 Possible Duplicate vs. Possible Resend

The two FIX fields PossDupFlag (43) and PossResend (97) of the Standard Header have different purposes. The PossDupFlag is set on messages retransmitted as a result of a Resend Request. These messages have the original sequence numbers (MsgSeqNum).

PossResend is set on messages resent with a new sequence number. This may be used to resend an order which no response has been received. The gateway will check whether the client identifier (such as the ClOrdID, TradeReportID etc) in the message has been received before. If the client identifier has been seen before, the message will be dropped.

4.12 The Standard Trailer

All FIX messages end with a Standard Trailer. The trailer only includes a simple checksum field. The details on how to calculate the checksum can be found in the standard FIX specification.

Tag num	FIX Field name	Req'd	Comment
10	Checksum	Y	

4.13 Message Details

4.13.1 How to interpret the Required (Req'd) column

A 'Y' marks the field as required in standard FIX (and of course also in this implementation). A 'Q' means that the field is required in this implementation although it is not required in standard FIX. No entry at all means the field is optional.

4.13.2 Repeating groups

The fields in a FIX Repeating group are marked in the message listings with an arrow. Example (Parties block):

453	NoPartyIDs				Optional repeating group only used for on behalf of transactions.
→	448	PartyID		Q	Party identifier.
→	447	PartyIDSource		Q	Valid values: D = Proprietary/Custom code
→	452	PartyRole		Q	Identifies the type of role for the PartyID specified.
→	802	NoPartySubIDs			Number of PartySubIDs present. Only used for PartyRole=Executing Firm. Will always be 1.
→	→	523	PartySubID	Q	Sub-identifier of party. Here Exchange code of the party.
→	→	803	PartySubIDType	Q	Type of PartySubID (523) value

In the above example nested repeating groups can also be seen.

Also notice that the req'd flag on the NumInGroup field (NoPartyIDs, NoPartySubIDs). If it is present (either Y or Q), it means that the *whole repeating group will always be present*.

A Q or Y set on an individual field in a repeating group means that *it will always be present if the repeating group is present*.

4.13.3 Logon – inbound to Marketplace

The response to a logon is either a Logon, which denotes a successful logon, or a Logout.

A client must be prepared to handle failure scenarios including (but not limited to):

A Logon attempt may fail or be rejected for several reasons. The FIX gateway will react differently depending on the kind of failure. The two different actions it may take are:

Silently ignore the Logon.

- If authentication fails (for security reasons).
- If the wrong Sender or Target CompID is specified.
- For other reasons specified in the standard FIX specifications.
- If the FIX gateway has no connection with the back-end system.

Respond with a Logout.

- Logon failure for other reasons than authentication/security.

The Logout response to a Logon will always contain a note on why in the Text (58) field.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: Valid values: 0 = None / Other
141	ResetSeqNumFlag		Indicates that both sides of a FIX session should reset sequence numbers. NOTE: Resetting the sequence numbers will result in all prior messaging being lost. Valid values: Y = Yes
108	HeartBtInt	Y	Heartbeat interval. Any value greater than 10 s is accepted. A lower value will result in a Logout response.
553	Username	Q	user
554	Password	Q	password (unencrypted)
925	NewPassword		<i>NASDAQ Extension:</i> Specifies a new password for the FIX Logon. The new password is used for subsequent logons.
	Standard Trailer	Y	

4.13.4 Logon – outbound from Marketplace

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
141	ResetSeqNumFlag		Indicates that both sides of a FIX session should reset sequence numbers. Will only be set as a response to an inbound Logon with this flag set. Valid values: Y = Yes
108	HeartBtInt	Y	As specified in inbound Logon. Valid range: Greater than 10 s
1409	SessionStatus	Q	NASDAQ Extension: Status of the FIX session. Valid values: 0 = Session Active 1 = Session password changed 3 = New session password does not comply with policy 9= Invalid Sendersubid or sendercompid 100 = Invalid BodyLength, session suspended 101 = HeartBt interval too low
1137	DefaultApplVerID	Y	The default version of FIX messages used in this session. Valid values: 9 = FIX50SP2
20002	DaysToPwdExpiry		Days to password expiration.
	Standard Trailer	Y	

4.13.5 Logout (in/out)

The Logout message is used to gracefully disconnect a FIX session. When receiving a Logout, the counterparty should respond with a Logout. A Logout can also be the response to an unsuccessful Logon attempt.

SessionStatus = 100 means that a critical formatting error has been detected in an inbound transaction. The gateway is unable to reliably continue parsing further messages on the session. The connection is closed and can only be enabled by manual intervention.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 5
1409	SessionStatus		Status of the FIX session. Only set on outbound Logouts. Valid values: 3 = New session password does not comply with policy 4 = Session logout complete 5 = Invalid password or user name 6 = Account locked 8 = Password expired 9= Invalid Sendersubid or sendercompid 100 = NASDAQ Extension: Invalid body length in received message, session suspended 101 = NASDAQ Extension: Heartbeat interval too low.
58	Text		Free text
	Standard Trailer	Y	

4.13.6 Sequence Reset (in/out)

This message has two uses. The common usage is with GapFillFlag set to 'Y', which is used in a response to a Resend Request to indicate that a range of messages will not be resent. This is commonly used to avoid resending administrative messages like Heartbeats.

The other (very rare) usage is to reset the sequence numbers to a higher number to get out of a deadlock. This is only triggered by manual intervention.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 4
123	GapFillFlag		
36	NewSeqNo	Y	
	Standard Trailer	Y	

4.13.7 Resend Request (in/out)

Resend Request is used to recover messages when a sequence number gap has been detected.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 2
7	BeginSeqNo	Y	
16	EndSeqNo	Y	
	Standard Trailer	Y	

4.13.8 Reject (out)

The Reject, or session-level reject, message is sent whenever the FIX gateway is able to at least partially parse the message, but the message does not adhere to the specification and cannot be delivered to the back-end system.

It is strongly recommended that the Reject <3> message should not be sent by client.

Reject <3> message is unexpected and cannot be parsed. And also processing of the next valid FIX message might cause detection of a sequence gap and Resend Request <2> will be generated. Once a gap is detected and a resend request initiated, server ignores all requests/messages that are sent from the client during the retransmission period.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 3
45	RefSeqNum	Y	
371	RefTagID		
372	RefMsgType		

373	SessionRejectReason	Q	Valid values: 0 = Invalid Tag Number 1 = Required Tag Missing 2 = Tag Not Defined For This Message Type 3= Undefined Tag 4= Tag Specified Without A Value 5= Value Is Incorrect Out Of Range For This Tag 6 = Incorrect Data Format For Value 7 = Description problem 8 = Signature problem 9 = Comp ID Problem 10 = Sending Time Accuracy Problem 11 = Invalid Msg Type 12 = XML Validation Error 13 = Tag appearance more than once 14 = Tag specified out of required order 15 = Repeating group fields out of order 16 = Incorrect NumInGroup count for repeating group 17 = Non Data value includes field delimiter SOH character 18 = Invalid Unsupported Application Version 99 = Other
58	Text		
	Standard Trailer	Y	

4.13.9 Heartbeat (in/out)

A heartbeat message is sent at the interval set at Logon. It is also the response to a Test Request message.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 0
112	TestReqID		Identifier included in Test Request message to be returned in resulting Heartbeat. Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Y	

4.13.10 Test Request (in/out)

Test Request is used to “ping” the counterparty whenever a heartbeat has not arrived at the negotiated heartbeat interval.

