



MARKET DATA SPECIFICATION

FIX Message Reference – Fixed Income - Trademate

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Attention Point

This document is a preliminary version that may change. The structure of data here is to assist B3 clients in the beginning of the development of market data connectivity for the new fixed income platform.

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Change Log

Date	Version	Description	Author
October 23rd, 2023	1.0	- Initial version	IMKY
November 07th, 2023	1.1	- Added messages Logon (35=A), Heartbeat (35=0), TestRequest (35=1), ResendRequest (35=2), Reject (35=3), SequenceReset (35=4) and Logout (35=5).	IMKY
November 27th, 2023	1.2	- Added tag TradeCondition (277) in messages MarketDataSnapshotFullRefresh (35=W) and MarketDataIncrementalRefresh (35=X) - The valid value of tag SecurityType (167) has been changed from FEDERAL to GOVBOND	IMKY
February 19th, 2024	1.3	- Added tag NoLotTypeRules (1234) in message SecurityList (35=y) - Added value 3 = CORPORATE in tag Product (460) - Added values CORP and CBIO in tag SecurityType (167) - Added values CBIO, CFF, CRA, CRI, DEB, LFT, LTN, NTN, NTNB, NTNC and NTNF in tag SecuritySubType (762)	IMKY

1 Market Data FIX Message Specification

This section outlines the market data messages for fixed income securities as Brazilian Government Bonds and Corporate Bonds (future use). By implementing the specification in the document, clients will be able to process market data coming from Fixed Income Trading System.

The tag usage may vary depending on the market segment used (Brazilian Government Bonds – GOV and Corporate Fixed Income Bonds – CORP (for future use), this indicated by an “X” in the relevant columns at certain tables below. If a tag is marked as required (Req) but it’s not available in a given segment, it is deemed *not required* for that segment.

1.1 Message Blocks

This section contains “message blocks”, i.e. specific sets of tags that work as “stamps” in the message specification and are common to most or all market data messages.

1.1.1 Message Header (for all messages)

This section describes the header that is common to all messages of the market data feed.

Tag	Tag name	Req	Comment
8	BeginString	Y	FIX4.4 (Must be the first field in the message)
9	BodyLength	Y	(Must be the second field in the message)
35	MsgType	Y	(Must be the third field in the message)
1128	ApplVerID	N	Specifies the service pack release being applied at message
49	SenderCompID	Y	The value used must be recognized and agreed by B3
56	TargetCompID	Y	Please use the value as provided
34	MsgSeqNum	Y	See standard FIX protocol specification
52	SendingTime	Y	Indicates the time the message was sent by B3

1.1.2 Message Trailer (for all messages)

This section describes the trailer that is common to all messages of the market data feed.

Tag	Tag name	Req	Comment
10	Checksum	Y	Always unencrypted, always last field in message

1.1.3 Instrument identification block

This block is common to most market data messages issued by B3. It contains the tags that uniquely identify an instrument and works as a “stamp” of the instrument identification in the message specification.

Tag	Tag name	Comment
48	SecurityID	Unique instrument identifier for a given qualifier
22	SecurityIDSource	SecurityID qualifier. Value issued by B3: 8 = Exchange Symbol (B3 security identification).
207	SecurityExchange	Market to which the instrument belongs to.

1.2 Session Level Messages

1.2.1 Logon (35=A)

Tag	Tag Name	Req	Comment
[Standard Message Header]			
98	EncryptMethod	Y	Must be "0"
108	HeartBtInt	Y	Recommended: "30"
141	ResetSeqNumFlag	N	Indicates that both sides of the FIX session should reset sequence numbers.
553	Username	N	CAU username
554	Password	N	CAU Password
35002	CancelOnDisconnectType	N	Indicates whether orders should remain active on disconnection. Values valid: 0 – Doesn't cancel on disconnection 1 – Cancel on disconnection
35003	CancelOnDisconnectTimeoutWindow	N	Timeout in seconds to trigger cancellation after disconnection
[Standard Message Trailer]			

1.2.2 Logout (35=5)

Tag	Tag Name	Req	Comment
[Standard Message Header]			
58	Text	Y	Explanation for Logout reason (if any).
[Standard Message Trailer]			

1.2.3 Heartbeat (35=0)

This message is sent over the instrument definition, snapshot recovery and incremental streams to notify customers that the multicast channel join was successful and that B3 will send the data when available.

