



INDIA INTERNATIONAL BULLION
EXCHANGE IFSC LTD

FIX Application Programming Interface *for* **Central Trading System**

Market Segment - Commodity Futures

Version Information	
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Release Notes

Revision History

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1. Glossary

Sr#	Term	Description
1	TPS	Third Party Software e.g. CTCL Solution / Algo Solution
2	CTS	Central Trading System
3	IEC	IIBX FIX Exchange Connector. A CTS component which TPS would connect to over TCP.
4	FIX	Financial Information Exchange

2. Introduction

This document describes the FIX API specifications for communicating with IIBX FIX Exchange Connector. FIX API specifications are based on the FIX protocol and cover transaction handling only. IIBX Exchange Connector currently provides for translation of selected FIX messages only and does not provide the complete functionality provided by a FIX Engine.

The exchange requires that the vendor/exchange's member undergo a conformance test upon completing development of the interface. The vendor/exchange's member must contact the exchange to schedule an appropriate period for testing.

The vendor/exchange's member may contact the Information Technology Division of the exchange to seek clarification at:

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4. General Considerations

Target Audience: This document is meant to be referred to by system designers and developers, typically belonging to 3rd Party software development companies or member's technology department. We expect the user to be familiar with FIX protocol and its nuances.

Standards & Other Considerations

- IIBX FIX Exchange Connector will provide private, one-to-one channel for interfacing with the IIBX trading system. IIBX FIX Exchange Connector will play the role of FIX Acceptor (TCP Server) and third-party application will assume the role of FIX Initiator (TCP Client). They will connect and communicate over the TCP socket (opened on IP Address, Port specified by IIBX).
- IIBX FIX Exchange Connector supports FIX 5.0 SP2 version of FIX protocol.
- FIX Message format is <tag>=<value> pair. Each <tag>=<value> is delimited by SOH (ASCII 1) character within the FIX message.
- Each FIX message must have Standard Header & Standard Trailer segments.
- Broadcast Messages (over UDP) are not supported by IIBX FIX Exchange Connector

5. Type of Communication between TPS & CTS

There are typically three types of communication that would take place between TPS & CTS. Please find them below:

- **Administrative Messages [Request/Response]**

These messages cover standard procedures for establishing and maintaining the FIX session. They are communicated over the TCP Connection.

- **Interactive Messages [Request/Response]**

Communication is initiated by TPS by sending the message and in fulfilment to that, CTS would send response message(s). Communication of these messages would take place over the TCP Connection.

Example: Add Order, Modify Order, Download Contract List etc.

- **Notification Messages [Unsolicited Messages]**

No communication is originated by TPS. CTS would send notification message on occurrence of respective events in the system.

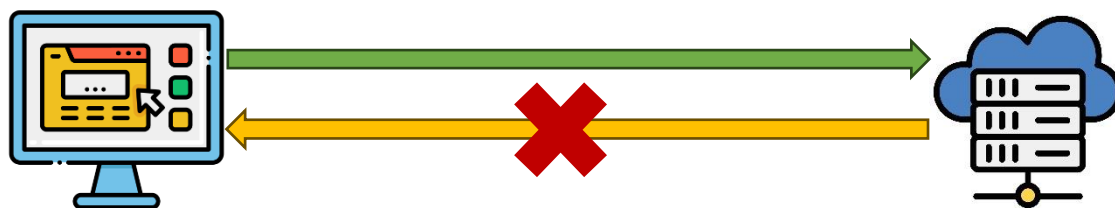
- Unicast Message

These messages are sent to specific dealers only (not the entire market). These messages are sent over the TCP connection.

Example: Trade Notification, Stoploss Order Conversion etc.

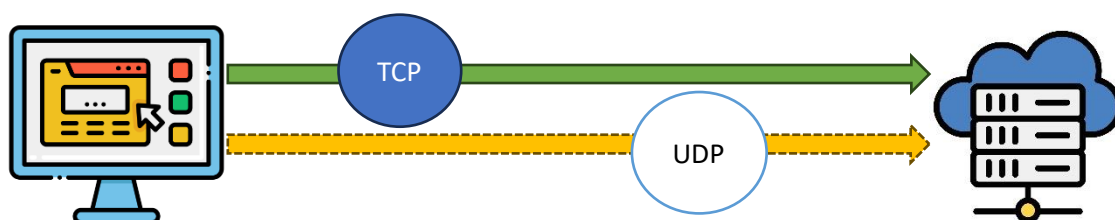
6. Sequence of Operations

Step 1: IEC Lookup



TPS initiates the IEC Lookup activity. TPS sends open TCP Client Socket request at IEC Lookup Service. IEC Lookup Service checks the validity of the TPS IP Address and responds accordingly over the same TCP socket connection. After the response is sent, the TCP Socket is immediately closed. If the request passes through successfully, the response will contain IP Address & Port details for both TCP & UDP/Multicast Group and Exchange published encryption key segment. TPS shall use the same for making connection to IEC.

