UMDF – Unified Market Data Feed

FIX/FAST Message Reference

Version: 2.1.15
Last modified: 07/06/2022

Contacts

- Services Development Department (GDS)**: handles all enquiries for connectivity setup and general exchange supported services.**

  ✉ **bvmfsolution@b3.com.br**

- Certification and Testing Center (CTC)**: performs certification of all software solutions applying for EntryPoint connectivity.**

  ✉ **tradingcertification@b3.com.br**

  ☎ +55 11 2565-5059

- Trading Support Channel**: provides real time connectivity monitoring and troubleshooting.**

  ✉ **tradingsupport@b3.com.br**

  ☎ +55 11 2565-5021

Index

Revision History

Date	Version	Description	Author
Jun 7th, 2022	2.1.15	- Added new domain MP in tag 277 – TradeCondition used for Midpoint Trades in Incremental Refresh (35=X) and Snapshot (35=W) messages.	AYSF
May 12nd, 2022	2.1.14	- Added new domains (1137, 1138, 1139, 1150, 1151, 1152, 1153, 1154, 4004, 4005 and 4006) for tag 762 – SecuritySubType	AYSF
Apr 25 th , 2022	2.1.13	- Added new domain for tag 277, used for RFQ Trade - Added new domain for tag277, used for Point in time Action	AYSF
Sep 17th, 2021	2.1.12	- Added new domains for tag 762 - SecuritySubType	AYSF
Aug 19th, 2020	2.1.11	- Added new domains for tag 762 - SecuritySubType	AYSF, RC
Feb, 21 th, 2020	2.1.10	- Added new domains for tag 762 – SecuritySubType	AYSF
Jun, 7nd , 2019	2.1.9	- Added new domain for tag 277, used for RLP Trade	AYSF
Dec, 4 th, 2018	2.1.8	- Added new tag 35021 for message 35=BX	AYSF
Nov, 1st, 2018	2.1.7	- Added new domains for Derivatives on tag 762	AYSF
Aug. 6 th, 2018	2.1.6	- Added new domain (142 – Stock RollOver) for tag 762.	AYSF
May, 29th, 2018	2.1.5	- Added new domain for tag 762.	AYSF
Sep, 12 nd , 2017	2.1.4	- Added Volatility price repeating group (269=v) and corresponding tags 811-PriceDelta, 31-LastPx and 1025-FirstPx to sections 1.3.2 and 1.3.3.	AYSF / JLRM
Jun, 2nd , 2017	2.1.3	- Increasing version number in accordance with the BTB changes mentioned on the Message Specification document. No changes to tag definitions.	AYSF / JLRM
Feb. 21st, 2017	2.1.2	- Changed availability of tag 37003, being present for Derivatives, but always sending 0. - Changed message 35=f (SecurityStatus), indicating tag 75-TradeDate is still being sent. - Fixed tag number for tag 37025-BTBGraceDate (was 37035 previously). Also removed duplicate tag 37023-BTBCertIndicator. - Marked tag 37019-EarlyTermination as also sent in message 35=W.	JLRM / AYSF
Jan, 12nd, 2017	2.1.1	- Renamed TCP Recovery / Historical Replay to TCP Replayer / Historical Replayer, since the former ones are going to be decommissioned on Nov, 2017.	JLRM / AYSF
Nov, 23rd, 2016	2.1.0	- Unified Derivatives and Equities specification - See Customer Impact document or UMDF Message Specification ch. 12 for specific changes.	JLRM
May, 3rd, 2016	2.0.11	- Added tags 37023, 37024 and 37025 to Incremental and Snapshot to accommodate changes to the BTB (ex-BTC) Security Lending System. Updated domain of tag 37019-EarlyTermination to include changes to the BTB Security Lending System.	JLRM
Nov, 11st , 2015	2.0.10	- Marked value 2 (Marketplace entered trade) as valid for Derivatives as well, as a result of the Derivatives Engine Migration. - Changed the domain of tag 762-SecuritySubType, adding new types for Foreign Indices and the new BDR products - Added domain M2 to tag 37011-GovernanceIndicator	JLRM
Apr, 7th, 2014	2.0.9	- Added new domains for tags 167 and 762 to reflect the addition of Fixed Income ETF products.	JLRM
Nov, 13th, 2014	2.0.8	- Tag 1150-TradingReferencePrice is only applied to Economic Indicator instruments (derivatives segment).	RNKH
Oct, 24th, 2014	2.0.7	- Marked tags 1148, 1149 and 1306 as available for Equities, to match UMDF market data specification document. - Corrected description of tag 1150-TradingReferencePrice. - Spelling and grammar issues.	JLRM
Apr, 15th, 2014	2.0.6	- Corrected the name of tag 1194-ExerciseStyle.	JLRM
Mar, 27h, 2014	2.0.5	- Clarified the default value for tag 37012 on section 1.3.1. - Market message 35=n on section 1.3.6 as DEPRECATED with the integration of corporate fixed income products on the PUMA Trading Platform, according to the circular letter 003/2014-DI. - Updated section 1.3.1 including the new domains for tags 167-SecurityType and 762-SecuritySubType.	JLRM

Oct, 11st, 2013	2.0.4	- Marked block 269=D (Index Composite Price) as future use only, since it won´t be currently used on UMDF 2.0 index channel. - Moved tag 83-RptSeq to the body of message 35=W, matching the new UMDF 2.0 production behavior and templates. - Updated description of tag 37011-GovernanceIndicator. - Added tag 37021-IndexTheoreticalQty to 35=y message, used for index instruments. - Updated description of tag 37012-PriceDivisor, to indicate it can be used for index instruments to disseminate the index reducer.	JLRM
Jun, 11st , 2013	2.0.2	- Changed description of tag 1174-SecurityTradingEvent on sections 1.3.3 and 1.3.4 to properly reflect that this tag always reports a value to indicate if the security follows the group when the messages refer to a specific security (having tag 48). - Added tag 37018-UnderlyingPriceType for 269=D block on sections 1.3.2 and 1.3.3;	JLRM
Feb, 22nd , 2013	2.0.1	- Group 1351-NoApplID marked for Equities. - Reviewed the domain for tag 423-PriceType for Equities. - Tag 460 not available on Derivatives. - Corrected description of tag 1354 on Application Message Report (BY) message, section 2.1.4.	JLRM
Jan, 8th, 2013	2.0	- Renamed message columns to DER and EQT. - Renamed Market Recovery to Snapshot Recovery and TCP Replay to TCP Recovery. - Applied changes to all impacted messages. - Added section 1.3.6 describing message NonFixData.	JLRM
Oct, 24th, 2012	1.6.4.1	- Added value 286=0 back to 35=W as well.	JLRM
Oct, 5th, 2012	1.6.4	- Added value 286=0 back again, as it´s still used in some scenarios. - Removed tag 7595-NoSharesIssued from message 35=y (SecurityList) and 35=W (Snapshot), as this will only be available on PUMA Equities. - Change to tag 1348 domain, adding another to identify when TCP Recovery is unavailable.	JLRM
Jul, 10th, 2012	1.6.3	- No changes made, just increased version to match the Market Data Reference document.	JLRM
Jun. 27th, 2012	1.6.2	- Changed contact information to the Trading Support Channel	JLRM
Jun. 4th, 2012	1.6.2	- Removed the value 4 for tag 1354 in section 2.1.4 (BY message), as this value should only be available in 35=BX messages. - Added the value 4 for tag 1354 in section 2.1.2 (BX message). Also, in the same message BX, removed values 5 and 6 from tag 1348 as they are no longer used.	JLRM
May. 18th, 2012	1.6.1	- Removed the value 3 for tag 1354 in section 2.1.4, as this value should only be available in 35=BX messages. - Removed value 3 (Delete thru) for PUMA on tag 279, in section 1.3.2.	JLRM
Mar. 22th, 2012	1.6	- MaturityDate marked as available for MEGA - Added new type “MLEG” to 167-SecurityType in 35=y, for handling user defined strategy instruments. - Added new tag 7595-NoSharesIssued to represent the total available shares for an Equity cash instrument - Added the value 3 for tag 1354 in section 2.1.4 - Added PUMA exclusive tags to section 1.3 - Removed references to the GTS system (that has been discontinued.	JLRM
Sep. 2 nd, 2011	1.5.1	- Added tag 37016-MDInsertDate to messages 35=X and 35=W for MEGA (used in blocks 269=0,1) to be used for GTD/GTC orders.	JLRM
Jul. 27 th, 2011	1.5.1	- Marked tags 1150 as valid in 35=X,W for MEGA (in block 269=g, from RLC message 03, price type=38)	JLRM
May 25 th, 2011	1.5.0	- Added 269=g for MEGA	JLRM
May 5 th, 2011	1.5.0	- Added value “3” in tag 277-TradeCondition for 35=X and 35=W for MEGA - Tag 83-RptSeq no longer required for 35=X (for Empty Book block)	JLRM
Apr. 20 th, 2011	1.5.0	- Added tags 623-LegRatioQty and 624-LegSide for 35=y on MEGA - The other strategy related Leg tags are now available for 35=y on MEGA	JLRM
Apr. 16 th, 2011	1.5.0	- Reinstated tag 6939-PriceBandType in 35=X and 35=W, with limited domain for now. - Added tags 201-PutOrCall and 1194-ExerciseStyle to SecurityList (35=y) message. - Deprecated tag 231-ContractMultiplier on MEGA - Added tag 37012-PriceDivisor on MEGA	JLRM
Feb. 9th, 2011	1.4.2.2	- For the Sequence Reset message, tag 36-NewSeqNo Always one, not “always zero”.	JLRM
Jan. 19th, 2011	1.4.2.1	- Added tags 225 and 461 to SecurityList(35=y) for MEGA - Changed domain for tag 762-SecuritySubType	JLRM
Aug. 17th, 2010	1.4.2	- Remove tags 267 and 269 from SecurityStatus (35=f). - Changed description of value = 2 for tag 1348-ApplRespType.	RNKH