Tag num	FIX Field name	Req'd	Comment
	Standard Header	Y	MsgType = 1
112	TestReqID	Y	Identifier included in Test Request message to be returned in resulting Heartbeat
	Standard Trailer	Y	

5 FIX Drop Copy Sessions

5.1 Drop Copy Sessions

Drop Copy Sessions, or Drops, are used to replicate the private outbound order, quotes and trade flow for one or more participants, and/or users and/or markets.

A Drop Copy Session is not limited to the transactions entered via FIX. All orders, trades and quotes are provided regardless of input mechanism. For example, a Drop session is configured to send updates on all orders and trades for one or more participants. When an order is entered via Omnet, an Execution Report – Order Ack would be sent on the Drop session. A regular FIX session for the same participant in contrast, would **not** get order or trade acks for orders entered via Omnet.

The following business-level messages can be seen on a Drop session:

- Execution Reports
- Trade Capture Reports
- Quote Status Reports

NOTE: Rejects (on orders, cancels, cancel replaces and trade reports) will **not** be seen on the Drop.

Drop Copy Sessions are authenticated just like regular sessions using the Logon message with a username and password supplied.

All copied messages will have the CopyMsgIndicator (797) tag set to “Y”.

5.1.1 Drop Party Identifiers

To be able to identify the legal owner of an order or trade, all business-level messages on a drop will have the Parties block (Execution Reports, Trade Capture Reports) or RootParties block (used for OBO Trade Capture Reports). The Parties/RootParties block will contain:

453	NoPartyIDs		Set to 1 or 2
→	448	PartyID	Trader id or participant id.
→	447	PartyIDSource	Valid values: D = Proprietary /Custom code
→	452	PartyRole	Identifies the type or role of the PartyID (448) specified. Valid values: 1 = Executing Firm 7 = Entering Firm 12 = Executing Trader 36 = Entering Trader 83 = Clearing Account 1001 = Confirmed by Firm 1002 = Confirmed by User 1003 Reported by Firm 1004 Reported by User 1005 = Affirmed by Firm 1006 = Affirmed by User 1007 = Give-up Account

5.1.1.1 Party Identifiers

The party identifier always consists of the two-character market code followed by the up to 5 character firm identifier. Example: A participant on the Copenhagen exchange (market code CO) with a firm ID of XYZ, would have the party identifier of “COXYZ”.

i. On Behalf Of transactions

The identifiers for the party *entering* a transaction on behalf of somebody else will **not** be present on any drop message.

6 Order, Quote and Trade Messages

This chapter contains listings of all business-level messages that are provided on the Drop Copy session.

6.1 Execution Report

The Execution Reports are message carrying order updates. Execution Reports are also used to carry fills information. Execution Reports are used for all types of orders including (availability of these types will depend on marketplace):

- Multileg order updates and fills
- Fills for quotes
- Linked order updates and fills

6.1.1 Order identifiers

OrderID (tag 37) is the order identifier to be used on the Drop Copy session. It will remain the same during the lifetime of the order.

The commonly used ClOrdID (tag 11) is not used on the drop session, since it is specific to orders entered via FIX. The same is true for OrigClOrdID (tag 41), commonly used in FIX replace and cancel scenarios.

6.1.2 Order Cancels

Order cancels will be sent out as an unsolicited cancel on fix drop copy sessions.

6.1.3 Message Details – Execution Report

Tag	FIX tag name		Req'd	Comment
	Standard Header		Y	MsgType = 8
37	OrderID		Y	
453	NoPartyIDs			Repeating group used for business owner of order and/or optional Clearing Firm and Clearing Account.
→	448	PartyID	Q	Party identifier.
→	447	PartyIDSource	Q	Valid values: D = Proprietary/Custom code
→	452	PartyRole	Q	Identifies the type of role for the PartyID specified. Valid values: 1 = Executing Firm 7 = Entering Firm 12 = Executing Trader 14 = Give up Clearing Firm 28 = Custodian 36 = Entering Trader 83 = Clearing Account 1001 = Confirmed by Firm 1002 = Confirmed by User 1003 Reported by Firm 1004 Reported by User 1005 = Affirmed by Firm 1006 = Affirmed by User 1007 = Give-up Account
17	ExecID		Y	
66	ListID			Client-generated ID for a Linked order.
880	TrdMatchID			Match ID assigned by the matching engine. Only set on fills.

Tag	FIX tag name	Req'd	Comment
20034	ComboMatchID		Combo Match ID assigned by the matching engine. Only set on combination fills.
150	ExecType	Y	Valid values: 0 = New 4 = Canceled 5 = Replaced 9 = Suspended C = Expired D = Restated F = Trade L = Triggered or Activated by the system
39	OrdStatus	Y	Valid values: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replaced 9 = Suspended C = Expired
1	Account		Optional pass-thru field set by client and echoed back by marketplace. From Order
55	Instrument/Symbol	Q	OMNet short name.
48	Instrument/SecurityID	Q	Orderbook ID
22	Instrument/SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
32	LastQty	Y	Traded quantity
31	LastPx	Y	Trade Price
54	Side	Y	Valid values: 1 = Buy 2 = Sell 5 = Short Sell
38	OrderQtyData/OrderQty	Q	
40	OrdType	Q	Valid values: 1 = Market 2 = Limit K = Market With Left Over as Limit (market order with unexecuted quantity becoming limit order at last price)
44	Price		
21100	LastUnderlyingPx		
21101	UnderlyingColPx		Collateral Price - Required for limit orders in the Special Repo Markets.
1100	TriggeringInstruction/ TriggerType		Determines what should trigger an order modification. Valid values: 1 = Specified Trading Session 4 = Price Movement
1101	TriggeringInstruction/ TriggerAction		Defines the type of action to take when the trigger hits. Valid values: 1 = Activate
1102	TriggeringInstruction/ TriggerPrice		A specified limit price to validate against price movements –the trigger hits when the price is reached.
1113	TriggeringInstruction/ TriggerTradingSessionID		Identifier of Trading Session when the order is to be triggered. Valid values: 1 = Continuous Trading 2 = Auction

Tag	FIX tag name	Req'd	Comment
1103	TriggeringInstruction/ TriggerSymbol		Symbol used for price triggers
1104	TriggeringInstruction/ TriggerSecurityID		Identifier of the security used for price triggers.
1105	TriggeringInstruction/ TriggerSecurityIDSource		SecurityIDSource of the instrument used for price triggering. Valid values: M = Marketplace-assigned identifier
1107	TriggeringInstruction/ TriggerPriceType		Determines what price should be tracked for price movements. Valid values: 1 = Best Offer 2 = Last Trade 3 = Best Bid
1109	TriggeringInstruction/ TriggerPriceDirection		Used to specify if the trigger should hit only on rising (Up) or falling (Down) prices. Valid values: U = Trigger if the price of the specified type goes UP to or through the specified Trigger Price. D = Trigger if the price of the specified type goes DOWN to or through the specified Trigger Price.
59	TimeInForce	Q	Valid values: 0 = Day 1 = Good Till Cancel (GTC) 3 = Immediate Or Cancel (IOC) 4 = Fill Or Kill (FoK) 6 = Good Till Date (GTD) S = NASDAQ Extension: Good till End of Session (GTS)
21114	SMP Level		SMP Level indicates the scope of SMP: The participant can choose between two levels. Valid values: 1= Within a member 2= Across members
21115	SMP Method		SMP Method indicates the action that should be undertaken by the trading system in case of a potential prevention. Valid values: 1= Cancel aggressive 2= Cancel passive 3= Cancel both
21116	SMP ID		SMP ID, which is 3-character alphanumeric value, defines that the order is eligible for self-match prevention. If SMP Level=1, SMP ID is assigned by member. If SMP Level=2, SMP ID is assigned by the exchange.
336	TradingSessionID		State type of order expiration. Conditionally required if TimeInForce = GTS. Valid values: 1 = Continuous trading 2 = Auction Period A = for Off-hour Orders.
432	ExpireDate		Date of order expiration. Conditionally required if TimeInForce = GTD

