CTS FIX Protocol Access Interface

FIX 4.2 Technical Specifications

Version 2.0.0

Feb 13, 2018

CONTENTS

1. Introduction

This document contains the **FIX4.2** protocols used by CTS, the functionality of CTS FIX, and the user requirements for accessing the CTS FIX protocol. It is assumed that the reader is familiar with the FIX4.2 protocol as described at http://www.fixprotocol.org.This document describes the CTS FIX based on the standard.

Note: The interface in this document only for accessing CTS Futures Trading System.

1.1 About FIX

The **F**inancial **I**nformation e**X**change (FIX) Protocol is a message standard developed to facilitate the electronic exchange of information related to securities transactions. It is intended for use between trading partners wishing to automate communications.

FIX was written to be independent of any specific communications protocol (X.25, asynch, TCP/IP, etc.) or physical medium (copper, fiber, satellite, etc.) chosen for electronic data delivery. If an unreliable or non-stream protocol is used, message processing is susceptible to unordered delivery and/or message loss. This is compensated for by the use of sequence numbered messages and a requirement that the messages be delivered in order.

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

For more information, please visit http://www.fixprotocol.org.

1.2 Revision History

Version	***Release Date***	***Changes***
1.0.0	2nd May 2015	Create. General order routing and market data.
2.0.0	13rd Feb 2018	Update Security Definition Request and Execution Report.

2. Message Overview

2.1 Message Structure

Each FIX message consists of a stream of <tag>=<value> fields. A fix message consists of 3 elements, a Header, a Body and a Trailer. All fields in a FIX message are terminated by ASCII SOH (#001) character.

Header: Included in each message, it mainly identifies the message type, length and routing.

Body: It defines the content of the actual business level data.

Trailer: For checksum value and digital signature.

2.2 Supported Message Types (35=?)

Messages that are not in this list will be rejected.

Type	Message Name	Incoming(I)/Outgoing(O)
A	*Logon*	*I/O*
0	*Heartbeat*	*I/O*
1	*Test Request*	*I/O*
2	*Resend Request*	*I/O*
3	*Reject*	*O*
4	*Sequence Request*	*I/O*
5	*Logout*	*I/O*
c	*Security Definition Request*	*I*
d	*Security Definition*	*O*
V	*Market Data Request*	*I*
W	*Market Data-Full Refresh*	*O*
Y	*Market Data Request Reject*	*O*
D	*New Order Basic*	*I*
G	*OrderCancelReplaceRequest*	*I*
F	*Order Cancel Request*	*I*
8	*Execution Report*	*O*
9	*Order Cancel Reject*	*O*
H	*Order Status Request*	*I*
j	*BusinessMessageReject*	*I/O*

2.3 Encryption

CTS FIX, in its initial releases, will not support use of any encrypted messages. It indicates that the use of

tags 90 and 91 are optional in the message header no encryption is intended. CTS reserves the right on later version changes.

2.4 Data Types

Each field within a FIX message has an associated data type allowing for data validation.

TYPE	DESCRIPTION
Int	Sequence of digits without commas or decimals and optional sign character (ASCII characters "**-**" and "**0**" - "**9**"). The sign character utilizes one byte (i.e. positive int is "**99999**" while negative int is "**-99999**").
Float	Sequence of digits with optional decimal point and sign character (ASCII characters "-", "0" - "9" and "."); the absence of the decimal point within the string will be interpreted as the float representation of an integer value. All float fields must accommodate up to 15 digits. The number of decimal places used should be a factor of business/market needs and mutual agreement between counterparties
Char	Single character value, can include any alphanumeric character or punctuation except the delimiter. All char fields are case sensitive (i.e. m ≠ M)
String	Alpha-numeric free format strings can include any character or punctuation except the delimiter. All char fields are case sensitive (i.e. morstatt ≠ Morstatt)
Boolean	a char field (see definition of "char" above) containing one of two values: 'Y' = True/Yes 'N' = False/No
Currency	String field (see definition of "String" above) representing a currency type using ISO 4217 Currency code (3 characters) values. In CTS system, mostly will be "CNY" for CHINA RMB.
UTCTimestamp	Time/date combination represented in UTC (Universal Time Coordinated, also known as "GMT") in either YYYYMMDD-HH:MM:SS (whole seconds) or YYYYMMDD-HH:MM:SS.sss (milliseconds) format, colons, dash, and period required.
Price	float field (see definition of "float" above) representing a price.
Length	int field (see definition of "int" above) representing the length in bytes. Value must be positive
SeqNum	int field (see definition of "int" above) representing a message sequence number. Value must be positive
Qty	float field (see definition of "float" above) capable of storing either a whole number (no decimal places) of "shares" (securities denominated in whole units) or a decimal value containing decimal places for non-share quantity asset classes (securities denominated in fractional units)