Aug. 5th, 2010	1.4.1	- Price banding block (tag 269=g) is not available for equity market. - *Product* field is removed from SecurityList message. - Domains of *SecurityType* and *SecuritySubType* fields are redefined. - *TotNoRelatedSym* field is now required for SecurityList message. - *LastFragment* field is not required and the default value is "N" = Not last message. - *PriceBandType* field is removed from Incremental and Snapshot messages.	RNKH
Jul. 27th, 2010	1.4.0	- Domains of *TradingSessionSubID* and *SecurityTradingStatus* fields are changed to be compatible with new Matching Engine. - *TotNumReports* is now related to each *ApplID* not *ApplReqID* anymore. - Symbol removed from the spec except from *SecurityList*. - Default *SecurityExchange* field is changed to "BVMF". - Imbalance and Trade Volume block included. - Derivatives post-trading information included.	RNKH
Apr. 20th, 2010	1.2.0	- DayCumQty removed: TradeVolume replace it. - Include NoMDEntryTypes in the SecurityStatus message do indicate the entry types to be reset by client systems. - Statistical Closing Data in RLC message 5J included (range 37001-37007).	RNKH
Jan. 14th, 2010	1.1.0.2	- Included SettlPriceType to incremental and snapshot messages - Included (9 and U) as new values to TradeCondition field	RNKH/TAT
Jan. 13th, 2010	1.1.0.1	- Including NewsSource to News Message - Including DayCumQty to incremental and snapshot messages	RNKH
Dec. 21st, 2009	1.1.0	- Including Index related fields to Market Data Incremental Refresh and Market Data Snapshot Full Refresh. - Including SettlType and SettlDate needed for trades in forward markets.	RNKH
Nov. 19th, 2009	1.1.0	- Updated Application Message Report message - Updated Application Message Request message - Include Application Message Request Acknowledgment message - Include Application Raw data Reporting message	DRSF
Oct. 23th, 2009	1.0.2	- Updated News message - Updated Application Message Report message - Updated Application Message Request message - Market Data Snapshot Full Refresh adjusted	RNKH / JML
Sep 29th, 2009	1.0.1	- Added price bands - Updated security states	RNKH / JML
July 31st, 2009	1.0.0	- First version	RNKH / JML

1 Market Data FIX 5.0SP2 Message Specification

This section outlines the market data messages for the BVMF feed for all segments. By implementing the specification in the document, clients will be able to process market data coming from all segments in PUMA Trading System.

The tag usage may vary depending on the market segment used (**DER-Derivatives/FX** and **EQT-Equities**), 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.

Changes from previous version of UMDF are marked **in blue**.

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 FIX Header (for all messages)

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

Tag	Tag Name	Req	Data Type	Comment
35	MsgType	Y	String(2)	Defines message type. Example: 0 – Heartbeat
34	MsgSeqNum	Y	Integer	Integer Message Sequence Number.
52	SendingTime	Y	UTCTimestamp	Time of message transmission: always expressed in UTC (Universal Time Coordinated).
369	LastMsgSeqNumProcessed	N	Integer	Only used in the MarketDataSnapshotFullRefresh (35=W) message. The last sequence number of real-time channel as of the time the snapshot was generated. This is used to synchronize the snapshot with the real-time feed.
1128	ApplVerID	N	String	Specifies the service pack release being applied at message level. Default value= 9 (FIX.5.0.SP2).

1.1.2 Instrument identification block

This block is common to most market data messages issued by BVMF. 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	Data type	Comment	EQT	DER
48	SecurityID	Integer (12)	Unique instrument identifier for a given qualifier (*SecurityIDSource*). **All IDs are numeric on PUMA.**	X	X
22	SecurityIDSource	String(1)	SecurityID qualifier. Value issued by BVMF: 8 = Exchange Symbol (BVMF security identification).	X	X
207	SecurityExchange	String(4)	Market to which the instrument belongs to. If it is not present the default value is “**BVMF**”. Valid Values: BVMF: BM&FBovespa (equities, derivatives, FX)	X	X

1.2 Session Level Messages

This section outlines messages that relate to the market data channel multicast state.

1.2.1 Sequence Reset (tag 35=4)

This message is used to reset the incremental stream or indicate the loop on instrument definition or snapshot recovery is restarting.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream	X	X	X	

Tag	Tag Name	Req	Data Type	Comment
[Standard message header]				
36	NewSeqNo	Y	SeqNum	New sequence number. Always one.

1.2.2 Heartbeat (tag 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 BVMF will send the data when available. On TCP Replayer this message is sent when the connection is idle.

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

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream	X	X	X	X

1.3 Application Messages

1.3.1 SecurityList (tag 35=y)

This message is used to relay instrument information, such as insertion, update or deletion.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream	X		X	

	Tag	Tag name	Req	Data type	Comment	EQT	DER
[Standard message header]							
	393	TotNoRelatedSym	Y	Integer	Total number of securities available in the channel.	X	X
	893	LastFragment	N	Boolean	Indicates whether this message is the last in the sequence of messages. Valid values: Y = Last message N = Not last message (default)	X	X
	146	NoRelatedSym	Y	NumInGroup	Specifies the number of repeating instruments specified.	X	X
→	55	Symbol	Y	String(32)	Instrument's ticker symbol.	X	X
→	**[Instrument identification block]** See Section "Instrument Identification Block" for tag values						
→	1351	NoApplIDs	Y	NumInGroup	Specifies the number of the application ID occurrences (number of channels).	X	X
→	1180	ApplID	Y	String	Identifies the channel. It follows the convention: type + number. Type may have the following values: MBO, MBP and TOB. Example: MBP101.	X	X

Tag			Tag name	Req	Data type	Comment	EQT	DER
→		1141	NoMDFeedTypes	C	NumInGroup	Number of MD Feed Types. Relates to tag 1180. Not sent if the only feed type available is MBO.	X	X
→	→	1022	MDFeedType	N	String(3)	Indicates feed type as standard or implied. Not sent for MBO. Valid values: STD = Standard MBP IMP = Implied MBP	X	X
→	→	264	MarketDepth	Y	Integer	Identifies depth of book. Not sent for MBO (use default value). Valid values: 0=full book depth (MBO) (default) 1=top of book 2 and above = book depth (number of levels)	X	X
→		454	NoSecurityAltID	N	NumInGroup	Number of alternate security identifiers.	X	X
→	→	455	SecurityAltID	Y	String(50)	Alternate identifiers for this security (e.g. ISIN).	X	X
→	→	456	SecurityAltIDSource	Y	String(1)	Identifies class or source of the SecurityAltID (455) value. Required if SecurityAltID is specified. Values issued by BVMF: 4 = ISIN number H = Clearing house/organization	X	X
→		711	NoUnderlyings	N	NumInGroup	Number of underlying instruments.	X	X
→	→	311	UnderlyingSymbol	Y	String(32)	Underlying instrument's ticker symbol.	X	X
→	→	309	UnderlyingSecurityID	Y	Integer	Underlying instrument's security identifier.	X	X
→	→	305	UnderlyingSecurityID Source	Y	String(1)	Qualifier for underlying instrument's security identifier. Value issued by BVMF: 4 = ISIN code 8 = Exchange Symbol (BVMF security identification).	X	X
→	→	308	UnderlyingSecurity Exchange	N	String(4)	Exchange code the underlying security belongs to. Value issued by BVMF: BVMF: BVMF (equities, derivatives, FX) The default value is "**BVMF**".	X	X
→	→	6919	IndexPct	C	Percentage	Required if this is an equity index instrument. Indicates the percentage that this underlying composes the index.	X	
→	→	37021	IndexTheoreticalQty	C	Double	The theoretical quantity of this underlying composing the index. This tag is only used for index instruments.	X	
→		1144	ImpliedMarketIndicator	N	Integer	Indicates that an implied market should be created for either the legs of a multi-leg instrument (Implied-in) or for the multi-leg instrument based on the existence of the legs (Implied-out). This tag is reserved for future use. Valid values: 0 = Not implied (default)	X	
→		870	NoInstrAttribs	C	Integer	Number of repeating InstrAttribType entries.	X	X
→	→	871	InstrAttribType	C	Integer	Code to represent the type of instrument attributes. Valid values: 24 = Trade type eligibility details for security. 34 = Eligibility for GTD/GTC	X	X
→	→	872	InstrAttribValue	V	Integer	Attribute value appropriate to the InstrAttribType (871) field.	X	X