Tag	FIX tag name		Req'd	Comment
18	ExecInst			Valid values: G = All or None (AON)
528	OrderCapacity			Designates the capacity of the firm placing the order. Account type Valid values: A = Customer P = Principal F = Fund Order C = Primary Dealer Corp K = Primary Dealer Govt O = Portfolio Mgmt Company T = Investment Trust Y = Other Fund S = Special Client N = Other 2 D = Other 3 NOTE: OrderCapacity is not used by derivatives market
151	LeavesQty		Y	Quantity open for further execution.
14	CumQty		Y	Total quantity filled.
6	AvgPx		Y	Note: Always set to 0.0
60	TransactTime		Q	
378	ExecRestatementReason			Set on unsolicited order updates/cancels and restatements of overnight orders. Valid values: 1 = GT renewal / restatement (no corporate action) 4 = Broker option 8 = Market (Exchange) option
442	MultiLegReportingType			This field is only set for multileg orders. Valid values: 3 = Multi-leg security
555	NoLegs			Number of legs involved in execution. This repeating group is only used for Multileg order fills.
→	600	LegSymbol	Q	Omnet short name of leg security
→	602	LegSecurityID	Q	Orderbook ID of leg security
→	603	LegSecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
→	637	LegLastPx	Q	Trade price for this leg
→	1418	LegLastQty	Q	NASDAQ Extension: Quantity traded in this leg
→	20200	LegTrdMatchID	Q	Indicates same value with 880(TrdMatchID) tag of the matched order
893	LastFragment			Indicates whether this is the last fragment in a sequence of message fragments. Valid values: N = Not Last Message Y = Last Message
70	AllocID			NASDAQ Extension: Optional pass-thru field set by client and echoed back by marketplace.
797	CopyMsgIndicator		Q	Will be set to 'Y' on all Drop Copy messages
1089	MatchIncrement			NASDAQ OMX Extension: Block Size
111	MaxFloor			For hidden orders.
119	SettlCurrAmt			Order value.
20015	OptPremiumAmt			Premium value

Tag	FIX tag name	Req'd	Comment
20009	OrderReference		<i>NASDAQ Extension:</i> Order Reference pass-thru field. NOTE: Only available for fixed income.
20199	OpenCloseIndicator		The open/close indicator controls if the resulting position after a trade should be an opening or a closing position. 0 = Default for the account (default value) 1 = Open 2= Close 4 = Set to default for account Values between 128 and 255 are used to set the open/close indicator per leg for combination instruments
	Standard Trailer	Y	

6.2 Quote Status Report

The Quote Status Report message does not exist on a regular FIX session. To increase performance on the regular FIX session you will only receive negative acks when a quote entry fails. On the drop session, eachquote side is represented with a Quote Status Report message. Keep in mind that quotes are not modified like regular orders. A quote will be replaced by a new quote is entered in the same orderbook and side by the same participant.

Note: Even if multiple fills occur when the quote is entered, only one quote status report will be sent per quote side. Fills for quotes are represented by the Execution Report message.

Note: In every case a quote status report will be created giving the original quantity at quote entry(a quote change is also a new entry in this sense). Quote status report will be sent giving the remaining quantity after partial or full fill.

6.2.1 Message Details – Quote Status Report

Tag	FIX tag name		Req'd	Comment
	Standard Header		Y	MsgType = AI
117	QuoteID		Q	NOTE: Will contain system-generated order_number.
537	QuoteType		Q	Identifies the type of quote. Valid values: 0 = Indicative 1 = Tradeable
298	QuoteCancelType			Identifies the type of quote cancel. Only set for quote cancels. Valid values: 5 = Cancel quote specified in QuoteID
453	NoPartyIDs			Repeating group used for business owner of order and/or optional Clearing Firm and Clearing Account.
→	448	PartyID	Q	Party identifier.
→	447	PartyIDSource	Q	Valid values: D = Proprietary/Custom code
→	452	PartyRole	Q	Identifies the type of role for the PartyID specified. Valid values: 1 = Executing Firm 7 = Entering Firm 12 = Executing Trader 14 = Give up Clearing Firm 28 = Custodian 36 = Entering Trader 83 = Clearing Account 1001 = Confirmed by Firm 1002 = Confirmed by User 1003 Reported by Firm 1004 Reported by User 1005 = Affirmed by Firm 1006 = Affirmed by User 1007 = Give-up Account
55	Symbol		Q	OMNet short name.
48	SecurityID		Q	Orderbook ID
22	SecurityIDSource		Q	Valid values: M = Marketplace-assigned identifier
132	BidPx			Bid Price. A zero price is allowed. NOTE: For indicative quotes an undisclosed Bid price is signaled by absence of this field.
133	OfferPx			Offer Price. A zero price is allowed. NOTE: For indicative quotes an undisclosed Offer price is signaled by absence of this field.
134	BidSize			Bid Quantity. A quantity of 0 means the quote is deleted. NOTE: For indicative quotes an undisclosed Bid size is signaled by absence of this field.
135	OfferSize			Offer Quantity. A quantity of 0 means the quote is deleted. NOTE: For indicative quotes an undisclosed Offer size is absence of this field.
297	QuoteStatus			Status of the quote Valid Values:

			0 = Accepted 1 = Cancel for Symbol 2 = Canceled for Security Type 3 = Canceled for Underlying Symbol 4 = Canceled All 5 = Rejected 6 = Removed from Market 7 = Expired 8 = Query 9 = Quote Not Found 10 = Pending 11 = Pass 12 = Locked Market Warning 13 = Cross Market Warning 14 = Canceled Due To Lock Market 15 = Canceled Due To Cross Market 17 = Canceled
1	Account		Pass-thru field set by client and echoed back by marketplace.
528	OrderCapacity		Account type Valid values:
			A = Customer P = Principal F = Fund Order C = Primary Dealer Corp K = Primary Dealer Govt O = Portfolio Mgmt Company T = Investment Trust Y = Other Fund S = Special Client N = Other 2 D = Other 3 NOTE: OrderCapacity is not used by derivatives market
797	CopyMsgIndicator	Q	<i>NASDAQ Extension:</i> Will be set to 'Y' on all Drop Copy messages
	Standard Trailer	Y	

6.3 Trade Capture Report

The Trade Capture Report (TCR) message is used for the following purposes:

- Confirmations on reported trades
- Confirmations on auto-matched orders
- Notifications (and deletes of notifications) to counterparty that somebody reported a trade with you as counterparty
- Modifications and cancels of confirmed trades

Workflows and more detailed descriptions of how Trade Capture reports are used can be found in the Fix specification for order entry.