NumInGroup	int field (see definition of "int" above) representing the number of entries in a repeating group. Value must be positive
MultipleValue-String	String field (see definition of "String" above) containing one or more space delimited values
Exchange	String field (see definition of "String" above) representing a market or exchange. Valid values: See Appendix.
Month-Year	String field representing month of a year. An optional day of the month can be appended or an optional week code. Valid formats: YYYYMM YYYYMMDD YYYYMMWW
LocalMktDate	Date of Local Market (vs. UTC) in YYYYMMDD format. This is the "normal" date field used by the FIX protocol
Data	Raw data with no format or content restrictions. Data fields are always immediately preceded by a length field. The length field should specify the number of bytes of the value of the *data* field (up to but not including the terminating SOH). *Caution: the value of one of these fields may contain the delimiter (SOH) character. Note that the value specified for this field should be followed by the delimiter (SOH) character as all fields are terminated with an "SOH"*

2.5 General Message Header

All FIX messages for the CTS FIX use the standard message header, as specified by the FIX 4.4 specification, below describes the tags associated with the message header. Any message that does not have these tags in the correct order will be rejected.

TAG	NAME	REQ	FORMAT	DESCRIPTION
8	BeginString	Y	String	
9	BodyLength	Y	Length	
35	MsgType	Y	String	
49	SenderCompID	Y	String	
50	SenderSubID	N	String	
56	TargetCompID	Y	String	
57	TargetSubID	N	String	
34	MsgReqNum	Y	SeqNum	
43	PossDupFlag	N	Boolean	
97	PossResend	N	Boolean	
115	OnBehalfOfCompID	N	String	
116	OnBehalfSubID	N	String	
128	DeliverToCompID	N	String	

129	DeliverToSubID	N	String	
90	SecureDataLen	N	Length	Later use
91	SecureData	N	Data	Later use
369	LastMsgSeqNumProcessed	N	SeqNum	
52	SendingTime	Y	UTCTimestamp	

2.6 General Message Trailer

Each message is terminated by a standard trailer. The trailer is used to segregate messages and contains the three digit character representation of a checksum value:

TAG	NAME	REQ	FORMAT	DESCRIPTION
93	SignatureLength	N	Length	
89	Signature	N	Data	
10	Checksum	Y	String	3 digit char

2.7 Possible Resends

If you set tag 97(PossResend)=' Y' ,it means that may be a duplicate of another message (mainly used for order).The CTS FIX will ignore the flag because it is no storage for customers all ClOrderIDs. User has the responsibility to verify possible duplicate message.

3. Session Messages

CTS FIX use FIX4.2 session protocol.

3.1 Logon

The Logon(MsgType=A) should be the first message sent by the user after the TCP connection is established.CTS FIX do not support FIX level encryption. The user must be send tag Username (553) and Password (554) (give by service provider) for validation. If the validation fails the connection will be dropped without a session level reject message.

TAG	NAME	REQ	FORMAT	DESCRIPTION
98	EncryptMethod	Y	Int	Always fill 0
108	HeartBtInt	Y	Int	
95	RawDataLength	N	Length	Later use
96	RawData	N	Data	Later use

553	Username	N	String	Given by service provider
554	Passsword	N	String	

3.2 Heartbeat

A heartbeat message is used to keep alive with each other. A heartbeat message must be sent if the agreed upon HeartBtInt (via OnLogon Message)has elapsed since the last message sent.