There is no body for this message, only the standard header with tag 35=0.

1.2.4 TestRequest (35=1)

Tag	Tag Name	Req	Comment
[Standard Message Header]			
112	TestReqID	Y	Identifier required for testing. Field included in the test request message to be returned without resulting flag
[Standard Message Trailer]			

1.2.5 ResendRequest (35=2)

Tag	Tag Name	Req	Comment
[Standard Message Header]			
17	BeginSeqNo	Y	Message sequence number of first message in range to be resent
16	EndSeqNo	Y	Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo = EndSeqNo If request is for all messages subsequent to a particular message, EndSeqNo = 0 (representing infinity).
[Standard Message Trailer]			

1.2.6 Reject (35=3)

Tag	Tag Name	Req	Comment
[Standard Message Header]			
45	RefSeqNum	Y	Message sequence number of first message in range to be resent
58	Text	N	Where possible, message to explain reason for rejection
371	RefTagID	N	The tag number of the FIX field being referenced.
372	RefMsgType	N	The MsgType of the FIX message being referenced.
373	SessionRejectReason	Y	Code to identify reason for a session-level <u>reject</u> message. 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 = Decryption problem 8 = Signature problem 9 = CompID problem 10 = Sending time accuracy problem 11 = Invalid MsgType 12 = XML Validation error 13 = Tag appears 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) 99 = Other
[Standard Message Trailer]			

1.2.7 SequenceReset (35=4)

Tag	Tag Name	Req	Comment
[Standard Message Header]			

Tag	Tag Name	Req	Comment
43	PossDupFlag	N	Indicates possible retransmission of message with this sequence number Valid values: Y = Possible duplicate N = Original transmission
122	OrigSendingTime	N	Original time of message transmission (always expressed in UTC) when transmitting orders as the result of a resend request.
123	GapFillFlag	N	Indicates that the sequence reset message is replacing administrative or application messages which will not be resent. Valid values: Y = Gap fill message, MsgSeqNum field valid N = Sequence ignore MsgSeqNum
36	NewSeqNo	Y	New sequence number
[Standard Message Trailer]			

1.3 Application Messages

1.3.1 SecurityListRequest (35=x)

This message is used to retrieve a list of securities that are available for trading. Its response is a SecurityList message, which contains information about the instruments traded.

Tag	Tag name	Req	Comment
[Standard Message Header]			
320	SecurityReqID	Y	Unique ID of the Security List Request. It's strongly recommended that this value is unique throughout the trading day since it will be used to cross reference the request to the response. When unsubscribing, this tag should contain the ID of the request being canceled.
263	SubscriptionRequestType	Y	Subscribe or unsubscribe for security changes in the request. Values accepted by UMDF Conflated: 1 = Securities + Updates (Subscribe) 2 = Disable previous request (Unsubscribe)
460	Product	N	Specifies the Product of the desired instruments. (FILTER) Valid Values: 3 = CORPORATE 6 = GOVERNMENT
461	CFICode	N	Specifies the CFICode of the desired instruments. Please refer to ANNA CFI & ISO 10962 for details on how to use this field (https://anna-web.org/identifiers/#1629366848926-da25cf1b-d913)
[Standard Message Trailer]			

1.3.2 SecurityList (35=y)

This message is used to relay instrument information, such as insertion, update or deletion. Each message can contain multiple instruments and clients usually receive multiple messages in response to each request.