Step 2: Establish Connections with IEC Host



TPS shall open two connections with the IEC:

- TCP: for Interactive and Unicast Notification Messages
- UDP/Multicast: for Market Data & Other Information Broadcast Notification Messages

Step 3: Logon to CTS



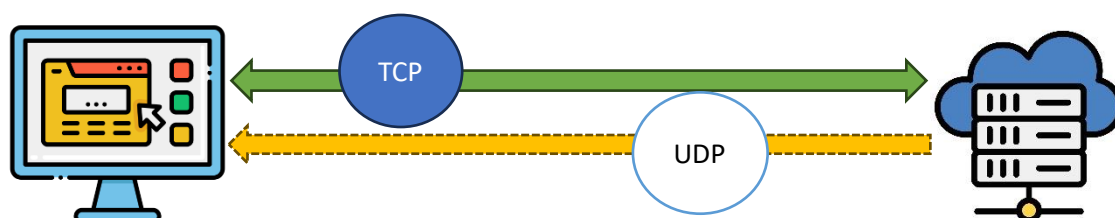
TPS shall initiate the Logon operation by sending the Login Message Packet to IEC over the TCP channel.

Step 4: Execute Download Queries



Execute various download queries.

Step 5: Continuous Session for Trading Activities



TPS user can now continue trading activities like Order Placement, Order Modify etc. TPS will keep receiving notification from the CTS.

IEC Lookup Service Response Message Structure

IEC Lookup service response message is a binary array bearing the following structure. Please note that Integer values are in Little Endian byte order.

Sr#	Field Name	Type & Max Len	Start Index	Description
1	Message Type	Integer	0	Value: 1
2	Message Tag	Integer	4	Message Sequence No
3	Response Code	Integer	8	0 – Success > 0 - Failure
4	Response Details	Text (100)	12	
5	IEC Service IP	Text (15)	112	<ul style="list-style-type: none"> TCP Connection For Interactive and Unicast Notification Messaging
6	IEC Service Port	Integer	127	
7	Encryption Segment Key	Text (8)	151	Use this to generate AES Key for encryption and decryption of messages

*Values in Filed #5 to Filed #7 will be populated only in case when Response Code = 0

IEC Lookup Service Response List

Response Code	Response Text	Description
0	IEC Lookup Successful	
1	Reject: Dealer is not active	
2	Reject: Invalid IP Address	Originating IP Address (of TPS Machine) is not registered in the CTS
3	Reject: Couldn't locate IEC Machine	No Machine matching the IEC Lookup Request found
4	Reject: Couldn't locate IEC Instance	No related IEC instance found for the requesting IP Address

TCP connection with IEC- Response Message Structure

On opening the TCP connection from TPS with the designated IEC (received IP Address & Port during IEC Lookup activity), IEC would send the Connection Response Message to TPS. This should be considered as the FIRST MESSAGE. The FIRST MESSAGE is in text format and the structure of the same is as described below:

IEC Connection Response					
Sr#	Tag	Type (Max. Length)	Value	Nature	Description
1	API Name	Text (20)	IIBX_EXCH_CTCL	Compulsory	Value in the Request Message will be echoed here
2	API Version No	Text (10)	1.0.4	Compulsory	
3	Message Type	Text (30)	CONN_REQ_STATUS	Compulsory	
4	Response Code	Integer		Compulsory	0 - Success > 0 - Failure
5	Response Details	Text (100)		Compulsory	

IEC Response List

Response Code	Response Text	Description
0	IEC Connection Successful	
1	Connection Failed. Invalid Originating IP Address	
2	Connection Failed. Invalid Key	
3	Connection Failed. Unknown Issue (Remove)	
4	Connection Failed. Unknown Issue (Add)	
5	Terminal Type is not a CTCL/Algo Terminal	

7. List of Supported Messages

[Administrative Messages]

Sr#	Message Id	Description	Originator
1	Heartbeat	Heartbeat exchange between Initiator and Acceptor	IEC & TPS
2	Test Request	Sent in case of non-receipt of the Heartbeat message from the counter party	IEC & TPS
3	Resend Request		IEC & TPS
4	Reject	Session-level Rejection Message	IEC & TPS
5	Sequence Reset (Gap-Fill)		IEC & TPS
6	LogOn Request		TPS
7	LogOn Response		IEC
8	LogOut Request		TPS
9	LogOut Response		IEC
10	Change Password Request		TPS
11	Change Password Response		IEC

[Interactive Messages]