Tag			Tag name	Req	Data type	Comment	EQT	DER
						Valid values for 871=24: 1 = Electronic Match Eligible 3 = Block Trade Eligible 17 = Negotiated Quote Eligible Valid values for 871=34: 1 = GTD/GTC Eligible		
→	1205		NoTickRules	N	Integer	Number of tick rules. This block specifies the rules for determining how a security ticks, i.e. the price increments which it can be quoted and traded, depending on the current price of the security For future use.	X	X
→	→	1206	StartTickPriceRange	N	Price	Starting price range for specified tick increment For future use.	X	X
→	→	1207	EndTickPriceRange	N	Price	Ending price range for the specified tick increment For future use.	X	X
→	→	1208	TickIncrement	N	Price	Tick increment for stated price range. Specifies the valid price increments which a security can be quoted and traded For future use.	X	X
→	→	1209	TickRuleType	N	Integer	Specifies the type of tick rule which is being described For future use.	X	X
→	555		NoLegs	N	NumInGroup	Number of instrument legs.	X	X
→	→	600	LegSymbol	Y	String(32)	Leg symbol.	X	X
→	→	602	LegSecurityID	Y	Integer	Unique identifier for instrument leg as per tag *LegSecurityIDSource*.	X	X
→	→	603	LegSecurityIDSource	Y	String(1)	Qualifier for leg identifier (*LegSecurityID*). Value issued by BVMF: 8 = Exchange Symbol (BVMF security identification).	X	X
→	→	616	LegSecurityExchange	N	String(4)	Exchange code the leg security belongs to. Value issued by BVMF: BVMF: BVMF (equities, derivatives, FX) The default value is “**BVMF**”.	X	X
→	→	609	LegSecurityType	Y	String	Indicates the type of the individual leg Valid values (corporate fixed income): - CORP (Corporate Fixed Income) - ETF (Exchange Traded Fund) Valid values (derivatives): - FUT (Futures) - SPOT (Spot Market) - SOPT (Spot Options) - FOPT (Future Options) - DTERM (Derivative Forward markets, or “Termo”) Valid values (equities): - CS (Common Stock) - PS (Preferred Stock) - CASH (rights, etc) - FORWARD (Equity Forward or “Termo”) - ETF (Exchange Traded Fund)	X	X

Tag			Tag name	Req	Data type	Comment	EQT	DER
						- OPT (Option) - INDEX (Non Tradable index) - OPTEXER (Option Exercise) - MLEG (Multileg Instrument) - SECLOAN (Security loan, or BTB) - INDEXOPT (Option on Index)		
→	→	623	LegRatioQty	Y	Double	The ratio of quantity for this individual leg relative to the entire multileg security.	X	X
→	→	37009	LegType	Y	Char	Indicates the type of leg present. Valid values: S = Short L = Long B = Base Leg O = Option Leg F = Future T = Standard		~~X~~
→	→	37010	BuyersPerspective	Y	Char	Indicates whether short or long in position (end with buy or sell). Valid values: 1 = Buy 2 = Sell		~~X~~
→	→	624	LegSide	Y	Integer	The side of this individual leg (multileg security). Valid values: 1 – Buy 2 – Sell	X	X
→	980		SecurityUpdateAction	Y	Char	Indicates the action used when updating the security. Valid values: A=Add D=Delete M=Modify	X	X
→	1234		NoLotTypeRules	C	Integer	Number of Lot Type Rules for the instrument Only one rule can be defined (this tag is always set to 1). This group is only used for equities segment.	X	X
→	→	1093	LotType	C	Integer	Defines the lot type for the instruments. Used for the equities segment. Valid values: 1 = Odd Lot 2 = Round Lot 3 = Block Lot	X	X
→	→	1231	MinLotSize	C	Qty	Minimum lot size allowed based on lot type specified in LotType(1093). Used for the equities segment.	X	X
→	561		RoundLot	N	Qty	The trading lot size of the security.		~~X~~
→	562		MinTradeVol	N	Qty	The minimum trading volume for the security.	X	X
→	969		MinPriceIncrement	N	Price	Number of minimum tick increments.	X	X
→	5151		TickSizeDenominator	N	Integer	Number of decimals used for pricing this instrument, e.g. for price increment of 0.001, the number of decimals is 3.	X	X
→	9749		MinOrderQty	N	Qty	Minimum quantity of an order for the security.	X	X
→	9748		MaxOrderQty	N	Qty	Maximum quantity of an order for the security.	X	X
→	9219		InstrumentId	N	Integer	Unique number identifying the instrument.		~~X~~

	Tag	Tag name	Req	Data type	Comment	EQT	DER
→	1377	MultiLegModel	C	Integer	Defines whether the security is pre-defined or user-defined. Used for multileg security only. Valid values: 0 = Predefined Multileg Security 1 = User-Defined Multileg Security	X	X
→	1378	MultiLegPriceMethod	N	Integer	Defines the method used when applying the multileg price to the legs. When this tag is set, it indicates spreads that have leg prices generated by the trading engine. Valid values: 3 = Individual	X	X
→	15	Currency	N	Currency	Currency used for the price.	X	X
→	460	Product	Y	Integer	Indicates the type of product the security is associated with. Valid values: 2 = COMMODITY 3 = CORPORATE 4 = CURRENCY 5 = EQUITY 6 = GOVERNMENT 7 = INDEX 15 = ECONOMIC INDICATOR 16 = MULTILEG	X	X
→	167	SecurityType	N	String(32)	Indicates the type of the security. Valid values (corporate fixed income): - ETF (Exchange Traded Fund) - CORP (Corporate Fixed Income) Valid values (derivatives/fx): - FUT (Futures) - SPOT (Spot Market) - SOPT (Spot Options) - FOPT (Future Options) - DTERM (Derivative Forward or “Termo”) - OPTEXER (Option Exercise) - MLEG (Multileg Instrument, Future use) Valid Values (equities): - CASH (rights, etc) - OPT (Option) - FORWARD (Equity Forward or “Termo”) - ETF (Exchange Traded Fund) - INDEX (Non-Tradable index) - OPTEXER (Option Exercise) - MLEG (Multileg Instrument, UDS) - CS (Common Stock) - PS (Preferred Stock) - SECLOAN (Security loan, or BTB) - INDEXOPT (Option on Index)	X	X
→	762	SecuritySubType	N	String(32)	The sub type of the instrument. Values for derivatives/FX: 4 - FX spot 10 - Gold 20 - Index 30 - Interest rate 40 - FX rate 50 - Foreign debt 60 - Agricultural 70 - Energy 80 - Economic Indicator	X	X

Tag	Tag name	Req	Data type	Comment	EQT	DER
				90 – Strategy 91 – Strategy Spot Dollar 100 - Future-style Option 110 - Volatility 120 - Swap 130 - MiniContract 140 - Financial RollOver 141 - Agricultural RollOver 142 – Stock RollOver 150 – Target Rate 190 - Carbon credit 1003 - Common Shares (ON) 1004 - Preferred Shares (PN) 1005 - Class A preferred shares (PNA) 1006 - Class B preferred shares (PNB) 1007 - Class C preferred shares (PNC) 1008 - Class D preferred shares (PND) 1116 - UNIT 1117 - Class E Preferred Share (PNE) 1118 - Class F Preferred Share (PNF) 1119 - Class G Preferred Share (PNG) 1999 – Others Values for equities: 1001 - Ordinary Rights (DO) 1002 - Preferred Rights (DP) 1003 - Common Shares (ON) 1004 - Preferred Shares (PN) 1005 - Class A preferred shares (PNA) 1006 - Class B preferred shares (PNB) 1007 - Class C preferred shares (PNC) 1008 - Class D preferred shares (PND) 1009 - Ordinary Receipts (ON REC) 1010 - Preferred Receipts (PN REC) 1100 - Common Forward 1101 - Flexible Forward 1102 - Dollar Forward 1103 - Index Points Forward 1104 - Non-tradable ETF Index 1105 - Predefined Covered Spread 1106 - Tradable ETF 1107 - Non-tradable Index 1108 - User defined spread 1109 - Exchange defined spread (not currently in use) 1110 - Security Loan 1111 - Tradable Index 1112 - Brazilian Depositary Receipt 1113 - Fund 1114 - Other Receipt 1115 - Other Right 1116 - UNIT 1117 - Class E Preferred Share (PNE) 1118 - Class F Preferred Share (PNF) 1119 - Class G Preferred Share (PNG) 1120 - Warrant 1122 - Non-tradable Security Lending 1123 - Foreign Index ETF 1125 - Government ETF 1126 - IPO or Follow on 1127 - Gross Auction 1128 - Net Auction 1129 - Tradable Index in Partnership 1130 - Nontradable Index in Partnership 1135 – Tradable ETF Real Estate 1136 – Non Tadable ETF Real EStatu Index **1137 – Cryptocurrency ETF**		

	Tag	Tag name	Req	Data type	Comment	EQT	DER
					1138 – Currency ETF **1139 – Foreign Fixed Income** **1150 – BDR Equity ETF** **1151 – BDR Commodity ETF** **1152 – BDR Fixed Income ETF** **1153 – BDR Debt** **1154 – BDR Currency ETF** 1999 – Others 4000 – Infrastructure Investment Fund 4001 – Multimarket Investment Fund 4002 – Fixed Income Investment Fund 4003 – Currency Investment Fund **4004 – Agro Investment Fund (FII)** **4005 – Agro Investment Fund (FIDC)** **4006 – Agro Investment Fund (FIP)** Values for corporate fixed income: 1106 - Tradable ETF 1124 - Fixed Income ETF 1131 - Nontradable Fixed Income ETF 1300 - Outright purchase 1301 - Specific collateral repo 1302 - Debenture 1303 - Real State Receivable Certificate 1304 - Agribusiness Receivable Certificate 1305 - Promissory Note 1306 - Letra Financeira 1307 - American Depositary Receipt 1308 - Unit Investment Fund 1309 - Receivable Investment Fund 1310 - Outright T+1 1311 - Repo T+1 1312 - Non-tradable gross settlement 1313 - Non-tradable net settlement 1314 - ETF Primary Market 1316 - Shares Primary Market 1317 - Rights Primary Market 1318 - Unit Primary Market 1319 - Fund Primary Market 1320 - Foreign Index ETF Primary Market 1321 - Warrant Primary Market 1322 - Receipt Primary Market 2002 - German Public Debts		
→	7534	SecurityStrategyType	C	String	Strategy type definition. Required for strategy instruments.	X	X
→	6937	Asset	N	String(10)	Asset associated with the security , such as DOL, BGI, OZ1, WDL, CNI, etc.	X	X
→	107	SecurityDesc	N	String(1000)	Descriptive string of the security (e.g. “dollar futures” or “gold futures”).	X	X
→	541	MaturityDate	N	LocalMktDate	Date of instrument maturity.	X	X
→	200	MaturityMonthYear	N	MonthYear	Month and year of the maturity (for futures and options).		X
→	202	StrikePrice	N	Price	Strike price of option.	X	X
→	947	StrikeCurrency	N	Currency	Currency of option’s strike price.	X	X
→	1194	ExerciseStyle	N	Integer	Type of exercise of a derivatives security. Valid values: 0 – European 1 – American	X	X
→	201	PutOrCall	N	Integer	Indicates whether an option contract is a put or call. Valid values: 0 – Put 1 – Call	X	X
→	231	ContractMultiplier	N	Double	Specifies the ratio or multiply factor to convert from “nominal” units (e.g. contracts) to total units (e.g. shares) (e.g. 1.0, 100, 1000, etc). Deprecated on MEGA.	X	X