Tag	Tag name	Req	Comment		
[Standard Message Header]					
320	SecurityReqID	C	Echoed back from the Security List Request message that caused this message to be sent. Always sent when this message is a reply to a Security List Request.		
322	SecurityResponseID	C	Unique ID of this message. Only sent when this message is a response to a Security List Request.		
560	SecurityRequestResult	C	The results returned to the Security List Request message. Always sent when this message is a reply to a Security List Request. 0= Valid request 1 = Invalid or unsupported request 6 = Duplicate SecurityReqID M = Maximum number of subscriptions exceeded		
393	TotNoRelatedSym	C	Total number of securities being returned for this request. Always sent when this message is a reply to a Security List Request.		
893	LastFragment	C	Indicates whether this message is the last in the sequence of messages requested. Not sent by default. Valid values: Y = Last message N = Not last message		
146	NoRelatedSym	C	Specifies the number of repeating instruments specified. Not sent if this message is reporting an error (tag 560 > 0).		
→	55	Symbol	Y	Instrument Symbol.	
→	48	SecurityID	Y	Unique instrument id.	
→	22	SecurityIDSource	Y	Security ID qualifier.	
→	207	SecurityExchange	Y	Market to which the instrument belongs.	
→	1141	NoMDFeedTypes	N	Number of MD Feed Types.	
→	→	1022	MDFeedType	N	Indicates feed type as standard or implied. Not sent for MBO. Valid values: STD = Standard MBP IMP = Implied MBP (not used)
→	→	264	MarketDepth	N	Identifies the number of depth levels of the book.
→	→	1021	MDBookType	N	Used to request a specific type of book updates when subscribing. If not sent means to subscribe for all available book types. Valid Values: 3 = Order Depth
→		454	NoSecurityAltID	C	Number of alternate security identifiers.
→	→	455	SecurityAltID	C	Security Alternate identifiers for this security.

Tag		Tag name	Req	Comment	
→	→	456	SecurityAltIDSource	C	Identifies class or source of the SecurityAltID (455) value. Required if SecurityAltID is specified. 8= ExchangeSymbol 4= ISIN Number H= Clearing house/organization
→		460	Product	N	Indicates the type of product the security is associated with. Valid Values: 3 = CORPORATE 6 = GOVERNMENT
→		461	CFIcode	N	Classification of Financial Instruments (CFI code) values, which indicate the type of security using ISO 10962 standard.
→		167	SecurityType	N	Indicates the type of the security. Valid Values (Corporate fixed income) - CBIO - CORP Valid Values (Government bond) - GOVBOND
→		762	SecuritySubType	N	The sub type of the instrument. Values valid: 1 = CBIO 2 = CFF 3 = CRA 4 = CRI 5 = DEB 6 = LFT 7 = LTN 8 = NTNB 9 = NTNC 10 = NTNF
→		541	MaturityDate	C	Date of instrument maturity. For all but Spot and Forwards.
→		225	IssueDate	N	The date which the security is issued/activated.
→		470	CountryOfIssue	N	ISO country code of instrument issue.
→		107	SecurityDesc	N	Descriptive string of the security.
→		980	SecurityUpdateAction	Y	When sent as a request response will always carry "M". Valid values: A = Add D = Delete M = Modify
→		969	MinPriceIncrement	N	Number of minimum tick increments.
→		9749	MinOrderQty	N	Minimum quantity of an order for the security.
→		9748	MaxOrderQty	N	Maximum quantity of an order for the security.
→		15	Currency	N	Currency used for the price.
→		6937	Asset	N	Asset associated with the security, such as DOL, BGI, OZ1, WDL, CNI, etc.

Tag	Tag name	Req	Comment		
→	6938	N	Indicates the UTC timestamp when trading for this security expires, i.e. when it is not eligible to trade anymore.		
→	561	N	The trading lot size of the security.		
→	1234	N	Rules defining lot size.		
→	→	1093	LotType	N	Defines the lot type for the instruments. Valid Values: 1 = Odd Lot 2 = Round Lot
[Standard Message Trailer]					

1.3.3 SecurityStatus (35=f)

The Security Status message relays trading phase changes of a specific instrument or instrument group.

Tag	Tag name	Req	Comment
[Standard Message Header]			
[Instrument identification block] See Section "Instrument Identification Block" for tag values			
60	TransactTime	Y	Timestamp when the business transaction represented by the message occurred.
75	TradeDate	Y	Trade date of the Market Data messages.
326	SecurityTradingStatus	C	Status related to a given instrument. Valid values: 17 = Ready to trade (Open) 21 = Pre Open
336	TradingSessionID	N	Identifier for Trading Session. Valid values: 1 = Day
342	TradSesOpenTime	N	Indicates the time the auction is scheduled to end.
1500	MDSStreamID	N	The identifier or the name of the market data stream. If missing, default=E. Valid values: E = electronic
[Standard Message Trailer]			

1.3.4 MarketDataRequest (35=V)

A Market Data Request is a general request for market data for tradable securities. A successful Market Data Request is replied by a single Market Data Full Snapshot message for each instrument that matches the request. Upon receiving one of such messages, incremental updates (Market Data Incremental Refresh messages) start being generated for instruments whose snapshots have been already received.