Sr#	Message Id	Description	Originator
1	New Order - Single	Add Order Request	TPS
2	Execution Report (New Order -Single)	Add Order Response	IEC
3	Order Cancel/Replace Request	Modify Order Request	TPS
4	Execution Report (Order Cancel/Replace Request)	Modify Order Response (Successful)	IEC
5	Order Cancel Reject Message	Modify Order Response (Failure)	IEC
6	Order Cancel Request	Delete Order Request	TPS
7	Execution Report (Order Cancel Request)	Delete Order Response (Successful)	IEC
8	Order Cancel Reject Message	Delete Order Response (Failure)	IEC
9	Security List Request	Download Contract List Request	TPS
10	Security List	Contract List	IEC
11	Market Data Request	Market Picture for Single Contract	TPS
12	Market Data Snapshot Full Refresh	Response to Market Picture Request	IEC
13	Business Reject		

[Notification Messages]

All the below messages originate from IEC

Sr#	Message Id	Description
1	Execution Report (Order Filled)	On execution of Trade
2	Execution Report (Stop Limit Order Triggered)	On Stoploss Order Trigger
3	Execution Report (Limit Violation)	On Limit violation - All pending orders returned
4	Execution Report	On IOC Order Kill
5	Execution Report	Order Return – Due to Self-Match Trade Prevention
6	Execution Report	On Member put under suspension/square off mode - All pending orders returned
7	Execution Report	On Client put under suspension/square off mode - All pending orders returned

8. Standard Message Content

Standard Header

Tag	Field Name	Req'd	Data Type	Max Size	Comment
8	BeginString	Y	String		Always "FIXT.1.1" This has to be the first field in the message
9	BodyLength	Y	Int		Disconnection, if <= 0 OR non-numeric value This has to be the second field in the message
35	MsgType	Y	String		Failure Message if Message Type is not supported This has to be the third field in the message
49	SenderCompID	Y	String		Exchange provided Trading Member Code
56	TargetCompID	Y	String		Always "IIBX_DER_FIXGW"
34	MsgSeqNum	Y	Int		Disconnection, if <= 0 OR non-numeric value
43	PossDupFlag	Y	Boolean		Y = Possible Duplicate N = Original Transmission Disconnection, if any other value
52	SendingTime	Y			UTC Timestamp
1128	ApplVerID	Y	Int		Must be 9 (Denotes FIX Version 5.0 SP2)

Standard Trailer

Tag	Field Name	Req'd	Data Type	Max Size	Comment
10	Checksum	Y	String	3	Checksum of the Message Disconnection, if <= 0 OR non-numeric value

9. Administrative Messages

Heartbeat Message

The Heartbeat <0> monitors the status of the communication link and identifies when the last of a string of messages was not received.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 0
112	TestReqId	N	String	20	Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Y			

Test Request Message

The test request message forces a heartbeat from the opposing application. The test request message checks sequence numbers or verifies communication line status. The opposite application responds to the Test Request with a Heartbeat <0> containing the TestReqID <112>.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 1
112	TestReqId	Y	String	20	Any string can be used as the TestReqID (one suggestion is to use a timestamp string).
	Standard Trailer	Y			

Resend Request Message

The resend request is sent by the receiving application to initiate the retransmission of messages. This function is utilized if a sequence number gap is detected, if the receiving application lost a message, or as a function of the initialization process.

- To request a single message: BeginSeqNo <7> = EndSeqNo <16>
- To request a range of messages: BeginSeqNo <7> = first message of range, EndSeqNo <16> = last message of range
- To request all messages subsequent to a particular message: BeginSeqNo <7> = first message of range, EndSeqNo <16> = 0 (represents infinity).

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 2
7	BeginSeqNo	Y	SeqNum		
16	EndSeqNo	Y	SeqNum		
	Standard Trailer	Y			

Reject (Session-level Reject) Message

The Reject message should be issued when a message is received but cannot be properly processed by IIBX FIX Exchange Connector due to a session-level rule violation

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 3
45	RefSeqNum	Y	Int		Message Sequence Number (Tag 34) of the incoming message which is being rejected
371	RefTagID	N	String	5	Tag number of the FIX field which is due to which rejection has taken place – if extracted
372	RefMsgType	N	String	5	Msg Type of the FIX field which is due to which rejection has taken place – if extracted
373	SessionRejectReason	Y	Int		0=Invalid tag number 1=Required tag missing 2=Tag not defined for this message type 4=Tag specified without a value 5=Value is incorrect (out of range) for this tag 6=Incorrect data format for value 9=CompID problem 11=Invalid MsgType <35> 13=Tag appears more than once 14=Tag specified out of required order 99=Other
58	Text	Y	String		Description of the Rejection
	Standard Trailer	Y			

Sequence Reset (Gap-Fill)

The Sequence Reset message has two modes: Gap Fill mode and Reset mode. IIBX FIX Exchange Connector would always use **Gap-Fill Mode**.