	Tag	Tag name	Req	Data type	Comment	EQT	DER
→	37012	PriceDivisor	N	Integer/Double	Value that divides the Price field to produce the actual order price (based on Step of Quotation). (e.g. 1, 100, 1000, etc). Default value is "1". Also used for index instruments to disseminate the index reducer (in this case it´s a Double), in this case, there is no default value.	X	
→	667	ContractSettlMonth	N	MonthYear	Specifies when the contract will settle.	X	X
→	461	CFICode	N	String(6)	Classification of Financial Instruments (CFI code) values, which indicate the type of security using the ISO 10962 standard.	X	X
→	470	CountryOfIssue	N	Country	ISO country code of instrument issue.	X	X
→	225	IssueDate	N	LocalMktDate	The date on which the security is issued/activated.	X	X
→	873	DatedDate	N	LocalMktDate	The date of the security activation, if different from the IssueDate.		X
→	916	StartDate	N	LocalMktDate	Start date of a financing deal, i.e. the date the buyer pays the seller cash and takes control of the collateral		X
→	917	EndDate	N	LocalMktDate	End date of a financing deal, i.e. the date the seller reimburses the buyer and takes back control of the collateral.		X
→	63	SettlType	N	String(4)	Indicates order settlement period . (e.g. 0, D1, D2, D3, D60, D120 etc.) If present, SettlDate (64) overrides this field. The default value SettlType (63) is 0 (Regular).		X
→	64	SettlDate	N	LocalMktDate	Specific date of trade settlement (SettlementDate) in YYYYMMDD format.		X
→	120	SettlCurrency	Y	Currency	Currency used for the settlement		X
→	423	PriceType	N	Integer	The valid values are: 1 – Percentage 2 – Per unit (i.e. per share or contract) 3 – Fixed amount (absolute value) ~~For Derivatives, this code represents the price type of the instrument.~~ ~~Valid values:~~ ~~12 – Product ticks in full ticks~~ ~~13 – Product ticks in halfs~~ ~~14 – Product ticks in fourths~~ ~~15 – Product ticks in eights~~ ~~16 – Product ticks in sixteenths~~ ~~17 – Product ticks in thirty-seconds~~ ~~18 – Product ticks in sixty-fourths~~ ~~20 – Product ticks in half thirty-seconds~~ ~~21 – Product ticks in quarter thirty-seconds~~ ~~22 – Product ticks in half sixty-fourths~~ ***Absence of this field denotes that the instrument trades in decimals.***	X	X
→	6938	SecurityValidity Timestamp	N	UTCTimestam p	Indicates the UTC timestamp when trading for this security expires, i.e. when it is not eligible to trade anymore. Different from MaturityDate.	X	X
→	1151	SecurityGroup	N	String(15)	Indicates the group this instrument belongs to.	X	X
→	7595	NoSharesIssued	N	Integer	Social Capital – Total number of shares issued for Cash Equity Instrument	X	
→	1300	MarketSegmentID	C	String	Identifies the market segment. Required for all tradable instruments. Not present in equity indexes, ETF indexes, BTB and Option Excercise.	X	X

	Tag	Tag name	Req	Data type	Comment	EQT	DER
→	37011	GovernanceIndicator	C	String	Corporative governance level indicator. Required for cash equities. Valid values: N1 = Level 1 N2 = Level 2 N3 = Level 3 NM = New Market MA = MAIS Market MB = SOMA Market M2 = MAIS 2 Market	X	
→	37010	CorporateActionEventID	C	Integer	Unique numeric identifier for a corporate action event associated with the security. The identifier is unique within the security. Note. This tag does not represent the type of the Corporate Action. Required for cash equities.	X	
→	37015	SecurityMatchType	C	Integer	Type of matching that occurred. Required for Special Auctions Valid values: 8 = Issuing/Buy Back Auction	X	

1.3.2 Market Data Incremental Refresh (tag 35=X)

This message relays incremental book, trade and statistical information on one instrument.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream			X	

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					[Standard message header]		
	75	TradeDate	N	LocalMktDate	Used to specify the trading date for which a set of market data applies, in YYYYMMDD format. Absence of this field indicates current day (expressed in local time at place of trade).	X	X
	268	NoMDEntries	Y	NumInGroup	Number of entries following.	X	X
→	269	MDEntryType	Y	Char	Type Market Data entry. Valid values:		
					0 = Bid	X	X
					1 = Offer	X	X
					2 = Trade	X	X
					3 = Index Value	X	
					4 = Opening Price	X	X
					5 = Closing Price	X	X
					6 = Settlement Price	X	X
					7 = Session High Price	X	X
					8 = Session Low Price	X	X
					9 = Session VWAP Price	X	X
					A = Imbalance	X	X
					B = Trade Volume	X	X
					C = Open Interest	X	X
					J = Empty Book	X	X
					g = Price band	X	X
					h = Quantity band	X	X
					D = Composite Underlying Price (future use)	X	
					v = Volatility price		X
→	279	MDUpdateAction	Y	Char	Types of Market Data update action. Valid values: 0 = New 1 = Change	X	X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					2 = Delete 3 = Delete Thru 4 = Delete From 5 = Overlay		
→	83	RptSeq	N	Integer	Sequence number per Instrument update.	X	X
→	37100	IndexSeq	C	Integer	Index Value sequence number. Used only for index instruments.	X	
→	6939	PriceBandType	**C**	Integer	Indicates the type of price banding (tunnel): Used for Price Banding when MDEntryType (269) = g and when tags 1148 and 1149 are sent. Valid values: ~~0 = oscillation tunnel (default)~~ ~~1 = rejection tunnel (for future use)~~ ~~2 = auction tunnel (for future use)~~ 1= Hard Limit 2= Auction Limits 3= Rejection Band 4= Static Limits	X	X
→	**[Instrument identification block]**					X	X
→	1500	MDStreamID	N	String(2)	The identifier or name of the price stream. If it is not present, the default value is "E" (Electronic). Each stream must be stored separately in memory. Valid values: E - Electronic X - Ex-pit ~~S - Surveillance~~ O - Option Exercise ~~C - Over-the-counter (OTC)~~ T - Termo N - Index L - Lending (BTB) A - All	X	X
→	270	MDEntryPx	C	Price	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.	X	X
→	271	MDEntrySize	C	Qty	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).	X	X
→	272	MDEntryDate	Y	UTCDateOnly	Date of Market Data Entry.	X	X
→	273	MDEntryTime	Y	UTCTimeOnly	Time of Market Data Entry. This tag now includes up to milliseconds (hhmmssSSS).	X	X
→	37016	MDInsertDate	C	UTCDateOnly	Date when the order was inserted or re-inserted into the order book (used for GTD/GTC orders, only for equities market). In Trade (269=2 - New or Delete) – original trade date or manually entered by MktOps	X	X
→	37017	MDInsertTime	Y	UTCTimeOnly	The time when the order was inserted or re-inserted into the order book or manually altered by MktOps. This tag now includes up to milliseconds (hhmmssSSS).	X	X
→	37014	MDEntryInterestRate	C	Percentage	Interest Rate of the Termo Trade. Expressed in decimal form. For example, 1% points is expressed and sent as 0.01. One basis point is represented as 0.0001.	X	X
→	274	TickDirection	C	Char	Direction of the "tick". Required when MDEntryType=2 (Trade) or 4 (Opening Price). Valid values:		
					0 = Plus Tick	X	X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					1 = Zero-Plus Tick	X	X
					2 = Minus Tick	X	X
					3 = Zero-Minus Tick	X	X
→	276	QuoteCondition	N	MultipleString Value	Space-delimited list of conditions describing a quote. Possible values are:		
					"K" = Implied Price		X
					"R" = Retransmission of the order	X	X
→	277	TradeCondition	N	MultipleString Value	For optional use in reporting Trades/Imbalance. Space delimited list of conditions describing a trade/imbalance. Valid values:		
					R = Opening Price	X	X
					X = Crossed	X	X
					L = Last Trade at the Same Price Indicator	X	X
					P = Imbalance more buyers	X	X
					Q = Imbalance more sellers	X	X
					U = Exchange Last	X	X
					3 = Multi Asset Trade (Termo Vista)	X	
					1 = Leg trade	X	X
					2 = Marketplace entered trade (trade on behalf)	X	X
					PT = Point in time auction	X	X
					RF= RFQTrade	X	X
					RL = RLP Trade	X	X
					MP = Midpoint Trade	**X**	**X**
→	336	TradingSessionID	C	Integer	Used to mark Non-Regular Session trades. Valid values: 1 = Regular Session 6 = Non-regular session	X	X
→	286	OpenCloseSettlFlag	N	MultipleString Value	Identifies if the opening/closing price in field MDEntryPx represents a theoretical opening/closing price and applicable to describe when the settlement data is related to. Valid values: 0 = Daily settlement entry 1 = Session settlement entry **3 = Expected entry (Preliminary price)** 4 = Entry from previous business day 5 = Theoretical price.	X	X
→	15	Currency	N	Currency	Identifies currency used for financial volume. Absence of this field is interpreted as the default currency for the security.		~~X~~
→	9325	LastTradeDate	C	UTCDateOnly	Date the instrument last traded. Used as an input in the calculation of the MaxTradeVol and used to trigger an Auction. Not published if the product has never been traded. Published as part of Adjusted Closing Price block 269=5 286=4.	X	
→	37013	PriceAdjustmentMethod	C	Integer	Indicator of previous day´s closing price. Used for Closing price adjustments related to Corporate Actions. Valid values: 0 = No adjustment (default) 1 = Theoretical price of EX share.	X	