Tag	Tag name	Req	Comment
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[Standard Message Header]			
262	MDReqID	Y	Must be unique, or the ID of previous Market Data Request to disable if SubscriptionRequestType = Disable previous Request (2).
263	SubscriptionRequestType	Y	Indicates what type of response is expected. Valid values: 1 = Snapshot + Updates (Subscribe) 2 = Disable previous Request (Unsubscribe)
460	Product	N	Indicates the type of product the security is associated with. (FILTER) 3 = CORPORATE 6 = GOVERNMENT
[Standard Message Trailer]			

1.3.5 MarketDataSnapshotFullRefresh (35=W)

The Market Data Snapshot/Full Refresh messages are sent as the response to a Market Data Request message. The message refers to only one Market Data Request. It will contain the appropriate MDReqID tag value to correlate the request with the response.

Tag	Tag name	Req	Comment	
[Standard Message Header]				
262	MDReqID	Y	Echoed back from the Market Data Request message.	
75	TradeDate	N	Used to specify the trading date which a set of market data applies for, in YYYYMMDD format. Absence of this field indicates current day (expressed in local time in the place of trade).	
911	TotNumReports	N	Total number of snapshots to be returned.	
893	LastFragment	N	Indicates whether this message is the last in the sequence of messages requested. Not sent by default. Valid values: Y = Last message N = Not last message	
→	48	SecurityID	N	Unique instrument id.
→	22	SecurityIDSource	N	Security ID qualifier.
→	207	SecurityExchange	N	Market to which the instrument belongs.
268	NoMDEntries	Y	Number of entries following.	
→	269	MDEntryType	Y	Type Market Data entry. Valid values: 0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price 8 = Trading Session Low Price 9 = Trading Session VWAP Price g = Price Band B = Trade Volume c = Security trading state/ phase

Tag	Tag name	Req	Comment	
→	270	MDEntryPx	C	Price of the MD entry. Conditionally required if the MD entry relates to a price.
→	271	MDEntrySize	C	Quantity represented by the Market Data Entry. Conditionally required when MDEntryType = Bid (0), Offer (1), Trade (2) or Opening Price (4).
→	272	MDEntryDate	Y	Date of Market Data Entry.
→	273	MDEntryTime	Y	Time of Market Data Entry, up to milliseconds (hhmmssSSS).
→	274	TickDirection	C	Direction of the price tick. Conditionally required if reporting a Trade. Valid values: 0 = Plus Tick 1 = Zero-Plus Tick 2 = Minus Tick 3 = Zero-Minus Tick
→	37	OrderID	C	Unique identifier for Order as assigned by the exchange, maps to the SecondaryOrderID field in the Execution Report message for the derivatives market (for the FX market, it is the actual OrderID). Required for Bids or Offers for market by order.
→	286	OpenCloseSettlFlag	N	Identifies if the opening price in field MDEntryPx represents a theoretical opening price and applicable to describe when the settlement data are related to. Valid values: 0 = Daily Open / Close / Settlement entry 4 = Entry from previous business day 5 = Theoretical Price value
→	290	MDEntryPositionNo	N	Display the position of a bid or offer, numbered from the most competitive to the least competitive, per market side, beginning with 1. Conditionally required when MDEntryType = 0 or 1 (Bid or offer)
→	326	SecurityTradingStatus	C	Identifier for the security trading status. Conditionally required when MDEntryType='c'. If absent the default value is 17 = Open. Valid Values: 17 = Ready to trade (start of session) 21 = Pre-Open
→	336	TradingSessionID	N	Used to mark NonRegular Session trades. If it is not present the default value is "1" (Regular Day Session). Valid values: 1 = Day
→	451	NetChgPrevDay	C	Net change from previous trading day's closing price vs. last traded price (offshore currency)