TAG	NAME	REQ	FORMAT	DESCRIPTION
112	TestReqID	N	String	

3.3 TestRequest

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 TestRequest with a Heartbeat containing the TestReqID.

TAG	NAME	REQ	FORMAT	DESCRIPTION
112	TestReqID	N	String	

3.4 ResendRequst

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.

The resend request can be used to request a single message, a range of messages or all messages subsequent to a particular message.

To request a single message: BeginSeqNo = EndSeqNo

To request a range of messages: BeginSeqNo = first message of range, EndSeqNo = last message of range.

To request all messages subsequent to a particular message: BeginSeqNo = first message of range, EndSeqNo = 0 (represents infinity)

TAG	NAME	REQ	FORMAT	DESCRIPTION
7	BeginSeqNo	Y	SeqNum	
16	EndSeqNo	Y	SeqNum	

3.5 Reject

The reject message should be issued when a message is received but cannot be properly processed due to a

session-level rule violation. The rejected reason will be in Text (58) field.

TAG	NAME	REQ	FORMAT	DESCRIPTION
45	RefSeqNum	Y	SeqNum	Rejected message seqnum
371	RefTagID	N	Int	
372	RefMsgType	N	String	MsgType
373	SessionRejectReason	N	Int	
58	Text	N	String	Text for explanation

3.6 SequenceReset

The SequenceReset message has two modes:GapFill mde and Reset mode.

GapFill-mode should set GapFillFlag (123) field=’Y’

GapFill mode is used in response to a Resend Request when one or more messages must be skipped over for 2 reasons:

a) During normal resend processing, the sender may choose not to send a message.

b) During normal resend processing, a number of administrative messages are skipped and not resend (such as HeartBeat, TestRequest).

Reset-mode should set GapFillFlag (123) field=’N’ or the field is omitted

Reset mode is only used to reset the sequence number after an unrecoverable application failure and always by human intervention.

TAG	NAME	REQ	FORMAT	DESCRIPTION
123	GapFillFlag	N	Boolean	
36	NewSeqNo	Y	SeqNum	

3.7 Logout

FIX clients should gracefully close their session by sending a logout message. Disconnection without the exchange of logout messages should be interpreted as an abnormal condition.

TAG	NAME	REQ	FORMAT	DESCRIPTION
58	Text	N	String	

4. Application Messages

Application messages conform to the FIX 4.4 specification. Of course, CTS has done some extension. Please refer to notes.

4.1 Security Definition Request

The Security Definition Request will request for all the tradable securities within the CTS environment that match criteria provided on the request.

Subscription for security status can not be supported. it means tag 263 can only be set 0.

SecurityRequestType [559] specified in the request can be following types:

0 – Symbol
3 – All

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType=c (lowercase c)		
320	SecurityReqID	Y		String(10)	Identifier for Security Definition Request message.
321	SecurityRequestType	Y	**0 =** REQUEST_SECURITY_IDENTITY_AND_SPECIFICATIONS **3** = REQUEST_LIST_SECURITIES	int	Selection criteria used.
55	Symbol	N	[N/A] or contract_code	String(16)	Contract code
207	SecurityExchange	N	Exchange code	Exchange	Exchange code for the symbol or the exchange code for the security list to query *Note: For exchange traded products, this tag must be used as a market identifier
	Standard Trailer	Y			