6.3.1 Trade identifiers

TradeID (1003) is an identifier unique per day and orderbook, assigned by the marketplace on confirmed trades. TradeID is formatted as a string containing two integers (omnet trade_number and deal_number) separated by a colon “:”.

OrigTradeID (1126) is a field that is used when the marketplace publishes updates to confirmed trades. As the name suggests, it is used to refer to the Trade ID of the original trade. It has the same

format as TradeID.

The **TrdMatchID** (880) contains the match id generated by the system. TrdMatchID will hold the 64 bit binary match id encoded as a 16 byte hex string. TrdMatchID is also present in Execution Reports for fills.

The encoding is performed according to RFC 2045 [4].

TradeReportID (571) is similar to the ClOrdID used for orders and executions. The marketplace sets its own TradeReportIDs on outbound TCRs (like confirmed trades).

TradeReportRefID (572) is used to refer to a previous TradeReportID.

SecondaryTradeReportID (818) is set by the marketplace on Trade Capture Report and TCR Ack messages. The Secondary Trade Report ID carries the GENIUM order_number.

6.3.2 Trade Capture Report features

To understand the business purpose of a TCR, two fields must be examined:

- TradeReportType (856)
- TradeReportTransType (487)

TradeReportType is set to 1 = Alleged on Notifications to counterparty and deletes of notifications. Use to TradeReportRefID to look up previous notification for deletes. For all other use cases TradeReportType is set to 0 = Submit.

TradeReportTransType is used to determine other uses of the TCR. The following values are used:

- 0 = New – set on trade confirmations both for reported trades and auto-matched trades.
- 2 = Replace – is set on modifications to a confirmed trade. Note that a replace is normally preceded by a reversal. Use OrigTradeID to look up original trade.
- 4 = Reverse – is set on reversals (cancels) of a confirmed trade. Use OrigTradeID to look up original trade.

6.3.3 Trade Types

The TrdType tag (828) is used to specify the type of trade being reported to the marketplace.

A list of supported Trade Type values is supplied separately by the marketplace. Note that there may be limitations on which trade types are allowed for a certain instrument and/or participant. It is out of scope of this document to fully specify all such rules. Please refer to the member trading rules for further information. For valid values, please see “8 Appendix C, Trade types” section.

6.3.4 Message Details – Trade Capture Report

Tag	FIX tag name	Req'd	Comment
	Standard Header	Y	MsgType = AE
571	TradeReportID	Y	Identifier assigned by marketplace
1003	TradeID		NASDAQ Extension: Unique (in combination with series/instrument) identifier for trade
1126	OrigTradeID		NASDAQ Extension: Used to refer to original trade in case of modifications or cancellations
572	TradeReportRefID		Used to refer to original trade or notification in case of modifications or cancellations
818	SecondaryTradeReportID		GENIUM order_number. Also present in previous TCR Ack message. For auto-matched trades order_number is in OrderID.

487	TradeReportTransType	Q	Valid values: 0 = New 1 = Cancel 2 = Replace 4 = Reverse
856	TradeReportType	Q	Valid values: 0 = Submit 1 = Alleged 8 = TradeCancelRequest 9 = TradeCancelRejectRequest 10 = TradeCancelHold 11 = TradeCancelRejectByParticipant 12 = NeedsAuth 13 = RejectedByExpert 14 = Authorized 15 = Rejected 16 = RejectedByCI 17 = RejectedByOtc 18 = InternallyRejected
828	TrdType		Valid value: 22 = Privately Negotiated Trades(For Advertising Orders) For more on valid values, please see 6.3.3
829	TrdSubType	Q	Further qualification of the trade type (omnet trade_type_c). NASDAQ Extension values: 1001 = Standard. The trade is a normally registered trade. 1002 = Transitory. The trade is placed on a transitory account. 1003 = Overtaking. The trade is a result of a rectify operation. 1004 = Reversing. The trade is a result of a rectify operation. 1005 = Transfer. The trade is a result of a transfer from a daily account. 1006 = Exercise. The trade is a result of an exercise operation. 1007 = Assign. The trade is a result of an assign operation. 1008 = Closing. The trade is a result of a closing series operation. 1009 = Issue 1010 = New contract. The trade is a result where delivery is new contract. 1011 = Delivery 1012 = Dummy trade 1013 = Alias 1014 = Offsetting 1015 = Superseeding 1016 = State change 1017 = Giveup 1018 = Takeup

573	MatchStatus	Q	Valid values: 0 = Compared, matched or affirmed 1 = Uncompared, unmatched, or unaffirmed
880	TrdMatchID	Q	Match ID assigned by the matching engine.
20034	ComboMatchID		Combination Match ID assigned by the matching engine.
570	PreviouslyReported	Y	Indicates if the trade capture report was previously reported to the counterparty Valid values: N = No
55	Symbol	Q	OMNet short name
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
32	LastQty	Y	Traded quantity
31	LastPx	Y	Trade Price
20017	WithHoldingTax		If repo trade is subject to 22itholding tax value of tax amount.
20018	RepoInterestAmt		Repo Trades interest amount.
730	SettlementPrice		Calculated price for settlement.
1703	NoCollateralAmounts		Number of collateral amount entries.
→	1704	CurrentCollateralAmount	Currency denomination of value
21100	LastUnderlyingPx		
21101	UnderlyingColPx		Collateral Price - Required for limit orders in the Special Repo Markets.
119	SettlCurrAmt		Order value
75	TradeDate	Y	Always set to date of trade.
60	TransactTime	Y	NOTE: Contains Time of Trade Execution
64	SettlDate		Settlement date
552	NoSides	Y	Either 1 or 2 sides. Counterparty may not be shown on auto-matched trades.
→	54	Side	Side. Valid values: 1 = Buy 2 = Sell 5 = Short Sell
→	37	OrderID	Required in FIX. Set to “NONE”.
→	453	NoPartyIDs	Number of party id entries
→	→	448	PartyID party identifier
→	→	447	PartyIDSource Valid values : D = Propr. Code

→	→	452	PartyRole	Q	Valid values: 1 = Executing Firm 7 = Entering Firm 12 = Executing Trader 14 = Give up Clearing Firm 17 = Contra Firm 28 = Custodian 36 = Entering Trader 83 = Clearing Account 1001 = Confirmed by Firm 1002 = Confirmed by User 1003 Reported by Firm 1004 Reported by User 1005 = Affirmed by Firm 1006 = Affirmed by User 1007 = Give-up Account
→		528	OrderCapacity		Account type Valid values: A = Customer P = Principal F = Fund Order C = Primary Dealer Corp K = Primary Dealer Govt O = Portfolio Mgmt Company T = Investment Trust Y = Other Fund S = Special Client N = Other 2 D = Other 3 NOTE: OrderCapacity is not used by derivatives market
→		483	TransBkdTime		<i>NASDAQ Extension:</i> Time of agreement. NOTE: Only set on the own Side (where PartyRole=Executing Firm)
→		20006	CleanPrice		<i>NASDAQ Extension:</i> The price of a Bond excluding accrued interest. Only used when reporting REPO trades. NOTE: Only set on the own Side (where PartyRole=Executing Firm)
→		20009	OrderReference		<i>NASDAQ Extension:</i> Order Reference pass-thru field. NOTE: Only available for fixed income. NOTE: Only set on the own Side (where PartyRole=Executing Firm)
→	1		Account		Optional pass-thru field set by client and echoed back by marketplace. Only set on the own Side (where PartyRole=Executing Firm)
					NOTE: Only set on the own Side (where PartyRole=Executing Firm)
→	70		AllocID		Optional pass-thru field set by client and echoed back by marketplace. Only set on the own Side (where PartyRole=Executing Firm) NOTE: Only set on the own Side (where PartyRole=Executing Firm)