Gap Fill mode is used in response to a Resend Request <2> when one or more messages must be skipped over for the following reasons:

- During normal resend processing, the sending application may choose not to send a message (e.g. an aged order).
- During normal resend processing, a number of administrative messages are skipped and not resent (such as Heart Beats, Test Requests).

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 4
123	GapFillFlag	Y	Boolean		Always "Y"
16	NewSeqNo	Y	SeqNum		
	Standard Trailer	Y			

Logon Request Message

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = A
98	EncryptMethod	Y	Int		Must be 0 (Always unencrypted) Disconnection, if <> 0
108	HeartBtInt	Y	Int		Heartbeat Interval (in Seconds) to be used by both sides. Disconnection, if < 0 OR non-numeric value Range: 10 to 60 In case of out-of-range value, session-level reject message <3> will be sent, followed by connection closure
95	RawDataLength	Y	Int		Length of Raw Data In case of if <= 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure
96	RawData	Y	String	10	Exchange provided Trading Member Code
553	Username	Y	String	10	Exchange provided Dealer Code
554	Password	Y	String	15	
1137	DefaultApplVerID	Y	String		Must be 9 (Denotes FIX Version 5.0 SP2)
	Standard Trailer	Y			

Logon Response Message

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = A
98	EncryptMethod	Y	Int		Echo of the value sent in Logon Request
108	HeartBtInt	Y	Int		Echo of Heartbeat Interval sent in Logon Request
95	RawDataLength	Y	Int		Length of RawData
96	RawData	Y	String	10	Pipe delimited 8 fields 1. Response Code - 0 if success, > 0 if failure 2. Response Text 3. Current Market Session - See Appendix I 4. Clearing Member Code 5. Server Time - UTC Timestamp 6. Exchange Name 7. Dealer Type -

					CTCL_TERM = Normal CTCL Terminal CTCL_CLNT_TERM = Client Specific CTCL Terminal 8. Client Code - Only when Dealer Type = CTCL_CLNT_TERM
	Standard Trailer	Y			

Logout Request Message

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 5
58	Text	Y	String		Exchange provided Dealer Code & Password delimited with Pipe DealerCd Password
	Standard Trailer	Y			

Logout Response Message

FIX Initiator must wait for this response message before closing the session

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 5
58	Text	Y	String		LogOut Request Status ReplyCode ReplyText
	Standard Trailer	Y			

Change Password Request Message

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = BE
923	UserRequestID	Y	String		Max 10 characters. In case of message length = 0 or > 10, session-level reject message <3> will be sent, followed by connection closure
924	UserRequestType	Y	Int		Must be 3. In case of any other value, session-level reject message <3> will be sent, followed by connection closure
553	Username	Y	String	10	Exchange provided Dealer Code
554	Password	Y	String	15	
925	NewPassword	Y	String	15	
95	RawDataLength	Y	Int		Length of RawData In case of if <= 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure
96	RawData	Y	String	10	Exchange provided Trading Member Code
	Standard Trailer	Y			

Change Password Response Message

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = BF
923	UserRequestID	Y	String		UserRequestID sent in request message will be echoed here
553	Username	Y	String	10	Exchange provided Dealer Code
926	UserStatus	Y	Int		3 = User Not Recognized 4 = Password <554> Incorrect 5 = Password <554> Changed 6 = Other 7 = Forced user logout by Exchange
927	UserStatusText	Y	String		Description of UserStatus
	Standard Trailer	Y			

10. Interactive Messages

New Order – Single Message (Add Order Request)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = D
11	ClOrdID	Y	String		This is a message echo field. It has to be a unique non-zero integer value. In case of value other than non-zero integer value, session-level reject message <3> will be sent
	Component Block - <Parties>	Y			This block should contain following 5 parties Clearing Member, Trading Member, Dealer, CTCL Terminal & Client. Client is required only in case when OrderCapacity <528> = 'I'
453	NoPartyIDs	Y			4 = when OrderCapacity <528> = 'G' 5 = when OrderCapacity <528> = 'I'
448	=> PartyID	Y			Exchange provided Clearing Member Code, Trading Member Code, Dealer Code, CTCL Terminal ID & Client Code
447	=> PartyIDSource	Y			Must be 'D'
452	=> PartyRole	Y			4 = Clearing Member 1 = Trading Member 12 = Dealer 76 = CTCL Terminal ID 3 = Client
	Component Block - </Parties>				
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If > 2, would result in issue of BusinessMessageReject <j>
40	OrdType	Y	Char		1 = Market 2 = Limit 4 = Stop Limit If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If not in (1,2,4), would result in issue of BusinessMessageReject <j>
38	OrderQty	Y	Qty		Must be in multiple of market lots.