4.2 Security Definition

The Security Definition message is used to return a contract code that matches the criteria specified in a Security Definition Request.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	***Y***	MsgType=d (lowercase D)		
320	SecurityReqID	Y		String(10)	Identifier of Security Definition Request message that is replying to
322	SecurityResponseID	Y		String	Identifier for Security Definition Response message
323	SecurityResponseType	N	**4**= LIST_OF_SECURITIES_RETURNED_PER_REQUEST 6=CAN_NOT_MATCH_SELECTION_CRITERIA	Int	Result of request identified by SecurityReqID
393	TotalNumSecurities	Y		Int	Total number of contracts that meet the selection criteria in the request. The number of contracts that the message contains is indicated in the TotalNumSecurities field
	Start<Instrument>				
→55	Symbol	Y	contract_code	String(16)	Contract code. Present if NoRelatedSym has been specified.[N/A] if some error.
→48	SecurityID	Y		String	
→22	SecurityIDSource	N		String	Present if SecurityID has been specified

→207	SecurityExchange	Y		Exchange	Security Exchange Name
→200	MaturityMonthYear	N	YYYYMM	Month-Year	Contract expiration
→541	MaturityDate	N		LockMktDate	Expiration date
→231	ContractMultiplier	N		Float	Value per point.
→1208	TickIncrement	N		Float	Minimum amount allowed for price change.
	End<Instrument>				
→15	Currency	N		Currency	Currency code. Follows ISO4217 standard
→58	Text	N		String	Contain error message if failed
	Standard Trailer	Y			

4.3 Market Data Request

A Market Data Request is a general request for market data on specific contract codes. The tag SubscriptionRequestType (263) can be:

0 – Snapshot

1 – Snapshot Update

2 – Disable Update

For Market Data Request, there are two modes:

Snapshot - For single contract code:

It is allowed to get a snapshot only for one contract code. User should specify a contract code in Symbol field. If two or more contract codes specified, CTS FIX will give Market Data for the first contract. For an example:

→55 IF0909

→207 CFFEX

If the Exchange does not have the contract code, the answer will return a message for failure

Snapshot+Updates - For Alls:

CTS FIX will give user refreshed market data of all tradable contract codes when Market Data Request set field 263=1. And the symbol field will be set [N/A].

The field MDEntryType now only supports for all types.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	Msg Type = V (uppercase v)		
262	MDReqID	Y		String(10)	Identifier for each Market Data Request message.

263	SubscriptionRequestType	Y	**0** = SnapShot **1** = Snapshot Update **2** = Unsbuscribe	Char	
264	MarketDepth	Y	1 = Top of Book	Int	Price depth
265	MDUpdateType	N	0 = Full refresh	Int	Required if SubcriptionRequestType = 1
267	NoMDEntryType	Y		NumInGroup	Number of MDEntryType fields that contain the message
→269	MDEntryType	Y	**0** = Bid **1** = Offer **2** = Trade **4** = Opening Price **6** = Settlement Price **7** = Session High Price **8** = Session Low Price **B** = Total Volume **C** = Open Interest	Char	Type of market information requested. Default for all.
146	NoRelatedSym	Y		NumInGroup	Number of selection criteria
→55	Symbol	Y	Contract code	String(16)	
→207	SecurityExchange	Y	Exchange name	Exchange	Security Exchange Name.
→200	MaturityMonthYear	N	YYYYMM	Month-Year	Contract expiration
	Standard Trailer	Y			

4.4 Market Data — Snapshot / Full Refresh

The Market Data messages are used as the response to a Market Data Request message. If SubscriptionRequestType=0, user will receive a single MD message. If SubscriptionRequestType =1, user will receive many unsolicited refreshed messages if market has some changes.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType = W (uppercase w)		

262	MDReqID	N		String	Identifier of the Market Data Request message that is being replied to
55	Symbol	Y	Contract code	String(16)	Contract code
207	SecurityExchange	N	Exchange code	Exchange	Security Exchange Name
268	NoMDEntries	Y		NumInGroup	Number of entries to follow
→269	MDEntryType	Y	**0** = Bid **1** = Offer **2** = Trade **4** = Opening Price **6**=SettlementPrice **7** = Trading Session High Price **8** = Tading Session Low Price **B** = Trade Volume(total volume for contract in session) **C** = Open Interest	Char	Type of information that the present entry contains if the values 0 or 1 are present, the message does not contain any of the others
→270	MDEntryPx	N		Price	Price. Present when the MDEntry is (0, 1, 2, 4, 6, 8). When it is not present and MDentryType is 6,it should be considered as a value 0
→271	MDEntrySize	N		Qty	Volume. Present when the MDEntryType is (0,1,B,C)
→290	MDEntryPositionNo	N		int	Position of order price amongst all positions of the same type(bid or offer).Numbered from the most to the least competitive, starting with 1.Present if MDEntryType is 0 or 1
	Standard Trailer	Y			

4.5 Market Data Request Reject

The Market Data Request Reject is used when the CTS FIX cannot honor the Market Data Request, due to business or technical reasons.