→	151	LeavesQty	Quantity open for further execution.
→	1057	AggressorIndicator	Indicates who is the aggressive party in the trade. Valid values: Y = Party is the aggressor N = Party is passive NOTE: Only set on the own Side (where PartyRole=Executing Firm)
→	20199	OpenCloseIndicator	The open/close indicator controls if the resulting position after a trade should be an opening or a closing position. 0 = Default for the account (default value) 1 = Open 2= Close 3= Mandatory Close 4 = Set to default for account Values between 128 and 255 are used to set the open/close indicator per leg for combination instruments.
715		ClearingBusinessDate	
855		SecondaryTrdType	Contains GENIUM deal_source value.
20007		CorrespondingPrice	NASDAQ Extension: Corresponding Price/Yield for fixed income related trades.
20008		Consideration	NASDAQ Extension: Consideration/Settlement Amount for fixed income related trades.
20013		DeferredPublicationTime	NASDAQ Extension: The number of minutes the publication of this trade will be delayed (relative to time of agreement).
20015		OptPremiumAmt	Premium value
381		GrossTradeAmt	Calculated trade value
21102		DealNumber	Contains the numeric Genium INET deal_number
21103		TradeReportState	Current state of the OTC Trade Report. Valid values: 0 = None 1 = Unmatched 1 = Paired 1 = Matched 4 = Cancelled 5 = Rejected 1 = Novated 1 = Terminated 8 = Deleted
21104		TradeReportSubState	Current sub state of the OTC Trade Report. Valid values: 0= None 1 = Pending Cancel 3 = Pending Termination 6 = Netted to zero 13 = Pending Clearing Member Acceptance 14 = Rejected by Clearing Member 15 = Pending Clearinghouse Confirmation 16 = Pending Clearinghouse Auto Confirm 17 = Pending Clearing

			18 = Cancelled by Counterpart 19 = Ongoing Clearinghouse Check 20 = Auto Take Up Check Ongoing 21 = Auto Take Up Rejected 22 = Rectified 23 = Counterparty Rectified 24 = Cancelled 25 = Counterparty Cancelled
21105	TradeReportInstrType		Type of trade report. Valid values: 0 = None 1 = Standard 1 = Tailormade 1 = Fixed Income 4 = Discount Security 5 = FRA 1 = IR Swap 1 = FX 1 = Cash 9 = Repo 10 = Agreement 11 = SSI 12 = Equity 13 = XCUR Swap
21106			The reason a trade report is in a certain state or the action to a trade report. Valid values: 0 = None 1 = Counterparty has cancelled 1 = pending counterparty cancel 1 = counterparty has terminated 4 = pending counterparty termination 5 = Party Clearing Member 1 = Counterparty Clearing Member 1 = Party lacks collateral 1 = counterparty lacks collateral 9 = old account lacks collateral 10 = New account lacks collateral 11 = Both accounts are lacking collateral 12 = manually confirmed by clearing house 13 = manually rejected by clearing house 14 = Automatic end of day cleanup 15 = rejected by counterparty 17 = exposure exceeded and lacking collateral 18 = record update 19 = Confirmation Due on Termination Date 20 = Configuration Error 21 = Party Exposure Limit Exceeded 22 = Counterparty Exceeded Exposure Limit 23 = Member defined exposure limit exceeded 24 = Old Account Exposure Limit Exceeded

	TraderReportReason		25 = New Account Exposure Limit 26 = Both Accounts Exposure Limit Exceeded 27 = Pending Compression 28 = Counterparty has updated
			Exceeded 26 = Both Accounts Exposure Limit Exceeded
21107	AuthorizationState		Valid values: 0 = None 1 = Authorized 1 = Needed 3 = Not needed
21108	AffirmationState		Valid values: 0 = Not required 1 = Holding 1 = Affirmed by Party 1 = Automatically Affirmed 4 = Rejected 5 = Auto Limit Exceeded
21109	DeliveryUnit		
21110	OrigClearingBusinessDate		
21112	TradeCancelRequestReason		Valid Values: 2 = Invalid Quantity/Insufficient Balance 3 = Error in Price/Rate 4 = Error in Securities 5= Reverse Trade 6 = Error in Value Date 7 = Error in Account Id
797	CopyMsgIndicator		Set to 'Y' on Drop Copy messages
	Standard Trailer	Y	

6.4 Quote Request

i. Message Details – Quote Request(out)

Tag	FIX tag name		Req'd	Comment
	Standard Header		Y	MsgType = R
131	QuoteReqID		Q	From Incoming Quote Request
1116	NoRootPartyIDs			Optional repeating group. Identifies the submitter of the Quote Request. Only valid for Quote Request owner.
→	1117	RootPartyID	Q	Party identifier.
→	1118	PartyIDSource	Q	Valid values: D = Proprietary/Custom code
→	1119	RootPartyRole	Q	Identifies the type of role for the PartyID specified. Valid values: 7 = Entering Firm 36 = Entering Trader
146	NoRelatedSym		Q	Will be set to 1
→	55	Symbol	Q	Short name of Instrument
→	54	Side		Valid values: 1 = Buy 2 = Sell 5 = Short Sell NOTE: The absence of a side implies that a two-sided quote is being requested.
→	110	MinQty		The minimum Quantity to fulfill
797	CopyMsgIndicator			Set to 'Y' on Drop Copy messages
	Standard Trailer		Y	

Note : Quote request owner receives two Quote Request(out) messages for one Quote Request(in) message(for whole market). First Quote Request(out) message contains NoRootPartyIDs group, this message is for only Quote Request owner. Second Quote Request(out) message does not contain NoRootPartyIDs group and this message is disseminated to all market.

6 Appendix A, NASDAQ Extensions

This chapter details how this solution deviates from standard FIX 4.4. While great care has been taken to conform to the standard, a number of deviations are unavoidable to support all mechanisms provided by the host. Wherever later versions of FIX (up to version 5.0 SP2) provide the missing functionality, we have chosen to use that.

There are four types of deviations from the standard:

- Messages added. All current additions come from the later standard versions of FIX.
- Fields added. Most added fields come from later FIX versions. A few user defined fields had to be added to accommodate back-end functionality not present in FIX 4.4.
- Enumerated values added. Some fields have added enums.
- Removed fields required in standard FIX.
- Other datatype used for existing field.