44	Price	N	Price		If OrdType = 1, this tag can be omitted. If not omitted, the system will ignore this tag.
528	OrderCapacity	Y	Char		G = Proprietary/Own I = Individual Any other value would result in issue of BusinessMessageReject <j>
99	StopPx	N	Price		Trigger Price for Stop Limit order. In case of any other OrdType, this tag can be omitted
60	TransactTime	Y	UTC Time		Must be '0'. Any other value would result in issue of BusinessMessageReject <j>
59	TimeInForce	N	Char		0 = Good For Day (GFD) 1 = Good Till Cancel (GTC) 6 = Good Till Date (GTD) If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If not in (0,1,6), would result in issue of BusinessMessageReject <j>
432	ExpireDate	N	Local MktDate		Compulsory when TimeInForce = 'GTD'. For all other cases, this tag can be omitted. If not omitted, the system will ignore it. If ExpiryDate is not in LocalMktDate format, session-level reject message <3> will be sent, followed by connection closure.
21	HandlInst	Y	Char		Must be 1. For any other value, session-level reject message <3> will be sent, followed by connection closure.
Standard Trailer		Y			

Execution Report (Response to Add Order Request)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id if Order submission is successful otherwise 'N/A'
11	ClOrdID	Y	String		Value in <ClOrdID> Field in New Order – Single message <D> will be echoed in this field
17	ExecID	Y	String		Exchange Assigned Unique Order Id if Order submission is successful otherwise 'N/A'
150	ExecType	Y	Char		Always 0=New
39	OrdStatus	Y	Char		0=New – Successful Order submission 8=Rejected – Order Rejected
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell
60	TransactTime	Y	UTC Time		System Timestamp of the New Order – Single message received time
38	OrderQty	Y	Qty		In multiple of market lots
151	LeavesQty	Y	Qty		In multiple of market lots Same as OrderQty
14	CumQty	Y	Qty		In multiple of market lots Always 0
58	Text	Y	String	105	Explains reason for rejection
	Standard Trailer	Y			

Order Cancel/Replace Request (Modify Order Request)

Fields marked with * can only be modified. Rest of the fields should inherit values from the original order without any change.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = G
11	ClOrdID	Y	String		This is a message echo field. It has to be a unique non-zero integer value. In case of value other than non-zero integer value, session-level reject message <3> will be sent
37	OrderID	Y	String		Exchange Assigned Unique Order Id
	Component Block - <Parties>	Y			This block should contain following 5 parties Clearing Member, Trading Member, Dealer, CTCL Terminal & Client. Client is required only in case when OrderCapacity <528> = 'I'
453	NoPartyIDs	Y			4 = when OrderCapacity <528> = 'G' 5 = when OrderCapacity <528> = 'I'
448	=> PartyID	Y			Exchange provided Clearing Member Code, Trading Member Code, Dealer Code, CTCL Terminal ID & Client Code
447	=> PartyIDSource	Y			Must be 'D'
452	=> PartyRole	Y			4 = Clearing Member 1 = Trading Member 12 = Dealer 76 = CTCL Terminal ID 3 = Client
	Component Block - </Parties>				
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If > 2, would result in issue of BusinessMessageReject <j>
40	OrdType	Y	Char		2 = Limit 4 = Stop Limit If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If not in (2,4), would result in issue of BusinessMessageReject <j>
38	OrderQty*	Y	Qty		Must be in multiple of market lots.

					Delta value from pending order qty <LeavesQty> e.g. If original order qty <OrderQty> was 8, pending order qty <LeavesQty> is 5 and wants to modify the quantity to 3, -2 shall be passed here.
44	Price*	N	Price		
528	OrderCapacity	Y	Char		G = Proprietary/Own I = Individual Any other value would result in issue of BusinessMessageReject <j>
99	StopPx*	N	Price		Trigger Price for Stop Limit order. In case of any other OrdType, this tag can be omitted
60	TransactTime	Y	UTC Time		Must be '0'. Any other value would result in issue of BusinessMessageReject <j>
59	TimeInForce	N	Char		0 = Good For Day (GFD) 1 = Good Till Cancel (GTC) 6 = Good Till Date (GTD) If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If not in (0,1,6), would result in issue of BusinessMessageReject <j>
432	ExpireDate	N	Local MktDate		Compulsory when TimeInForce = 'GTD'. For all other cases, this tag can be omitted. If not omitted, the system will ignore it. If ExpiryDate is not in LocalMktDate format, session-level reject message <3> will be sent, followed by connection closure.
Standard Trailer		Y			

Execution Report (Response to Modify Order Request)