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					2 = Theoretical price of EX share when greater than WITH price. 3 = Theoretical price of EX share, resulting from dividends in different types of stocks/companies. 4 = Price arbitrated by Market Authority		
→	37	OrderID	C	String(50)	Unique identifier for Order as assigned by the exchange, maps to the *SecondaryOrderID* field in the *Execution Report* message (for the FX market or Anonymous Market, it is the actual *OrderID*). It is unique per broker firm, per instrument, per trading date. Required when this entry represents book data.	X	X
→	1003	TradeID	C	String(32)	Contains the unique identifier for this trade per instrument + trading date, as assigned by the exchange. Required if reporting a Trade.	X	X
→	288	MDEntryBuyer	N	String(50)	For optional use in reporting trades (buying party) or indicating a new bid entry. Note: not sent in FX messages (blind screen).	X	X
→	289	MDEntrySeller	N	String(50)	For optional use in reporting trades (selling party) or indicating a new offer entry. Note: not sent in FX messages (blind screen).	X	X
→	346	NumberOfOrders	C	Integer	Contains the number of orders that make up the aggregate quantity at the price point. Required if this is a price-depth book entry.	X	X
→	290	MDEntryPositionNo	C	Integer	Display position of a bid or offer, numbered from most competitive to least competitive, per market side, beginning with 1. Required when MDEntryType=0 or 1.	X	X
→	~~5767~~	~~AgressorSide~~	N	Char	Indicates which side is aggressor of the trade. If the tag is not present, then there is no aggressor. **DEPRECATED**. Valid values are: 1 = Buy 2 = Sell		~~X~~
→	423	PriceType	N	Integer	Code to represent the price type (applicable to settlement data). The default value is “2” (Per unit). Valid values: 1 – Percentage 2 – Per unit (i.e. per share or contract) 3 – Fixed amount (absolute value)		X
→	451	NetChgPrevDay	N	PriceOffset	Net change from previous trading day’s closing price vs. last traded price.	X	X
→	287	SellerDays	N	Integer	Specifies the number of days that may elapse before delivery of the security. Only used for trades in forward market.	X	X
→	731	SettlPriceType	C	Integer	Required only for MDEntryType=6 (Settlement Price). Valid values: 1 = Final 2 = Theoretical/Preview 3 = Updated		X
→	1020	TradeVolume	N	Qty	Total traded quantity (shares/contracts) of the trading day. Only present in the Trade Volume (269=B) and Trade (269=2) blocks.	X	X
→	1306	PriceLimitType	N	Integer	Describes how the price limits are expressed. The default value is “0” (Price Unit). Valid values: 0 = Price Unit 1= Ticks 2 = Percentage	X	X
→	1148	LowLimitPrice	N	Price	Allowable low limit price for the trading day. A key parameter in validating order price. Used as the	X	X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					lower band for validating order prices. Orders submitted with prices below the lower limit will be rejected.		
→	1149	HighLimitPrice	N	Price	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.	X	X
→	1150	TradingReferencePrice	N	Price	Reference price for the current trading price range. The value may be the reference price, settlement price or closing price of the prior trading day. **Sent only for Economic Indicators.**		X
→	37008	PriceBandMidpointPriceType	C	Integer	Band Midpoint Type, used with Auction Price Banding. Used in 269=g block. Valid values: 0 = Last Traded Price (default) 1 = Complementary Last Price 2 = Theoretical Price	X	X
→	37003	AvgDailyTradedQty	C	Integer	Daily average shares traded within 30 days – equity market only. Previously known as DailyAvgShares30D. Always 0 for Derivatives.	X	X
→	432	ExpireDate	C	LocalMktDate	Date of order expiration (last day the order can trade), always expressed in terms of the local market date. Used in BTB contracts only.	X	
→	37019	EarlyTermination	C	Integer	Indicates if the deal is subject to anticipated liquidation (early termination of the borrowing/lending) Used in BTB contracts only. Valid values: 0 = Normal termination (default) 1 = Early termination 2 = Early termination also in case of PTO	X	
→	37023	BTBCertIndicator	C	Integer	Indicates if the security lending offer or pre-contract is certified. If not sent, means the offer or pre-contract is not certified. Used in BTB contracts only. Valid values: 0 = Certified (default) 1 = Not certified	X	
→	37024	BTBContractInfo	C	Integer	Only used for BTB. Denotes extra information about the BTB pre-contract. Used in BTB contracts only. Valid values: 1 = pre-contract (default) 2 = intention	X	
→	37025	BTBGraceDate	C	LocalMktDate	Only used for BTB. Indicates the minimum date from when the borrower can call the loan contract to an end. Used in BTB contracts only.	X	
→	1140	MaxTradeVol	C	Integer	The maximum order quantity that can be submitted for a security. The value is the minimum between % of shares issued and % of average traded quantity within 30 days.	X	
→	1025	FirstPx	C	Price	The price for the short future on a volatility price (269=v).		X
→	31	LastPx	C	Price	The price for the long future on a volatility price (269=v).		X
→	811	PriceDelta	C	Float	The rate of change in the price of a derivative with respect to the movement in the price of the underlying instrument(s) upon which the derivative		X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					instrument price is based. Only used for 269=v (Volatility price). This value is normally between -1.0 and 1.0.		
→	711	NoUnderlyings	C	NumInGroup	Number of repeating groups is based on Index Composition. Only used when representing Index Composite Underlying Price (269=D).	X	
→ →	309	UnderlyingSecurityID	Y	Integer	Underlying instrument's security identifier.	X	
→ →	305	UnderlyingSecurityIDSource	Y	Integer	Qualifier for underlying instrument's security ID. Valid value: 8	X	
→ →	308	UnderlyingSecurityExchange	Y	String	Underlying instrument's exchange. Valid value: BVMF	X	
→ →	810	UnderlyingPx	Y	Price	Underlying instrument price reflected in Index value	X	
→ →	37018	UnterlyingPxType	C	Integer	Indicates the Underlying Instrument price type reflected in Index value. Used for Composite Underlying Price block (269=D), only sent when different from the default value. Valid values: 0 = Trade (default) 1 = Average of TOB	X	
→	~~7687~~	~~PercentageVar~~	N	Percentage	Index variation in percentage, from start of day. DEPRECATED.		
→	~~9343~~	~~NoUnchangedSecurities~~	N	Integer	Number of index underlying securities with no variation. DEPRECATED.		
→	~~9344~~	~~NoNotTradedSecurities~~	N	Integer	Number of index underlying securities that are not quoted. DEPRECATED.		
→	~~9989~~	~~TotTradedSecurities~~	N	Integer	Number of quoted securities in the index. DEPRECATED.		
→	~~9990~~	~~CapitalPct~~	N	Percentage	Capitalization percentage of active securities in the index. DEPRECATED.		
→	~~9993~~	~~PrevYearVariation~~	N	Percentage	Index variation in percentage, compared to previous year last index. DEPRECATED.		
→	~~9996~~	~~NoFallingSecurities~~	N	Integer	Number of index underlying securities falling in price. DEPRECATED.		
→	~~9997~~	~~NoRisingSecurities~~	N	Integer	Number of index underlying securities rising in price. DEPRECATED.		
→	~~37001~~	~~PercThresholdNormalTrade~~	N	Percentage	Percentage threshold normal trade. DEPRECATED.		
→	~~37002~~	~~PercThresholdCrossTrade~~	N	Percentage	Percentage threshold cross trade. DEPRECATED.		
→	~~37003~~	~~DailyAvgShares30D~~	N	Qty	Daily average shares traded on last 30 days. DEPRECATED, now known as AvgDailyTradedQty.		
→	~~37004~~	~~MaxinumNormalSharesPerDailyAvgShares30DRatio~~	N	Float	Ratio maximum shares traded normal trade / Daily average shares traded on last 30 days. DEPRECATED.		
→	~~37005~~	~~MaxinumCrossSharesPerDailyAvgShares30DRatio~~	N	Float	Ratio maximum shares traded cross trade / Daily average shares traded on last 30 days. DEPRECATED.		
→	~~37006~~	~~NormalSharesPerOutstandingSharesRatio~~	N	Float	Ratio maximum shares traded normal trade / Outstanding number of shares. DEPRECATED.		
→	~~37007~~	~~CrossSharesPerOutstandingSharesRatio~~	N	Float	Ratio maximum shares traded cross trade / Outstanding number of shares. DEPRECATED.		

1.3.3 Market Data Snapshot Full Refresh (tag 35=W)

This message is contains a snapshot of a specific instrument state (book, statistical data, state).