7.1 Added Fields

Tag Num	Field Name	In FIX 5.0 SP2	Comment
1003	TradeID	Y	
1126	OrigTradeID	Y	
1089	MatchIncrement	Y	
70	AllocID	Y	Existing FIX tags added to the Order Cancel Request and the Execution Report messages.
1385	ContingencyType	Y	
1390	TradePublishIndicator	Y	
925	NewPassword	Y	Added to inbound Logon
1100	TriggerType	Y	
1101	TriggerAction	Y	
1102	TriggerPrice	Y	
1113	TriggerTradingSessionID	Y	
1103	TriggerSymbol	Y	
1104	TriggerSecurityID	Y	
1105	TriggerSecurityIDSource	Y	
1107	TriggerPriceType	Y	
1109	TriggerPriceDirection	Y	
1116	NoRootPartyIDs	Y	
1117	RootPartyID	Y	
1118	RootPartyIDSource	Y	
1119	RootPartyRole	Y	
1418	LegLastQty	Y	For multileg fills.
20006	CleanPrice	N	Data type: Price
20007	CorrespondingPrice	N	Data type: Price
20008	Consideration	N	Data type: Price
20009	OrderReference	N	Data type: String
20013	DeferredPublicationTime	N	Data type: int
20015	OptPremiumAmt	N	Data type: Amt
20034	ComboMatchID	N	Data type: Match ID
20199	OpenCloseIndicator	N	Data type: int

20200	SessionStateName	N	Data type: String
21100	LastUnderlyingPx	N	Data type: Price
21101	UnderlyingColPx	N	Data type: Price
21102	DealNumber	N	Data type: int
21103	TradeReportState	N	Data type: int
21104	TradeReportSubState	N	Data type: int
21105	TradeReportInstrType	N	Data type: int
21106	TradeReportReason	N	Data type: int
21107	AuthorizationState	N	Data type: int
21108	AffirmationState	N	Data type: int
21109	DeliveryUnit	N	Data type: int
21110	OrigClearingBusinessDate	N	Data type: LocalMktDate
528	OrderCapacity	Y	Existing field added to Trade Capture Reports.
529	OrderRestrictions	Y	Existing field added to Trade Capture Reports.
483	TransBkdTime	Y	Existing field added to Trade Capture Reports.

7.2 Non-standard datatype used

Tag Num	Field Name	FIX datatype	New datatype
541	MaturityDate	LocalMktDate	Used to carry the integer value of the omnet expiration_date_n field. Only used in outbound Security Definitions for TMC registration responses.

7.3 Added Enumerations

Enumeration	Added to Field	In FIX 5.0 SP2	Comment
1001 = Outside Spread 1002 = Standard Trade, on hours (fixed income) 1003 = Exchange Granted Trade, on hours (fixed income) 1004 = OTC non-standard Trade (fixed income) 1005 = Turnover Reporting (fixed income) 1102 = Standard Trade, off hours (fixed income) 1103 = Exchange Granted Trade, off hours (fixed income) 1104 = OTC non-	TrdType	N	

standard Trade, off hours (fixed income) 1148 = Non-Standard Settlement, off hours (fixed income) 1149 = Derivatives Related Trade, off hours (fixed income) 1150 = Portfolio Trade , off hours (fixed income) 1151= Volume Weighted Average Price Trade, off hours (fixed income) 1153 = Repurchase Agreement, off hours (fixed income) 1154 = OTC Standard Trade, off hours (fixed income)			
1001 = Standard 1002 = Transitory 1003 = Overtaking 1004 = Reversing 1005 = Transfer. 1008 = Closing. 1009 = Issue 1010 = New contract. 1011 = Delivery 1012 = Dummy trade 1013 = Alias 1014 = Offsetting 1015 = Superseeding 1016 = State change 1017 = Giveup 1018 = Takeup	TrdSubType	N	
M = Marketplace-assigned identifier	SecurityIDSource	Y	
101 = Password Expired	UserStatus	N	
102 = New password does not comply with policy	UserStatus	N	
100 = Invalid body length in received message, session suspended 101 = Heartbeat interval too low.	SessionStatus	N	
L = Triggered or	ExecType	Y	

Activated by the system			
S = GTS	TimeInForce	N	
P = Principal F = Fund Order C = Primary Dealer Corp K = Primary Dealer Govt O = Portfolio Mgmt Company T = Investment Trust Y = Other Fund	OrderCapacity	N	
1001 = Confirmed by Firm 1002 = Confirmed by User 1003 Reported by Firm 1004 Reported by User 1005 = Affirmed by Firm 1006 = Affirmed by User 1007 = Give-up Account	PartyRole	N	

8 Appendix B, Field length limitations

The following fields have a max length limit:

Tag Num	Field Name	max length	Comment
66	ListID	20	
320	SecurityRequestID	20	
70	AllocID	15	Existing FIX tags added to the Order Cancel Request and the Execution Report messages.
1	Account	10	
448	PartyID	14	When PartyRole= Give Up Clearing Firm
448	PartyID	12	When PartyRole=Clearing Account
448	PartyID	5	When PartyRole=Executing Firm or Contra Firm
571	TradeReportID	20	
572	TradeReportRefID	20	
881	SecondaryTradeReportRefID	20	
925	NewPassword	32	
20009	OrderReference	10	

9 Appendix C, Trade types

The following table contains the definitions of all values the TrdType (828) field can contain.

Value	Description
501	EQWS - PAY PIYASASI TOPTAN SATISLAR
514	ELT0 - SON ISLEM FIYATI
515	EQNS - PAY PIYASASI TS TAKAS DISARIDA
516	ELT6 - SON ISLEM FIYATI +/- %6
621	DIXF - BIST30 VIS OZEL EMIR
622	DIXO - BIST30 OPSİYON OZEL EMIR
623	DIXM - MINI BIST30 OPSİYON OZEL EMIR
624	DEF1 - PAY VIS OZEL EMIR
625	DEF2 - PAY VIS OZEL EMIR
626	DEO1 - PAY OPSİYON OZEL EMIR
627	DEO2 - PAY OPSİYON OZEL EMIR
628	DUSF - USDTRY VIS OZEL EMIR
629	DEUR - EURTRY VIS OZEL EMIR
630	DEUD - EURUSD VIS OZEL EMIR
631	DUSO - USDTRY OPSİYON OZEL EMIR
632	DXTR - GRAM ALTIN VIS OZEL EMIR
633	DXUS - ONS ALTIN VIS OZEL EMIR
634	DCOT - FIZIKI TES. PAMUK VIS OZEL EMIR
635	DWHT - AN. KIR. BUGDAY VIS OZEL EMIR
636	DNUL - OZEL EMIR GIRISI YOK
637	DEL – AYLIK ELEKTRİK VIS OZEL EMIR
638	DSAS - SASX10 VIS OZEL EMIR
639	DHMS - HURDA CELİK VIS OZEL EMIR
640	DETF - FBIST ETF VIS OZEL EMIR
641	DIXR - BIST30 VIS OZEL EMIR (ROLL)
642	DUSR - USDTRY VIS OZEL EMIR (ROLL)
643	DONF - REP OTLREF VIS OZEL EMIR
644	DRBU - USDRUB VIS OZEL EMIR
645	DRUB - RUBTRY VIS OZEL EMIR
646	DCNU - USDCNH VIS OZEL EMIR
647	DCNH - CNHTRY VIS OZEL EMIR
648	DCYU - USDCNY VIS OZEL EMIR
649	DCNY - CNYTRY VIS OZEL EMIR
678	DPUF - FIZIKI TES. USDTRY VIS OZEL EMIR
679	DPUO – FIZIKI TES. USDTRY OPS OZEL EMIR
680	DMNS - MNSE10 VIS OZEL EMIR
681	DWHM - DURUM BUGDAY VIS OZEL EMIR
682	DXAP - FIZIKI TES. ALTIN VIS OZEL EMIR
683	DEUO - EURTRY OPSİYON OZEL EMIR
684	DELC – CEYREK YILLIK ELEKTRİK CASC -VIS OZEL EMIR
685	DGUD – GBPUSD VIS OZEL EMIR