This message will be issued if Order Cancel/Replace Request is successfully submitted & accepted.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
11	ClOrdID	Y	String		Value in <ClOrdID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
17	ExecID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
150	ExecType	Y	Char		Always 5=Replaced
39	OrdStatus	Y	Char		If <CumQty> = 0 then 0 = New If <CumQty> > 0 then 1 = Partially filled
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell
60	TransactTime	Y	UTC Time		System Timestamp of the Order Cancel/Replace message received time
38	OrderQty	Y	Qty		In multiple of market lots
151	LeavesQty	Y	Qty		In multiple of market lots
14	CumQty	Y	Qty		In multiple of market lots
44	Price	Y	Price		New Price
	Standard Trailer	Y			

Order Cancel Reject Message (Response to Modify Order Request)

This message will be issued if Order Cancel/Replace Request is not accepted.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 9
37	OrderID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
11	ClOrdID	Y	String		Value in < ClOrdID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
434	CxlRejResponseTo	Y	Char		2 = Order Cancel/Replace Request <G>
102	CxlRejReason	Y	Int		1 = Unknown order 8 = Price exceeds current price band 18 = Invalid price increment 99 = Other
58	Text	Y	String	105	Explains reason for rejection
	Standard Trailer	Y			

Order Cancel Request

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = F
11	ClOrdID	Y	String		This is a message echo field. It has to be a unique non-zero integer value. In case of value other than non-zero integer value, session-level reject message <3> will be sent
37	OrderID	Y	String		Exchange Assigned Unique Order Id
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If > 2, would result in issue of BusinessMessageReject <j>
40	OrdType	Y	Char		2 = Limit 4 = Stop Limit If < 0 OR non-numeric value, session-level reject message <3> will be sent, followed by connection closure. If not in (2,4), would result in issue of BusinessMessageReject <j>
38	OrderQty	Y	Qty		Must be in multiple of market lots. <LeavesQty> of the Order under cancellation
	Standard Trailer	Y			

Execution Report (Response to Order Cancel Request)

This message will be issued if Order Cancel Request is successfully submitted & accepted.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <F> will be echoed in this field
11	ClOrdID	Y	String		Value in < ClOrdID> Field in Order Cancel/Replace Request message <F> will be echoed in this field
17	ExecID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <F> will be echoed in this field
150	ExecType	Y	Char		Always 4=Cancelled
39	OrdStatus	Y	Char		Always 4=Cancelled
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell
60	TransactTime	Y	UTC Time		System Timestamp of the Order Cancel/Replace message received time
38	OrderQty	Y	Qty		In multiple of market lots
	Standard Trailer	Y			

Order Cancel Reject Message (Response to Order Cancel Request)

This message will be issued if Order Cancel Request is not accepted.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 9
37	OrderID	Y	String		Exchange Assigned Unique Order Id. Value in <OrderID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
11	ClOrdID	Y	String		Value in < ClOrdID> Field in Order Cancel/Replace Request message <G> will be echoed in this field
434	CxlRejResponseTo	Y	Char		1 = Order Cancel Request <F>
102	CxlRejReason	Y	Int		1 = Unknown order 99 = Other
58	Text	Y	String	105	Explains reason for rejection
	Standard Trailer	Y			

Security List Request (Download Contracts)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = x (Lowercase X)
320	SecurityReqID	Y	String		This is a message echo field. It has to be a unique non-zero integer value. In case of value other than non-zero integer value, session-level reject message <3> will be sent
559	SecurityListRequestType	Y	Int		Always '4' (All Securities) In case of any other value, session-level reject message <3> will be sent
	Standard Trailer	Y			

Security List (Contract List)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = y (Lowercase Y)
320	SecurityReqID	Y	String		Value in < SecurityReqID > Field in Security List Request message <x> will be echoed in this field
560	SecurityRequestResult	Y	Int		Always 0 0 = Valid request
393	TotNoRelatedSym	Y	Int		Total number of securities
893	LastFragment	Y	Boolean		Indicates whether this is the last fragment in a sequence of message fragments. N = Not Last Message Y = Last Message
	Component Block - <SecListGrp>				
146	=> NoRelatedSym	Y	NumInGroup		Specifies the number of repeating symbols (securities) specified
	=> Component Block - <Instrument>				
48	==> SecurityID	Y	String		Contract Symbol – as provided by the Exchange
460	==> Product	Y	Int		Always 2 2 = COMMODITY
167	==> SecurityType	Y	String		Always 'FUT' FUT = Future
541	==> MaturityDate	Y	LocalMktDate		Expiry date of the futures contract
225	==> IssueDate	Y	LocalMktDate		Introduction Date of the futures contract
228	==> Factor	Y	Float		Contract Multiplier