	Instrument definition	Snapshot	Incremental	TCP Replay
Sent on stream		X		

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
[Standard message header]							
	911	TotNumReports	Y	Integer	Total number of snapshots to be returned in a replay loop.	X	X
	75	TradeDate	N	LocalMktDate	Used to specify the trading date for which a set of market data applies, in YYYYMMDD format. Absence of this field indicates current day (expressed in local time at place of trade).	X	X
	451	NetChgPrevDay	N	PriceOffset	Net change from previous trading day's closing price vs. last traded price.	X	X
	264	MarketDepth	N	Integer	Indicates the depth of the aggregate book (order depth book is always full depth), if applicable. If value = "0" or the tag is not present, it indicates Market by Order.	X	X
	83	RptSeq	N		Sequence number per Instrument update, which contains the same data as the corresponding RptSeq in the Market Data Incremental Refresh (tag 35-MsgType=X). Contrary to that other message, this tag is on the body instead, since this message always refers to one instrument only.	X	X
[Instrument identification block] See Section "Instrument Identification Block" for tag values						X	X
	268	NoMDEntries	Y	NumInGroup	Number of entries following.	X	X
→	269	MDEntryType	Y	Char	Type Market Data entry. Valid values:		
					0 = Bid	X	X
					1 = Offer	X	X
					2 = Trade	X	X
					3 = Index Value	X	
					4 = Opening Price	X	X
					5 = Closing Price	X	X
					6 = Settlement Price	X	X
					7 = Trading Session High Price	X	X
					8 = Trading Session Low Price	X	X
					9 = Trading Session VWAP Price	X	X
					A = Imbalance	X	X
					B = Trade Volume	X	X
					C = Open Interest	X	X
					c = Security trading state/phase	X	X
					g = Price band	X	X
					h = Quantity band	X	X
					D = Composite Underlying Price	X	
					v = Volatility price		X
→	37100	IndexSeq	C	Integer	Index Value sequence number. Used only for index instruments.	X	
→	6939	PriceBandType	C	Integer	Indicates the type of price banding (tunnel): Used for Price Banding when MDEntryType (269) = g and when tags 1148 and 1149 are sent. Valid values: ~~0 = oscillation tunnel (default)~~ ~~1 = rejection tunnel (for future use)~~ ~~2 = auction tunnel (for future use)~~ 1= Hard Limit 2= Auction Limits 3= Rejection Band 4= Static Limits	X	X
→	1500	MDStreamID	N	String(2)	The identifier or name of the price stream. The default value is "E" (Electronic).	X	X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					Valid values: E - Electronic X - Ex-pit ~~S - Surveillance~~ O - Option Exercise ~~C - Over-the-counter (OTC)~~ T - Termo N - Index L - Lending (BTB) A - All		
→	270	MDEntryPx	C	Price	Price of the Market Data Entry. Required when this market data entry involves a price.	X	X
→	271	MDEntrySize	C	Qty	Quantity or volume represented by the Market Data Entry. Required when this market data entry involves a quantity.	X	X
→	272	MDEntryDate	Y	UTCDateOnly	Date of Market Data Entry.	X	X
→	273	MDEntryTime	Y	UTCTimeOnly	Time of Market Data Entry. This tag now includes up to milliseconds (hhmmssSSS).	X	X
→	37016	MDInsertDate	C	UTCDateOnly	Date when the order was inserted or re-inserted into the order book (used for GTD/GTC orders, only for equities market). In Trade (269=2 - New or Delete) – original trade date or manually entered by MktOps	X	X
→	37017	MDInsertTime	Y	UTCTimeOnly	The time when the order was inserted or re-inserted into the order book or manually altered by MktOps. This tag now includes up to milliseconds (hhmmssSSS).	X	X
→	37014	MDEntryInterestRate	C	Percentage	Interest Rate of the Termo Trade. Expressed in decimal form. For example, 1% points is expressed and sent as 0.01. One basis point is represented as 0.0001.	X	
→	274	TickDirection	C	Char	Direction of the "tick". Required if reporting a Trade. Valid values:		
					0 = Plus Tick	X	X
					1 = Zero-Plus Tick	X	X
					2 = Minus Tick	X	X
					3 = Zero-Minus Tick	X	X
→	326	SecurityTradingStatus	N	Integer	Status related to a given Instrument. The default value is "17" = Open. Valid values: 02 = Trading halt (Pause) 04 = No-Open (Close) 17 = Ready to trade (Open) 18 = Not available for trading (Forbidden) 20 = Unknown or invalid 21 = Pre-Open (Reserved) 101 = Final Closing Call	X	X
→	625	TradingSessionSubID	N	Integer	Phase related to a SecurityGroup where the instrument belongs to. If absent, the default value is "17" = Open. Valid values sent by BVMF: 02 = Trading halt (Pause) 04 = No-Open (Close) 17 = Ready to trade (Open) 18 = Not available for trading (Pre-close) 21 = Pre-Open 101 = Final Closing Call	X	X
→	342	TradSesOpenTime	C	UTCTimestamp	Indicates the time the auction is scheduled to end. Required when MDEntryType='c' and SecurityTradingStatus=21 (Reserved) without random ending.	X	X
→	276	QuoteCondition	N	MultipleString Value	Space-delimited list of conditions describing a quote. Possible values are:		

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					"R" = Retransmission of the order	X	X
					"K" = Implied Price		
→	277	TradeCondition	N	MultipleString Value	For optional use in reporting Trades/Imbalance. Space delimited list of conditions describing a trade/imbalance. Possible values:		
					R = Opening Price	X	X
					X = Crossed	X	X
					L = Last Trade at the Same Price Indicator	X	X
					P = Imbalance more buyers	X	X
					Q = Imbalance more sellers	X	X
					U = Exchange Last	X	X
					3 = Multi Asset Trade (Termo Vista)	X	
					1 = Leg trade	X	X
					2 = Marketplace entered trade (trade on behalf)	X	X
					PT = Point in time auction	**X**	**X**
					RF= RFQTrade	**X**	**X**
					RL = RLP Trade	X	X
					MP = Midpoint Trade	**X**	**X**
→	336	TradingSessionID	C	Integer	Used to mark Non-Regular Session trades. Valid values: 6 = Non-regular session	X	X
→	1174	SecurityTradingEvent	C	Integer	Identifies an event related to a *TradingSessionSubID*. Always sent on MDEntryType='c', when field 326 is filled. Possible values: 101 = Security Status maintained separately from Group Status 102 = Security Status following Group Status	X	X
→	286	OpenCloseSettlFlag	N	MultipleString Value	Identifies if the opening price in field MDEntryPx represents a theoretical opening price and applicable to describe when the settlement data is related to. Valid values issued by BVMF: 0 = Daily settlement entry 1 = Session settlement entry **3 = Expected entry (Preliminary price)** 4 = Entry from previous business day 5 = Theoretical price.	X	X
→	**15**	**Currency**	N	Currency	Identifies currency used for financial volume. Absence of this field is interpreted as the default currency for the security.		~~X~~
→	9325	LastTradeDate	C	UTCDateOnly	Date the instrument last traded. Used as an input in the calculation of the MaxTradeVol and used to trigger an Auction. Not published if the product has never been traded. Published as part of Adjusted Closing Price block 269=5 286=4.	X	
→	37013	PriceAdjustmentMethod	C	Integer	Indicator of previous day´s closing price. Used for Closing price adjustments related to Corporate Actions. Valid values: 0 = No adjustment (default) 1 = Theoretical price of EX share. 2 = Theoretical price of EX share when greater than WITH price.	X	

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					3 = Theoretical price of EX share, resulting from dividends in different types of stocks/companies. 4 = Price arbitrated by Market Authority		
→	37	OrderID	C	String(50)	Unique identifier for Order as assigned by the exchange, maps to the *SecondaryOrderID* field in the *Execution Report* message (for the FX market and anonymous market, it is the actual *OrderID*). It is unique per broker firm, per instrument, per trading date. Required when this Bid or Offer represents an order.	X	X
→	1003	TradeID	C	String(32)	Contains the unique identifier for this trade per instrument + trading date, as assigned by the exchange. Required if reporting a Trade.	X	X
→	288	MDEntryBuyer	N	String(50)	For optional use in reporting trades (buying party) or indicating a new bid entry. Note: not sent in FX messages (blind screen).	X	X
→	289	MDEntrySeller	N	String(50)	For optional use in reporting trades (selling party) or indicating a new offer entry. Note: not sent in FX messages (blind screen).	X	X
→	346	NumberOfOrders	C	Integer	Contains the number of orders that make up the aggregate quantity at the price point. Required if this is a price-depth book entry.	X	X
→	290	MDEntryPositionNo	C	Integer	Display position of a bid or offer, numbered from most competitive to least competitive, per market side, beginning with 1. Required when MDEntryType=0,1.	X	X
→	~~5767~~	~~AgressorSide~~	N	Char	Indicates which side is aggressor of the trade. If there is no value present, then there is no aggressor. **DEPRECATED**. Valid values are: 1 = Buy 2 = Sell		~~X~~
→	423	PriceType	N	Integer	Code to represent the price type (applicable to settlement data). The default value is “2” (Per unit). Valid values: 1 – Percentage 2 – Per unit (i.e. per share or contract) 3 – Fixed amount (absolute value)		X
→	287	SellerDays	N	Integer	Specifies the number of days that may elapse before delivery of the security. Only used for some types of trades in forward market.	X	X
→	731	SettlPriceType	C	Integer	Required only for MDEntryType=6 (Settlement Price). Type of settlement price: 1 = Final 2 = Theoretical/Preview 3 = Updated		X
→	1020	TradeVolume	N	Qty	Total traded quantity (shares/contracts) of the trading day. It could be present only in the Trade Volume (269=B) or Trade (269=2) blocks.	X	X
→	1306	PriceLimitType	N	Integer	Describes how the prices are expressed. The default value is “0” (Price Unit). Valid values: 0 = Price Unit 1= Ticks 2 = Percentage		X
→	1148	LowLimitPrice	N	Price	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.		X
→	1149	HighLimitPrice	N	Price	Allowable high limit price for the trading day. A key parameter in validating order price. Used as the upper band for validating order prices.		X