The explanation of rejection reason will be filled in Text field.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType = Y (uppercase y)		
262	MDReqID	Y		String	Identifier of the request being rejected
58	Text	N		string	Explanation of rejection motive
	Standard Trailer	Y			

4.6 New Order – Single

The New Order – Single message is used to enter order to CTS system. User will receive either an Order Acknowledgement or a reject message in response.

For different Exchanges, the trading rules are different and may have some changes in future. It is strongly recommended to read the trading rules before the transaction.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType=D (uppercase d)		
11	ClOrdID	Y		String(12)	Unique order identifier.
1*	Account	Y	Account code	String(16)	Account code to place order
21	HandlInst	Y	**1**=Automated execution order	char	Unused， Always fill 1
	Start<Instrument>				
55	Symbol	Y	Contract code	String(18)	Contract code
48	SecurityID	N		String	
22	SecurityIDSource	N		String	Unused，
207	SecurityExchange	Y		Exchange	Security Exchange Code
	End<Instrument>				
54	Side	Y	**1**=Buy **2**=Sell	char	
38	OrderQty	Y*	>0,<=9999,No decimals	Qty	Order volume

40	OrdType	Y	1=Market 2=Limit 3=Stop 4=Stop Limit	Char	Order type
44	Price	N		Price	Order price.
99	StopPx	N		Price	Stop price. Required when OrdType(34YZ)
59	TimeInForce	N	**0** = Day **1** = GoodTillCancel **3**=ImmediateOr-Cancel **4** = FillOrKill **6** = GoodTillDate	char	Indicates how long order is valid.
432	ExpireDate	N	YYYYMMDD	LocalMktDate	Required if TimeInForce=6
58	Text	N		String(5)	Order reference given by client
	Standard Trailer	Y			

4.7 Order Cancel Replace Request

The order cancel replace request message requests for amending an existing order.

The most important parameter is OrderID given by server in ExecutionReport after entering a new order successfully. And the OrderQty and Price are needed when amending the volume or price.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType=F (uppercase f)		
41	OrigClOrdID	Y	Original client order id	String(12)	The order which will be cancelled
37	OrderID	Y	Order id	String	
11	ClOrdID	Y	New client order id	String(12)	Cancellation identifier. It becomes the order identifier when the cancellation is processed
207	SecurityExchange	Y		Exchange	Security Exchange Code
55	Symbol	Y	Contract code	String(16)	Contract code

54	Side	Y	**1**=Buy **2**=Sell	char	Must contain the same value as specified in the original order
44	Price	N		Price	Required when changing the price for limit order
99	StopPx	N		Price	Required when changing the stop price for stop/stop limit order
38	OrderQty	N		Qty	Required if changing volume
	Standard Trailer	Y			

4.8 Order Cancel Request

The order cancel request message requests the cancellation of an existing order.

The most important parameter is OrderID given by server in ExecutionReport after entering a new order successfully.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType=F (uppercase f)		
41	OrigClOrdID	Y	Original client order id	String(12)	The order which will be cancelled
37	OrderID	Y	Order id	String	Given by server in ExecutionReport after entering a new order successfully
11	ClOrdID	Y	New client order id	String(12)	Cancellation identifier. It becomes the order identifier when the cancellation is processed
207	SecurityExchange	Y		Exchange	Security Exchange Code
55	Symbol	Y	Contract code	String(16)	Contract code
54	Side	Y	**1**=Buy **2**=Sell	char	Must contain the same value as specified in the original order
	Standard Trailer	Y			

4.9 Execution Report

The Execution Report message sent by CTS FIX server to notify the status of an order.