Value	Description
686	DXBF – BIST BANKA VIS OZEL EMIR
687	DXSF – BIST SINAI VIS OZEL EMIR
688	DXLB – BIST LIKIT BANKA VIS OZEL EMIR
689	DX10 – BIST BD LIKIT 10 VIS OZEL EMIR
690	DEF3-PAY VIS OZEL EMIR
691	DEF4-PAY VIS OZEL EMIR
692	DEF5-PAY VIS OZEL EMIR
693	DEF6-PAY VIS OZEL EMIR
694	DEF7-PAY VIS OZEL EMIR
695	DEO3-PAY OPSİYON OZEL EMIR
696	DEO4-PAY OPSİYON OZEL EMIR
697	DEO5-PAY OPSİYON OZEL EMIR
698	DEO6-PAY OPSİYON OZEL EMIR
699	DEO7-PAY OPSİYON OZEL EMIR
700	DGUS - ONS GUMUS VIS OZEL EMIR
701	DFPI – FİZİKİ T. DİBS VIS OZEL EMIR
702	DXCU – TON BAKIR VIS OZEL EMIR
703	DXPD - ONS PALLADIUM VIS OZEL EMIR
704	DXPT - ONS PLATINUM VIS OZEL EMIR
705	DXSD - BIST SURDUR.25 VIS OZEL EMIR
706	DEF - PAY VIS OZEL EMIR
707	DEO - PAY OPSİYON OZEL EMIR
721	DA01 - BIST30 VIS ILAN PAZARI
722	DA02 - BIST30 OPSİYON ILAN PAZARI
723	DA03 - MINI BIST30 OPSİYON ILAN PAZARI
724	DA04 - PAY VIS ILAN PAZARI
725	DA05 - PAY VIS ILAN PAZARI
726	DA06 - PAY OPSİYON ILAN PAZARI
727	DA07 - PAY OPSİYON ILAN PAZARI
728	DA08 - USDTRY VIS ILAN PAZARI
729	DA09 - EURTRY VIS ILAN PAZARI
730	DA10 - EURUSD VIS ILAN PAZARI
731	DA11 - USDTRY OPSİYON ILAN PAZARI
732	DA12 - GRAM ALTIN VIS ILAN PAZARI
733	DA13 - ONS ALTIN VIS ILAN PAZARI
734	DA14 - FİZİKİ TES.PAMUK VIS ILAN PAZARI
735	DA15 - AN. KIR. BUGDAY VIS ILAN PAZARI
737	DA16 – AYLIK ELEKTRİK VIS ILAN PAZARI
738	DA17 - SASX10 VIS ILAN PAZARI
739	DA18 - HURDA ÇELİK VIS ILAN PAZARI
740	DA19 - FBIST ETF VIS ILAN PAZARI
743	DA20 - REPÖ TLREFVIS ILAN PAZARI
744	DA21 - USDRUB VIS ILAN PAZARI

Value	Description
745	DA22 - RUBTRY VIS ILAN PAZARI
746	DA23 - USDCNH VIS ILAN PAZARI
747	DA24 - CNHTRY VIS ILAN PAZARI
748	DA25 - USDCNY VIS ILAN PAZARI
749	DA26 - CNYTRY VIS ILAN PAZARI
750	DA27 - MNSE10 VIS ILAN PAZARI
751	DA28 - DURUM BUGDAY VIS ILAN PAZARI
752	DA29 - FIZIKI TES ALTIN VIS ILAN PAZARI
753	DA30 - EURTRY OPSIYON ILAN PAZARI
754	DA31 – CEYREK YILLIK ELEKTRIK €AŞ€ VIS ILAN PAZARI
755	DA32 - BIST LIKIT BANKA VIS ILAN PAZARI
756	DA33 - BIST BD LIKIT 10 VIS ILAN PAZARI
757	DA34 – BIST SURDUR.25 VIS ILAN PAZARI
765	DNL1- PAY VIS OZEL EMIR-NO LIMIT
766	DNL2- PAY VIS OZEL EMIR-NO LIMIT
767	DNL3- PAY VIS OZEL EMIR-NO LIMIT
768	DNL4- PAY VIS OZEL EMIR-NO LIMIT
769	DNL5- PAY VIS OZEL EMIR-NO LIMIT
770	DNL6- PAY VIS OZEL EMIR-NO LIMIT
771	DNL7- PAY VIS OZEL EMIR-NO LIMIT
812	FTR1 - BAP TRADE REPORT – CLEARED
818	FTR2 - BAP TRADE REPORT - NON-CLEARED
821	FTRC - BAP TR - CLEARED - 500k-100M
831	FC1K - BAP TR - CLEARED - 1k
832	FC10 - BAP TR - CLEARED - 10k
833	FC50 - BAP TR - CLEARED - 50k
834	FCHK - BAP TR - CLEARED - 100k
835	FC1M - BAP TR - CLEARED - 1M
836	FCKA - BAP TR - CLEARED - 20100m
837	FCKX - BAP TR - CLEARED - 5m
838	FXAC - BAP TR - CLEARED - GOLD
841	FN1K - BAP TR - NON-CLEARED - 1k
842	FN10 - BAP TR - NON-CLEARED - 10k
843	FN50 - BAP TR - NON-CLEARED - 50k
844	FNHK - BAP TR - NON-CLEARED - 100k
845	FN1M - BAP TR - NON-CLEARED - 1M
848	FXAN - BAP TR - NON-CLEARED - GOLD
901	KSNI – PMD (KMP) TR CLEARED IN (On Exchange)
902	KSNO – PMD (KMP) TR CLEARED OUT (Off Exch.)
903	KSSI – BORSA ICI (NS)
904	KSSO – BORSA DISI (NS)

10Appendix D, Secondary Trade Types

Value	Description
0	Internal use. Trades reported directly to the clearing subsystem.
1	Matched by system, automatically.
2	Matched by system, manually.
3	Matched Outside Exchange, Different participants
4	Matched outside exchange, different participants, reg. by exchange.
5	Matched Outside Exchange, One participant
6	Matched outside exchange, one participant, reg. by exchange.
7	Combination order matched against another combination order when matched by the Exchange, electronically.
8	Deal in a Swap Box instrument.
9	Matched electronically, member internal.
10	Deal in a Swap Box instrument, member internal.
11	After market closure, outside system, different brokers
12	After market closure, outside system, different brokers, registered by the exchange.
13	After market closure, outside system, one broker
14	After market closure, outside system, one broker, registered by the exchange.
15	Internally created basis trade.
16	Reversing deal made by the exchange manually.
17	Basis trade.
18	Correction of trade.
19	Internally created.
20	Deal made at the end of an auction.
21	Private request for quote.
22	Package private request for quote.
23	Internally from combo.
24	Internally from TM.
25	Internally from average.
26	Internally from strip.
27	Delta hedge.
28	CL bundle deal.
32	Trade from Bulletin Board.
33	Trade from Bulletin Board, standard combo.
34	Trade from Bulletin Board, non-standard combo.
35	Trade from Bulletin Board, non-standard combo.
36	Tailor-made combination.
37	Non-standard combination.
38	Outside the Exchange, block trade facility.
39	Matched outside the Exchange, combinations.