	Tag	Tag Name	Req	Data Type	Comment	EQT	DER
					Orders submitted with prices above the upper limit will be rejected.		
→	1150	TradingReferencePrice	N	Price	Reference price for the current trading price range. The value may be the reference price, settlement price or closing price of the prior trading day. Sent only for Economic Indicators.		X
→	37008	PriceBandMidpointPriceType	C	Integer	Band Midpoint Type, used with Auction Price Banding. Valid values: 0 = Last Traded Price (default) 1 = Complementary Last Price 2 = Theoretical Price	X	X
→	37003	AvgDailyTradedQty	C	Integer	Daily average shares traded within 30 days – equity market only. Previously known as DailyAvgShares30D. Always 0 for Derivatives.	X	X
→	432	ExpireDate	C	LocalMktDate	Date of order expiration (last day the order can trade), always expressed in terms of the local market date. Used in BTB contracts only.	X	
→	37019	EarlyTermination	C	Integer	Indicates if the deal is subject to anticipated liquidation (early termination of the borrowing/lending) Used in BTB contracts only. Valid values: 0 = Normal termination (default) 1 = Early termination 2 = Early termination also in case of PTO	X	
→	37023	BTBCertIndicator	C	Integer	Indicates if the security lending offer or pre-contract is certified. If not sent, means the offer or pre-contract is not certified. Used in BTB contracts only. Valid values: 0 = Certified (default) 1 = Not certified	X	
→	37024	BTBContractInfo	C	Integer	Only used for BTB. Denotes extra information about the BTB pre-contract. Used in BTB contracts only. Valid values: 1 = pre-contract (default) 2 = intention	X	
→	37025	BTBGraceDate	C	LocalMktDate	Only used for BTB. Indicates the minimum date from when the borrower can call the loan contract to an end. Used in BTB contracts only.	X	
→	1140	MaxTradeVol	C	Integer	The maximum order quantity that can be submitted for a security. The value is the minimum between % of shares issued and % of average traded quantity within 30 days.	X	
→	1025	FirstPx	C	Price	The price for the short future on a volatility price (269=v).		X
→	31	LastPx	C	Price	The price for the long future on a volatility price (269=v).		X
→	811	PriceDelta	C	Float	The rate of change in the price of a derivative with respect to the movement in the price of the underlying instrument(s) upon which the derivative instrument price is based. Only used for 269=v (Volatility price). This value is normally between -1.0 and 1.0.		X
→	711	NoUnderlyings	C	NumInGroup	Number of repeating groups is based on Index Composition. Only used when representing Index Composite Underlying Price (269=D).	X	
→	37008	PriceBandMidpointPriceType	C	Integer	Band Midpoint Type	X	

Tag			Tag Name	Req	Data Type	Comment	EQT	DER
						Complementary Last Price (CLAST) follows special rules described in 3BR6.2.3.1 Used with Auction Price Banding. Valid values: 0 = Last Traded Price (default) 1 = Complementary Last Price 2 = Theoretical Price		
→	→→	309	UnderlyingSecurityID	Y	Integer	Underlying instrument's security identifier.	X	
→	→	305	UnderlyingSecurityIDSource	Y	Integer	Qualifier for underlying instrument's security ID. Valid value: 8	X	
→	→	308	UnderlyingSecurityExchange	Y	String	Underlying instrument's exchange. Valid value: BVMF	X	
→	→	810	UnderlyingPx	Y	Price	Underlying instrument price reflected in Index value	X	
→	→	37018	UnterlyingPxType	C	Integer	Indicates the Underlying Instrument price type reflected in Index value. Used for Composite Underlying Price block (269=D), only sent when different from the default value. Valid values: 0 = Trade (default) 1 = Average of TOB	X	
→	~~7687~~		~~PercentageVar~~	N	Percentage	Index variation in percentage, from start of day. DEPRECATED.		
→	~~9343~~		~~NoUnchangedSecurities~~	N	Integer	Number of index underlying securities with no variation. DEPRECATED.		
→	~~9344~~		~~NoNotTradedSecurities~~	N	Integer	Number of index underlying securities that are not quoted. DEPRECATED.		
→	~~9989~~		~~TotTradedSecurities~~	N	Integer	Number of quoted securities in the index. DEPRECATED.		
→	~~9990~~		~~CapitalPct~~	N	Percentage	Capitalization percentage of active securities in the index. DEPRECATED.		
→	~~9993~~		~~PrevYearVariation~~	N	Percentage	Index variation in percentage, compared to previous year last index. DEPRECATED.		
→	~~9996~~		~~NoFallingSecurities~~	N	Integer	Number of index underlying securities falling in price. DEPRECATED.		
→	~~9997~~		~~NoRisingSecurities~~	N	Integer	Number of index underlying securities rising in price. DEPRECATED.		
→	~~37001~~		~~PercThresholdNormalTrade~~	N	Percentage	Percentage threshold normal trade. DEPRECATED.		
→	~~37002~~		~~PercThresholdCrossTrade~~	N	Percentage	Percentage threshold cross trade. DEPRECATED.		
→	~~37003~~		~~DailyAvgShares30D~~	N	Qty	Daily average shares traded on last 30 days. DEPRECATED, now known as AvgDailyTradedQty.		
→	~~37004~~		~~MaxinumNormalSharesPer DailyAvgShares30DRatio~~	N	Float	Ratio maximum shares traded normal trade / Daily average shares traded on last 30 days. DEPRECATED.		
→	~~37005~~		~~MaxinumCrossSharesPer DailyAvgShares30DRatio~~	N	Float	Ratio maximum shares traded cross trade / Daily average shares traded on last 30 days. DEPRECATED.		
→	~~37006~~		~~NormalSharesPer OutstandingSharesRatio~~	N	Float	Ratio maximum shares traded normal trade / Outstanding number of shares. DEPRECATED.		
→	~~37007~~		~~CrossSharesPer OutstandingSharesRatio~~	N	Float	Ratio maximum shares traded cross trade / Outstanding number of shares. DEPRECATED.		

1.3.4 Security Status (tag 35=f)

This message contains instrument or instrument group state and trading phase information.

	Instrument definition	Snapshot	Incremental	TCP Replayer

Sent on stream			X	

Tag	Tag Name	Req	Data Type	Comment	EQT	DER
				[Standard message header]		
1151	SecurityGroup	N	String(15)	The instrument group that is changing trading phase.	X	X
				[Instrument identification block] See Section "Instrument Identification Block" for tag values		
75	TradeDate	Y	LocalMktDate	Trade date of the Market Data messages.		~~X~~
625	TradingSessionSubID	C	Integer	Phase related to a given *SecurityGroup*. Valid values sent by BVMF: 02 = Trading halt (Pause) 04 = No-Open (Close) 17 = Ready to trade (Open) 18 = Not available for trading (Pre-close) 21 = Pre-Open 101 = Final Closing Call	X	X
326	SecurityTradingStatus	C	Integer	Status related to a given instrument. Valid values sent by BVMF: 02 = Trading halt (Pause) 04 = No-Open (Close) 17 = Ready to trade (Open) 18 = Not available for trading (Forbidden) 20 = Unknown or invalid 21 = Pre-Open (Reserved) 101 = Final Closing Call	X	X
336	TradingSessionID	C	Integer	Identifier for Trading Session. Valid values: 1 = Regular Day Session 6 = Non Regular Session (After Hours)	X	X
342	TradSesOpenTime	N	UTCTimestamp	Estimated end of the current auction. Included only if *SecurityTradingStatus*=21 (Reserved).	X	X
60	TransactTime	N	UTCTimestamp	Timestamp when the business transaction represented by the message occurred.	X	X
1500	MDStreamID	Y	String	The identifier or name of market data stream. If not present, default=E. Valid values: E - Electronic X - Ex-pit ~~S - Surveillance~~ O - Option Exercise ~~C - Over-the-counter (OTC)~~ T - Termo N - Index L - Lending (BTB) A - All	X	X
1174	SecurityTradingEvent	C	Integer	Identifies an event related to a Trading This tag is also used to mark when an instrument state is kept separate from the group phase, or when the instrument state follows the default group phase (stops having a separate, defined state). Always sent when tag 48 is present. Valid values: 4 = Change of Trading Session (clears statistics) 101 = Security Status maintained separately from Group Status 102 = Security Status following Group Status	X	X

1.3.5 News (tag 35=B)

The News message is sent over the incremental stream to convey market information of BVMF market surveillance notifications and news produced by agencies. News message is available to all segments: Derivatives and Equities.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream			X	