User will receive an ExecutionReport message in following cases:

- To confirm the receipt an order
- To confirm changes to an existing order(i.e. accept cancel)
- To relay order status information
- To reject orders

CTS FIX sends unsolicited messages as Execution Reports in the following cases:

- To relay order fill information on working orders
- To relay order cancellation (ok or failed)

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType = 8		
37	OrderID	Y	integer	String	Given by service provider. It becomes the identifier when canceling the order
11	ClOrdID	N		String(12)	ClOrdID sent by client. Only included if this message is related to an order
41	OrigClOrdID	N		String(12)	OrigClOrdID sent by client. Only provided when the related message is a cancellation request
17	ExecID	Y		String	Unique identifier of Execution Report assigned by Exchanges.)
150	ExecType	Y	**0** = New **4** = Cancelled **6** = Pending Cancel **8** = Rejected **A** = Pending New **F** = Trade **I** = Order Status	char	Indicates the status of the associated message. Where as OrdStatus provided the current order status. If cancelled (value 4) or rejected (value 8).there is an explanation in the Text field

20	ExecTransType	Y	**0** = New **1** = CANCEL **2** = CORRECT **3** = STATUS	char	Identifies transaction type
39	OrdStatus	Y	**0**=New **1**=Partially Filled **2**=Filled **4**=Cancelled **6**=Pending Cancel **8**=Rejected **A**=Pending New	char	Indicates the current status of the order.
1	Account	N	Pure numeric	String(16)	Account associated with order
55	Symbol	Y	Contract Code	String(16)	Contract code associated with order
207	SecurityExchange	N	See Appendix	Exchange	Security Exchange Name
54	Side	Y	**1** = Buy **2** = Sell	char	Indicates if the order is to buy or sell
38	OrderQty	Y	>0,<=9999,no decimals	Qty	Order volume. as indicated in the New Order message or order status message.(other always filled with zero)
40	OrdType	Y	**1** = Market **2** = Limit **3** = Stop **4** = Stop Limit	char	Order type
44	Price	N		Price	Order price.
99	StopPx	N		Price	Stop price of order
59	TimeInForce	N	**0** = Day **1** = GoodTillCancel **3** = ImmediateOr-Cancel **4** = FillOrKill **6** = GoodTillDate	char	Indicates how long order is valid

432	ExpireDate	N	YYYYMMDD		Required if TimeInForce=6
32	LastQty	N		Qty	Trade volume. Provided if OrdStatus = 1 or 2
31	LastPx	N		Price	Trade price Provided if OrdStatus = 1 or 2
151	LeavesQty	Y		Qty	Order volume pending Contains 0 when OrdStatus = 4 (Cancelled).
14	CumQty	Y		Qty	Total volume filled in a quote the content of this field should not be considered (always filled with zero)
6	AvgPx	Y		Price	Average price of all fills on this order. This field should not be considered when CumQty = 0
60	TransactTime	N		UTCTimestamp	Time when transaction represented by this Execution Report occurred. This field is not present when ExecType is equal to 6. A or E
58	Text	N		String	If ExecType = 8(Rejection) there is an explanation of the rejection. Otherwise it has the client order reference entered in the Text field of the order message
	Standard Trailer	Y			

4.10 Order Cancel Reject

Message sent by CTS to reject an order modification or cancellation message

User will receive a reject message in following situation:

- The OrderID is illegal.
- The order can not be cancelled at present state.
- Invalid request parameter

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType=9		
37	OrderID	Y		String	OrderID associated to an order provided by service. It is "0" if CxlRejReason = 1(Unknown order).
11	ClOrdID	Y		String(12)	ClOrdID of rejected message
41	OrigClOrdID	Y		String(12)	ClOrdID of order that could not be cancelled. Contains the same value as OrigClOrdID of the cancellation request message
39	OrdStatus	Y	**0** = New **1** = Partially Filled **2** = Filled **4** = Cancelled **8** = Rejected **C** = Expired	char	Order status. It is 8(Rejected) if CxlRejReason = 1(Unknown order)
60	TranactTime	N		UTCTimestamp	Time rejection message generated
434	CxlRejResponseTo	Y	**1**=Order Cancel Request	char	Type of message responded to
58	Text	N		String	Explanation of rejection
	Standard Trailer	Y			

4.11 Business Message Reject

The Business Message Reject message can reject an application-level message which fulfills session level rules and cannot be rejected via any other means.