40	Outside the Exchange, block trade facility.
41	No Deal Price.
42	Priority crossing.
43	Combination matched outright legs.
44	Matched outside exchange, broker.
53	Negotiated deal advertising board.
100	deal_source_imp_rotation
101	deal_source_imp_normal
102	deal_source_imp_out_of_sequence
103	deal_source_imp_cab_trade
104	deal_source_imp_combo_single
105	deal_source_imp_combo_mix
110	deal_source_fac_orig_order
111	deal_source_fac_counter_order
112	deal_source_exp_orig_order
113	deal_source_exp_counter_order
114	deal_source_unsolicited_order
115	deal_source_solicited_order
116	deal_source_block_order
117	deal_source_trade_rep
118	deal_source_trade_rep_no_settl
122	deal_source_imp_combo_buy_write
128	Trade resulting from an Average Price Trade transaction.
129	Intermediate trade created in an Average Price Trade transaction.
131	Trade transfer.
132	Misclear.
133	Exchange for physical (EFP).
134	Spread trade.
135	Average price system (APS).
136	Adjustment without price.
137	Adjustment with price.
138	Deal executed at CTrade.
139	Cross product netting.
140	Committed transaction return.

Revision History

Date	Revision	Change Description
March 30, 2015	0.1	Initial version
June 9, 2015	0.2	Removing Trade Capture Report Ack, and updating tags 828 and 528 with BIST configured values. Updated the description for Quote Status report.
July 10, 2015	0.3	Added tags 297, 1 and 528 to Quote Status report.
August 10, 2015	0.4	Changed partyrole 4 to 14.
August 18, 2015	0.5	Added a description about cancels being sent as unsolicited cancels.
September 21, 2015	0.6	Updated the description for Quote Status Report and added Broker option as a possible value for tag 378.
February 8, 2016	1.0	Initial version for phase 2
Mars 15, 2016	1.1	Updated text in Chapter Drop Copy Sessions and note in Chapter Quote Status Report.
Mars 16, 2016	1.2	Updated FIX protocol version in Chapter Overview.
August 4, 2016	1.3	Adding PartyRole (452) values “7 = Entering Firm” and “36 = Entering Trader”
August 4, 2016	1.4	Adding note to OrderCapacity (528) comments
November 16, 2016	1.5	Copyright and disclaimer change
January 24, 2017	1.6	Added “Appendix C, Trade types” section. Added two new tags 20034 and 20200 to “Message Details – Execution Report” section.
January 25, 2017	1.7	Updated Quote Status Report tag 528. Added/updated various tags in ExecutionReport: 119, 528, 20015, 20034, 20199, 20200, 21100, 21101. Added/updated various tags in Trade Capture Report: 119, 452, 528, 828, 20015, 20199, 21100, 21101, 21102, 21103, 21104, 21105, 21106, 21107, 21108, 21109, 21110. Updated “Appendix C, Trade types”
January 27, 2017	1.8	Corrected the 20200 tag placement in the Execution Report message. Updated the “6.3.3 Trade Types” section comment. Added tag 20034 to TradeCaptureReport.
May 10 , 2017	1.9	Added GrossTradeAmt to the Trade Capture Report
June 14, 2017	1.10	Added tags in Trade Capture Report: 730,1703,1704,20017,20018.
September 11,2017	1.11	Added new values to “Appendix C, Trade types”.
February 27, 2018	1.12	Added valid value of TradingSessionID to the Execution Reports.

Date	Revision	Change Description
April 05, 2018	1.13	Added tags in Trade Capture Report; 151, 1057
May 25, 2018	1.14	Added following Trdypes to the “Appendix C, Trade types” table; 821,831,832,833,841,842,843,844
December 6, 2018	1.15	Added following Trdypes to the “Appendix C, Trade types” table; 685, 686 ,687
December 18, 2018	1.16	Added “Appendix D, Secondary trade types” section.
February 12, 2019	1.17	Section 4.13.4 is updated.
March 05, 2019	1.18	Outbond Logon message is updated with tag numbers 1137 and 20002. Quote Request message details are added in section 6.4. Adding new valid values for tag 528/OrderCapacity.
April 18, 2019	1.19	<ul style="list-style-type: none"> Added new values to tag 1409 for Logout message(MsgType=5) Removed value 8 from tag 1409 for Logon message(MsgType=A) Added note for quote request owner to Section 6.4.1
April 30, 2019	1.20	<ul style="list-style-type: none"> Added new values to tag 1409 for Logout message(MsgType=5)
October 22, 2019	1.21	Added new values (26,27, 28) to tag 21106 for Trade Capture Report (MsgType = AE)
February 06, 2020	1.22	Updated syntax error: <ul style="list-style-type: none"> 4.13.8 Reject (tag 373), 5.1.1 Drop Party Identifiers(tag 452), Message Details – Execution Report(tag 452, 39, 40, 1100, 107, 59, 20199), <ul style="list-style-type: none"> 6.2.1 Message Details – Quote Status Report(tag 452), 6.3.4 Message Details – Trade Capture Report(tag 487, 452, 20199, 21102, 21104, 21105, 21106, 21107) 6.3.4 Message Details – Trade Capture Report (tag 2110, 21107)
February 27, 2020	1.23	Begin string updated in the Standard Header.
March 05,2020	1.24	Added new values to “Appendix C, Trade types”
April 22,2021	1.25	Added new trade type-700 to “Appendix C, Trade types”
June 11, 2021	1.26	<ul style="list-style-type: none"> Added new tag 21112 – TradeCancelRequestReason in MsgType = AE

Date	Revision	Change Description
		<ul style="list-style-type: none"> Added new enum for tag 856 - TradeReportType
October 21, 2021	1.27	Added new trade types 703,704,678,679 to “Appendix C, Trade types”
January 17, 2022	1.28	TradeReportTransType (487) valid value “1=Replace” changed as” 2=Replace”
January 28, 2022	1.29	Added new trade types 835,836,837,838,845,848 to “Appendix C, Trade types”
February 3, 2022	1.30	Comment of OpenCloseIndicator (20199) is updated Comment of TradeReportSubState (21104) is updated
February 15, 2022	1.31	Updated tag 20199 in 6.3.4 Message Details – Trade Capture Report
March 03, 2022	1.32	Section “4.13.8 Reject (out)” description is updated.
March 14, 2022	1.33	Added new trade type 701 to “Appendix C, Trade types”.
March 18, 2022	1.34	Added a new tag LastFragment (893) to 6.1.3 Message Details – Execution Report.
May 26, 2022	1.35	Added new values (1006,1007) to tag 829 for Trade Capture Report (MsgType = AE).
October 4, 2022	1.36	Added new valid value (5) to tag 54 for Execution Report.
May 4, 2023	1.37	<ul style="list-style-type: none"> Updated missing valid value (1) at tag 573 (MatchStatus) for Trade Capture Report. Updated missing valid value (1) at tag 487 (TradeReportTransType) for Trade Capture Report.
May 5,2023	1.38	Updated missing valid values at tag 297 (QuoteStatus) for Quote Status Report.
June 2, 2023	1.39	The content of the “4.9 Failover and Message Recovery” heading has been updated within the scope of BISTECH 3.0.
September 22, 2023	1.40	Updated the missing valid value (3) to tag 20199 for Trade Capture Report (MsgType=AE).
December 23, 2024	1.41	Added tags in Execution Report: 31,32.
January 13, 2025	1.42	Added new tags SMP Level (21114), SMP Method (21115), SMP ID (21116) to 6.1 Execution Report message.
February 12, 2025	1.43	Updated TrdMatchID(880) description.
May 05, 2025	1.44	Added trade types 688, 689, 702, 705, 706, 707, 755, 756, 757, 765, 766, 767, 768, 769, 770, 771, 903, 904 to “Appendix C, Trade types”.