					Qty * Price * Factor = Nominal Value
107	==> SecurityDesc	Y	String		Contract Name – as provided by the Exchange
	==> MinPriceIncrement	Y	Float		Tick Size
	=> Component Block - </Instrument>				
	=> Component Block - <SecurityTradingRules>				
	==> Component Block - <BaseTradingRules>				
827	====> ExpirationCycle	Y	Int		Always '0' 0 = Expire on trading session close
114 0	====> MaxTradeVol	Y	Qty		The maximum order quantity
	====> Component Block - <PriceLimits>				
130 6	====> PriceLimitType	Y	Int		Always '2' 2 = Percentage
114 8	====> LowLimitPrice	Y	Price		DPR Low Percentage
114 9	====> HighLimitPrice	Y	Price		DPR High Percentage
	====> Component Block - </PriceLimits>				
	==> Component Block - </BaseTradingRules>				
	=> Component Block - </SecurityTradingRules>				
	Component Block - </SecListGrp>				
	Standard Trailer	Y			

Market Data Request (Market Picture Request- for Single Security)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = V
262	MDReqID	Y	String		Value in this Field, will be echoed in response message <W>
263	SubscriptionRequestType	Y	Char		Must be '0' 0 = Snapshot Any other value will result in BusinessMessageReject <j>
264	MarketDepth	Y	Int		Must be '5' Any other value will result in BusinessMessageReject <j>
266	AggregatedBook	Y	Boolean		Must be 'Y' Any other value will result in BusinessMessageReject <j>
146	NoRelatedSym	Y	NumInGroup		Must be '1' Any other value will result in BusinessMessageReject <j>
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
	Standard Trailer	Y			

Market Data Snapshot Full Refresh (Response to Market Picture Request)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = W
262	MDReqID	Y	String		Value in <MDReqID> Field in Market Data Request <V> message, will be echoed in field
	Component Block - <Instrument>				
48	=> SecurityID	Y	String		Contract Symbol – as provided by the Exchange
	Component Block - </Instrument>				
	Component Block - <MDFullGrp>				
268	NoMDEntries	Y	NumInGroup		
269	=> MDEntryType	Y	Char		0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price

					8 = Trading Session Low Price B = Trade Volume C = Open Interest z = Base Price (User Defined) y = Prev. Open Interest (User Defined) x = Total Bids (User Defined) w = Buy Depth (User Defined) v = Buy Average Price (User Defined) u = Total Offers (User Defined) t = Sell Depth (User Defined) s = Sell Average Price (User Defined)
270	=> MDEntryPx	Y	Price		-1, If not applicable
423	=> PriceType	Y	Int		Always 2 2 = Per unit (i.e. per share or contract)
271	=> MDEntrySize	Y	Qty		-1, If not applicable
	Component Block - </MDFullGrp>				
	Standard Trailer	Y			

MDEntry Block Details – for each MDEntryType

MDEntryType	MDEntryPx	PriceType	MDEntrySize	Text
0 = Bid	<Bid Price>	2	<Bid Qty>	Contract Symbol
1 = Offer	<Offer Price>	2	<Offer Qty>	Contract Symbol
2 = Trade	<Last Trade Price>	2	<Last Trade Qty>	Contract Symbol
4 = Opening Price	<Open Price>	2	-1	Contract Symbol
5 = Closing Price	<Closing Price>	2	-1	Contract Symbol
7 = Trading Session High Price	<Day High Price>	2	-1	Contract Symbol
8 = Trading Session Low Price	<Day Low Price>	2	-1	Contract Symbol
B = Trade Volume	<Total Value>	2	<Total Trades>	Contract Symbol
C = Open Interest	-1	2	<Open Interest>	Contract Symbol
z = Base Price	<Base Price>	2	-1	Contract Symbol
y = Prev. Open Interest	-1	2	<Prev. Open Interest>	Contract Symbol
x = Total Bids	-1	2	<Total Bids>	Contract Symbol
w = Buy Depth	-1	2	<Buy Depth>	Contract Symbol
v = Buy Average Price	<Buy Avg. Price>	2	-1	Contract Symbol
u = Total Offers	-1	2	<Total Offers>	Contract Symbol
t = Sell Depth	-1	2	<Sell Depth>	Contract Symbol
s = Sell Average Price	<Sell Avg. Price>	2	-1	Contract Symbol

Business Reject

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = j
45	RefSeqNum	Y	Int		Message Sequence Number (Tag 34) of the incoming message under rejection
372	RefMsgType	N	String	5	Msg Type of the FIX field which is due to which rejection has taken place – if extracted
380	BusinessRejectReason	Y	Int		
58	Text	Y	String		Description of the Rejection

11. Notification Messages

Execution Report – Order Filled (Trade Notification Message)