TAG	NAME	REQ	VALID VALUES	FORMAT	DESCRIPTION
	Standard Header	Y	MsgType = j (lowercase J)		
45	RefSeqNum	N	SeqNum		MsgSeqNum of rejected message
372	RefMsgType	Y	String	See supported	The MsgType of the FIX

				message types	message being referenced.
380	BusinessReject-Reason	Y	Int	0=Other 1=UnknID 2=UnknSec 3=UnknMsgType 4=AppNA 5=CondFldMiss 6=NotAuth 7=NoDelivToFirm	Code to identify reason for a Business Message Reject message.
58	Text	N	String		message to explain reason for rejection
	Standard Trailer	Y			

5. Request Message Example

Note: These values in [ ] are determined by the reality.

In following example, assume that the account is 10000000 and Password 111111. In fact, user should get username and password from your service provider. The data in answer just for test.

1) Logon (MessageType=A)

TAGNAME	TAGNO	VALUE	DESCRIPTION
EncryptMethod	98	0	now not support any encryption
Username	553	10000000	
Password	554	111111	
HeartBtInt	108	30	

If Logon request is ok, user will receive a Logon ACK as EncryptMethod=0, HeartBtInt=0.
If Logon request is rejected, user will receive a session Reject message.

2) SecurityDefinitionRequest(MessageType=c)

TAGNAME	TAGNO	VALUE	DESCRIPTION
SecurityReqID	320	1	
SecurityRequestType	321	3	Request List Securities

If SecurityDefinitionRequest is ok, you will receive SecurityDefinition answer like following:

TAGNAME	TAGNO	VALUE	DESCRIPTION
SecurityReqID	320	1	

SecurityResponseID	322	1	
TotalNumSecurities	393	4	
SecurityID	48	3526	
Symbol	55	IF1509	
SecurityExchange	207	CFFEX	
SecurityType	167	FUT	
MaturityMonthYear	200	201509	
MaturityDay	205	30	
ContractMultiplier	231	300	
TickIncrement	1208	0.20	
Currency	15	CNY	

If failed, you will receive an error message in SecurityList answer:

TAGNAME	TAGNO	VALUE	DESCRIPTION
SecurityReqID	320	1	
SecurityResponseID	322	0	
TotalNumSecurities	393	0	
Text	→58	No instruments found that match selection criteria	

3) MarketDataRequest(MessageType=V)

To cancel Market Data，set field SubscriptionRequestType=2 and send the same request

TAGNAME	TAGNO	VALUE	DESCRIPTION
MDReqID	262	2	
SubscriptionRequestType	263	1	0=SnapShot 1=SnapShot update 2=Disable
MarketDepth	264	1	
NoMDEntryType	267	9	number of MDEntryType
→MDEntryType	269	0	bid
→MDEntryType	269	1	offer
→MDEntryType	269	2	trade
→MDEntryType	269	4	opening price
→MDEntryType	269	6	settlement price
→MDEntryType	269	7	trading session high price
→MDEntryType	269	8	trading session low price
→MDEntryType	269	B	trade volume
→MDEntryType	269	C	open interest
NoRelatedSym	146	1	
→Symbol	55	IF1509	contract code
→SecurityExchange	207	CFFEX	exchange code

If the request is ok, you will receive a Market Data Snapshot message like this:

TAGNAME	TAGNO	VALUE	DESCRIPTION
Symbol	55	IF1509	
SecurityExchange	207	CFFEX	
→MDEntryType	→269	0	bid
→MDEntryPx	→270	5199	
→MDEntrySize	→271	1	
→MDEntryPositionNo	→290	1	
→MDEntryType	→269	1	offer
→MDEntryPx	→270	5200	
→MDEntrySize	→271	2	
→MDEntryPositionNo	→290	1	
→MDEntryType	→269	2	trade
→MDEntryPx	→270	5199	
→MDEntryType	→269	4	opening price
→MDEntryPx	→270	5205	
→MDEntryType	→269	6	settlement price
→MDEntryPx	→270	5206	
→MDEntryType	→269	7	trading session high price
→MDEntryPx	→270	5230	
→MDEntryType	→269	8	trading session low price
→MDEntryPx	→270	5190	
→MDEntryType	→269	B	trade volume
→MDEntrySize	→271	36804	
→MDEntryType	→269	C	open interest
→MDEntrySize	→271	183596	

If the request is rejected, you will receive a Market Data Request Reject message. And the field Text(58) will give an error detail.

4) NewOrderSingle(MessageType =D)

TAGNAME	TAGNO	VALUE	DESCRIPTION
ClOrdID	11	1001	
HandlInst	21	1	
Symbol	55	IF1509	
SecurityExchange	207	CFFEX	
Side	54	1	1=Buy 2=Sell
TransactTime	60	20150530-14:05:33	
OrderQty	38	1	
OrdType	40	2	
Price	44	5200	
TimeInForce	59	0	
Account	1	TA0001	

If the new order is ok, you will get an ACK message in Execution Report:

TAGNAME	TAGNO	VALUE	DESCRIPTION
Account	1	TA0001	
AvgPx	6	0	
ClOrdID	11	1001	
CumQty	14	0	
ExecID	17	149625	
OrderID	37	41849	unique identifier from server
OrderQty	38	1	
OrdStatus	39	0	
OrdType	40	2	
Price	44	5200	
Side	54	1	
Symbol	55	IF1509	
Text	58		
TimeInForce	59	0	
TransactTime	60	20150530-14:05:33	
ExecType	150	0	New
LeavesQty	151	1	
SecurityExchange	207	CFFEX	

If the order is not ok, you will get an error detail in the execution report message. In following example, set field TimeInForce=5(unsupported) and you will get an ER message like following:

TAGNAME	TAGNO	VALUE	DESCRIPTION
Account	1	TA0001	
AvgPx	6	0	
ClOrdID	11	1001	
CumQty	14	0	
ExecID	17	1001	
OrderID	37	1001	new order failed
OrderQty	38	1	
OrdStatus	39	8	reject
OrdType	40	2	
Price	44	5200	
Side	54	1	
Symbol	55	IF1509	
Text	58	TimeInForce incorrect	
TimeInForce	59	*5*	
TransactTime	60	20150530-14:05:33	
ExecType	150	8	reject
LeavesQty	151	0	
SecurityExchange	207	CFFEX	

For more about order state changes，please see chapter 6 - Order State Matrices.

5) OrderCancelReplaceRequest (MessageType =G)

TAGNAME	TAGNO	VALUE	DESCRIPTION
ClOrdID	11	1002	
OrderID	37	41849	
OrigClOrdID	41	1001	
SecurityExchange	207	CFFEX	
Symbol	55	IF1509	
Side	54	1	
Price	44	5202	
OrderQty	38	2	
TransactTime	60	20150530-14:05:33	

If the request is ok, you will get an execution report message for order cancellation result, or if failed, will get an Order Cancel Reject message.

6) OrderCancelRequest (MessageType =F)

TAGNAME	TAGNO	VALUE	DESCRIPTION
ClOrdID	11	1003	
OrderID	37	41849	
OrigClOrdID	41	1002	
SecurityExchange	207	CFFEX	
Symbol	55	IF1509	
Side	54	1	
TransactTime	60	20150530-14:05:33	

If the request is ok, you will get an execution report message for order cancellation result, or if failed, will get an Order Cancel Reject message.