Tag	Tag name	Req	Comment	
→	277	TradeCondition	N	For optional use in reporting Trades/Imbalance. Space delimited list of conditions describing a trade/imbalance. Valid values: 1 – Leg Trade 2 – Marketplace entered trade (trade on behalf) 3 – Multi asset Trade AW – Last auction price AWR – Opening and auction price L – Last Trade at the same price indicator P – Imbalance more buyers Q – Imbalance more sellers R – Opening Price U – Exchange Last X – Crossed
→	1003	TradeID	C	Contains the unique identifier for this trade per instrument + trading date, as assigned by the exchange. Required if reporting a Trade.
→	1020	TradeVolume	N	Total traded quantity (shares/contracts) of the trading day. It could be present only in the Trade (269=2) and Trade Volume (269=B) blocks.
→	6939	PriceBandType	N	Indicates type of price banding. Valid Values: 1= Hard Limits 2= Auction Limits 3= Rejection Band 4= Static Limits
→	1148	LowLimitPrice	N	Allowable low limit price for the trading day. A key parameter in validating order price. Used as the lower band for validating order prices. Orders submitted with prices below the lower limit will be rejected.
→	1149	HighLimitPrice	N	Allowable high limit price for the trading day. A key parameter in validating order price. Used as the upper band for validating order prices. Orders submitted with prices above the upper limit will be rejected.
→	1500	MDStreamID	N	The identifier or the name of the market data stream. If missing, default=E. Valid values: E = electronic
[Standard Message Trailer]				

1.3.6 MarketDataIncrementalRefresh (35=X)

After a subscription for Market Data messages succeeded and the Market Data Snapshot/Full Refresh has been issued, further updates will be communicated to the subscriber via the Market Data Incremental Refresh message. These messages will be sent until the client institution cancels the subscription with a Market Data Request with SubscriptionRequestType=2.

Tag	Tag Name	Req	Comment	
[Standard Message Header]				
75	TradeDate	N	Used to specify the trading date which a set of market data applies for, in YYYYMMDD format. Absence of this field indicates the current day (expressed in the local time of the place of the trade).	
268	NoMDEntries	Y	Number of entries following.	
→	279	MDUpdateAction	Y	Type of Market Data update action. Valid values: 0 = New 1 = Change 2 = Delete
→	37	OrderID	C	Unique identifier for Order as assigned by the exchange, maps to the SecondaryOrderID field in the Execution Report message for the derivatives market (for the FX market, it is the actual OrderID). Required for Bids or Offers for market by order.
→	269	MDEntryType	Y	Type Market Data entry. Valid values: 0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 5 = Closing Price 7 = Trading Session High Price 8 = Trading Session Low Price 9 = Trading Session VWAP Price g = Price Band B = Trade Volume c = Security trading state/ phase
→	48	SecurityID	N	Unique instrument id.
→	22	SecurityIDSource	N	Security ID qualifier.
→	207	SecurityExchange	N	Market to which the instrument belongs.
→	270	MDEntryPx	C	Price of the Market Data Entry. Required when this market data entry involves a price. Represents the notional value for trade volume (B). Other entry types that do not involve price do not require this tag.
→	271	MDEntrySize	C	Quantity or volume represented by the Market Data Entry. Required when MDUpdateAction = New (0) and MDEntryType = Bid (0), Offer (1), Trade (2), Trade Volume (B) or Opening Price (4).
→	272	MDEntryDate	Y	Date of Market Data Entry.
→	273	MDEntryTime	Y	Time of Market Data Entry, up to milliseconds (hhmmssSSS).

Tag	Tag Name	Req	Comment	
→	277	TradeCondition	N	For optional use in reporting Trades/Imbalance. Space delimited list of conditions describing a trade/imbalance. Valid values: 1 – Leg Trade 2 – Marketplace entered trade (trade on behalf) 3 – Multi asset Trade AW – Last auction price AWR – Opening and auction price L – Last Trade at the same price indicator P – Imbalance more buyers Q – Imbalance more sellers R – Opening Price U – Exchange Last X – Crossed
→	290	MDEntryPositionNo	N	Display the position of a bid or offer, numbered from the most competitive to the least competitive, per market side, beginning with 1. Conditionally required when MDEntryType = 0 or 1 (Bid or offer)
→	1003	TradeID	C	Contains the unique identifier for this trade per instrument + trading date, as assigned by the exchange. Conditionally required if reporting a Trade.
→	1148	LowLimitPrice	N	Allowable low limit price for the trading day. A key parameter in validating order price. Used as the lower band for validating order prices. Orders submitted with prices below the lower limit will be rejected.
→	1149	HighLimitPrice	N	Allowable high limit price for the trading day. A key parameter in validating order price. Used as the upper band for validating order prices. Orders submitted with prices above the upper limit will be rejected.
→	1500	MStreamID	N	The identifier or the name of the market data stream. If missing, default=E. Valid values: E = electronic
[Standard Message Trailer]				