This message will be issued if any working order has been partially or fully filled.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id which has been Filled
17	ExecID	Y	String		Exchange assigned Trade Id
150	ExecType	Y	Char		Always 'F' F = Trade (partial fill or fill)
39	OrdStatus	Y	Char		1 = Partially filled 2 = Filled
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
54	Side	Y	Char		1=Buy 2=Sell
60	TransactTime	Y	UTC Time		System Timestamp of the Trade
32	LastQty	Y	Qty		Traded Qty. In multiple of market lots
31	LastPx	Y	Price		Trade Price
	Standard Trailer	Y			

Execution Report (Stop Limit Order Triggered)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id which has been triggered
17	ExecID	Y	String		Exchange Assigned Unique Order Id which has been triggered
150	ExecType	Y	Char		Always 'L' L = Triggered or Activated by System
39	OrdStatus	Y	Char		0=New – Successful Order submission 8=Rejected – Triggered Order Rejected
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
44	Price	Y	Price		New Price
58	Text	Y	String		Explains reason for triggered order rejection
	Standard Trailer	Y			

Execution Report (Limit Violation)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Always 'ALL'
17	ExecID	Y	String		Always 'ALL'
150	ExecType	Y	Char		4 = Cancelled
39	OrdStatus	Y	Char		4 = Cancelled
48	SecurityID	Y	String	20	Always 'ALL'
58	Text	Y	String		Reasons for Order Return Reason Code Reason Text 1 CM entered RRM 2 CM entered LVM 3 TM entered RRM 4 TM entered LVM
	Standard Trailer	Y			

Execution Report (IOC Order Kill Notification)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id which is killed
17	ExecID	Y	String		Exchange Assigned Unique Order Id which is killed
150	ExecType	Y	Char		4 = Cancelled
39	OrdStatus	Y	Char		4 = Cancelled
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
151	LeavesQty	Y	Qty		Killed Qty. In multiple of market lots
	Standard Trailer	Y			

Execution Report (Order Returned due to Self-match Trade Prevention Notification)

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Exchange Assigned Unique Order Id which is being returned
17	ExecID	Y	String		Exchange Assigned Unique Order Id which is being returned
150	ExecType	Y	Char		4 = Cancelled
39	OrdStatus	Y	Char		4 = Cancelled
48	SecurityID	Y	String	20	Contract Symbol – as provided by the Exchange
38	OrderQty	Y	Qty		Pending Order Qty. In multiple of market lots
151	LeavesQty	Y	Qty		Returned Qty. In multiple of market lots
	Standard Trailer	Y			

Execution Report (Member Action Notification)

- a. It will be notified on following three actions on member
 - i. Member Suspended
 - ii. Member put under Square off mode
 - iii. Subsequent revocation of Member to Active Status
- b. When any member is suspended or put under square off mode by the Exchange, the Trading system returns all the pending orders (Limit & Stoploss) for the member under action. Hence, on receipt of this message, TPS shall also mark all the pending orders (for the member under action) as returned.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
37	OrderID	Y	String		Always 'ALL'
17	ExecID	Y	String		Always 'ALL'
150	ExecType	Y	Char		4 = Cancelled
39	OrdStatus	Y	Char		4 = Cancelled
48	SecurityID	Y	String	20	Always 'ALL'
58	Text	Y	String		Reasons for Order Return Reason Code Reason Text 1 Revoked/Active 2 Suspended 3 Square Off Mode
	Standard Trailer	Y			

Execution Report (Client Action Notification)

- a. It will be notified on following two actions on client
 - i) Client Suspended
 - ii) Client put under Square off mode
 - iii) Subsequent revocation of Client to Active Status
- b. When any client is suspended or put under square off mode by the Exchange, the Trading system returns all the pending orders (Limit & Stoploss) for the client under action. Hence, on receipt of this message, TPS shall also mark all the pending orders (for the client under action) as returned.

Tag	Field Name	Req'd	Data Type	Max Size	Comment
	Standard Header	Y			MsgType <35> = 8
	Component Block - <Parties>	Y			This block should contain Client Code
453	NoPartyIDs	Y			Always '1'
448	=> PartyID	Y			Client Code under action
447	=> PartyIDSource	Y			Always 'D'
452	=> PartyRole	Y			Always '3' 3 = Client
	Component Block - </Parties>				
37	OrderID	Y	String		Always 'ALL'
17	ExecID	Y	String		Always 'ALL'
150	ExecType	Y	Char		4 = Cancelled
39	OrdStatus	Y	Char		4 = Cancelled
48	SecurityID	Y	String	20	Always 'ALL'
58	Text	Y	String		Reasons for Order Return Reason Code Reason Text 2 Suspended 3 Square Off Mode
	Standard Trailer	Y			