Tag	Tag Name	Req	Data Type	Comment
				[Standard message header]
42	OrigTime	Y	UTCTimestamp	Time of message origination (always expressed in UTC - Universal Time Coordinated, also known as “GMT”)
6940	NewsSource	Y	String(3)	Indicates the source of the news. Valid values for derivatives market: “1” – DCM “2” – BBMNet “3” – MarketSurveillance “4” – Internet “5” – DPR-VE ”19” – Mkt Ops FX Agency “20” – Mkt Ops Derivatives Agency Valid values for equities market: “11” – Over-the-counter news agency ”13” – Electronic Purchase Exchange ”14” – CBLC News Agency ”15” – BOVESPA – Index Agency ”16” – BOVESPA – Institutional Agency ”17” – Mkt Ops Equites Agency ”18” – BOVESPA – Companies Agency
1472	NewsID	N	String(7)	Unique identifier for News message. Included in the News messages sent in the Unified News Channel. Not sent for trading engine News messages.
1474	LanguageCode	N	Language	Indicates the language the news is in. Represented by the two-letter ISO 639-1 standard identification. Absence of this field defaults to “pt” – Portuguese.
148	Headline	Y	String	The headline of a News message.
358	EncodedHeadlineLen	N	Integer	Must be set if EncodedHeadline field is specified and must immediately precede it. Can only be published in the Unified News Channel.
359	EncodedHeadling	N	Data(512)	Encoded (non-ASCII characters) representation of the Headline field in the encoded format specified via the MessageEncoding field. Can only be published in the Unified News Channel.
146	NoRelatedSym	N	NumInGroup	Specifies the number of repeating symbols (instruments) specified.
→				**[Instrument identification block]** See Section “Instrument Identification Block” for tag values
~~215~~	~~NoRoutingIDs~~	N	NumInGroup	Indicates the number of destinations of this message. DEPRECATED.
→ ~~216~~	~~RoutingType~~	Y	Integer	Indicates the type of RoutingID (217) specified. DEPRECATED. Values issued by B3: 2 = Target List.
→ ~~217~~	~~RoutingID~~	N	String(2)	Assigned value used to identify a specific routing destination. DEPRECATED. Values issued by B3: “1” = Vendors “2” = Traders “3” = BM&FBOVESPA RSS feed “4” = BBMNet “5” = GLOBEX
33	NoLinesOfText	Y	NumInGroup	Identifies number of lines of text body.
→ 58	Text	Y	String(8192)	Free format text string.
→ 354	EncodedTextLen	N	Length	Length of EncodedText field. Can only be published in the Unified News Channel.
→ 355	EncodedText	N	Data	Encoded (non-ASCII characters) representation of the Text (58) field in the encoded format specified via the *MessageEncoding* (347) field. Can only be published in the Unified News Channel.

Tag	Tag Name	Req	Data Type	Comment
149	URLLink	N	String(1024)	A URL (Uniform Resource Locator) link to additional information (e.g. http://www.bmf.com/news.html)

1.3.6 NonFixData (tag 35=n)

***** THIS MESSAGE HAS BEEN DEPRECATED *****

As of the date mentioned in the Circular Letter 003/2014-DI, corporate fixed income market data will be published in the same fashion as other equity products, via messages 35=X, y, W, f and so on. This message will no longer be generated after the mentioned date.

The NonFixData message is used to carry a payload that is the encoded Fixed Income messages from BovespaFIX legacy system (RLC-Z5, from ProxyDiff). These messages can be extracted and processed as usual by customers and vendors already capable of processing it. It is sent over the incremental stream and also present on TCP Replayer.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream			X	X

Tag	Tag Name	Req	Data Type	Comment
				~~[Standard message header]~~
~~212~~	~~DataLen~~	~~Y~~	~~Int~~	~~Integer field representing the length of the field Data (213) in bytes. Value must be positive.~~
~~213~~	~~Data~~	~~Y~~	~~Data~~	~~Actual message data stream (encoded Z5).~~
~~347~~	~~MessageEncoding~~	~~Y~~	~~String~~	~~Type of the encoded message inside the current message. Fixed value: RLC-Z5~~

2 Market Data FIX 4.4 Message Specification

2.1 FIX 4.4 Application Messages used at TCP Replayer / Historical Replayer Connections

This section outlines the FIX 4.4 messages designed/adapted only for replaying lost FIX 5.0SP2 real-time market data purposes. More details of small-scale recovering process can be found at UMDF Market Data messaging specification.

2.1.1 Application Message Request (tag 35=BW)

The client application should send this message for requesting the recovery of lost messages in the UDP channel.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream				X

Tag	Tag Name	Req	Data Type	Comment
				[Standard message header]
1346	ApplReqID	Y	String	Unique identifier for Request.
1347	ApplReqType	Y	Integer	Type of resend request being made: 0 - Retransmission of application messages for the specified Applications.

	Tag	Tag Name	Req	Data Type	Comment
1351		NoApplIDs	Y	NumInGroup	Specifies number of application ID occurrences.
→	1355	RefApplID	Y	String	Reference to the unique application identifier (the UDP Channel ID).
→	1182	ApplBegSeqNum	Y	Integer	Message sequence number of first message in range to be resent. If the request is for a single message, *ApplBeginSeqNum* (tag 1182) and *ApplEndSeqNum* (tag 1183) must be the same.
→	1183	ApplEndSeqNum	Y	Integer	Message sequence number of last message in range to be resent. If the request is for a single message, *ApplBeginSeqNum* (tag 1182) and *ApplEndSeqNum* (tag 1183) must be the same. *ApplEndSeqNum*=0 is not allowed. The maximum number of messages that can be requested is 2000.

2.1.2 Application Message Request Acknowledgment (tag 35=BX)

B3 sends the Application Message Request Acknowledgment message in response to the Application Message Request (tag 35-MsgType=BW) message. The Application Request Acknowledgment contains information regarding the response to the recovery request.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream				X

	Tag	Tag Name	Req	Data Type	Comment
					[Standard message header]
1353		ApplRespID	Y	String	Identifier for the Application Resend Response (identifier provided by the Exchange)
1346		ApplReqID	Y	String	Unique identifier for Request (identifier provided by the client application and received in the Application Message Request – tag 35=BW)
1347		ApplReqType	Y	Integer	Type of application resend response being sent: 0 - Retransmission of application messages.
1348		ApplRespType	Y	Integer	Used to indicate the type of acknowledgement being sent: 0 - Request accepted 1 - Application does not exist (not specified) 2 - Request not accepted or partially accepted (unable to process all requested data, each *RefApplID* in the *NoApplIDs* group must be checked to verify errors). 3 - The processing of a prior Application Message Request is in progress (client application must wait until the resend in progress is complete) 4 - Exceeded the maximum number of Applications (*NoApplIDs* - tag 1351) allowed in a single Application Message Request (currently 1) 7 – System temporarily unavailable
1351		NoApplIDs	N	NumInGroup	Specifies number of application ID occurrences, only when feedback information is applied.
→	1355	RefApplID	Y	String	Reference to the unique application identifier (the UDP Channel ID).
→	1182	ApplBegSeqNum	N	Integer	Beginning range of application sequence numbers.
→	1183	ApplEndSeqNum	N	Integer	Ending range of application sequence numbers.
→	1354	ApplRespError	N	Integer	Used if response error for a given ApplID; resend is not possible. Reason: 0 - Application does not exist 3 - Invalid range requested 4 - Exceeded the maximum limit of messages allowed per resend request 8 - System resources unavailable (for TCP Historical Replay only)
→	**35021**	**ApplResponseStatus**	**Y**	**Int (1)**	**Used to indicate the status for each Application Message Request. Valid values: 0 – Request Sucessfully Processed 1 – User Not Authorized For Application 2 – Invalid Range Requested 3 – Prior Application Request In Progress 4 – Application Temporatily Unavailable**
					[Standard message header]

2.1.3 Application Raw Data Reporting (tag 35 =URDR)

In order to resend the messages requested with Application Message Request (tag 35-MsgType=BW), BM&FBovespa sends a set of Raw Data Reporting messages (tag 35-MsgType=URDR) each containing one or more FAST encoded messages appended in the RawData (tag 96) field.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream				X

Tag		Tag Name	Req	Data Type	Comment
[Standard message header]					
1346		ApplReqID	Y	String	Unique identifier for Request (identifier provided by the client application in the Application Message Request message– tag 35=BW)
1353		ApplRespID	Y	String	Identifier for the Application Resend Response (identifier provided by the Exchange in the Application Message Request Acknowledgment message – tag 35=BX)
1180		ApplID	Y	String	Identifies the application with which the message is associated.
1352		ApplResendFlag	Y	Boolean	Used to indicate that a message is being sent in response to an Application Message Request
95		RawDataLength	Y	Integer	Number of bytes in raw data field
96		RawData	Y	Bytes	Unformatted raw data containing one or more encoded FAST messages
911		TotNumReports	Y	Integer	Total number of recovered messages to be resent regarding the *ApplID*.
10054		NoApplSeqNums	Y	NumInGroup	Specifies number of Application Sequence Number occurrences.
→	1181	ApplSeqNum	Y	String	Application sequence number being resent
→	1350	ApplLastSeqNum	Y	Integer	The previous sequence number in the application sequence stream. Useful to help detect sequence gaps. The value "0" means that this is the first message being resent.
→	10055 (?)	RawDataOffset	Y	Integer	The offset is the reference to the start point for the encoded message in *RawData* field (tag 96)
→	95	RawDataLength	Y	Integer	Length in bytes of the encoded message. Must be used with *RawDataOffset* to safely recover the resent message with *ApplSeqNum*.

2.1.4 Application Message Report (tag 35=BY)

B3 sends the Application Message Report (tag 35-MsgType=BY) message to indicate that the Application Resend process is complete. An Application Message Report is generated for each Channel ID just after resending the last Raw Data Reporting message.

	Instrument definition	Snapshot	Incremental	TCP Replayer
Sent on stream				X

Tag	Tag Name	Req	Data Type	Comment
[Standard message header]				
1356	ApplReportID	Y	String	Identifier for the Application Message Report
1426	ApplReportType	Y	Integer	Reason the Application Message Report is being sent: 3 - Application Resend successfully completed 4 - Application Resend Error
1347	ApplReqType	Y	String	Type of application resend response being sent: 0 = Retransmission of application messages.
1346	ApplReqID	Y	String	Unique identifier for Request (identifier provided by the client application and received in the Application Message Request message – tag 35=BW)
1353	ApplRespID	Y	String	Identifier for the Application Resend Response (identifier provided by the Exchange in the Application Message Request Acknowledgment message – tag 35=BX)

Tag		Tag Name	Req	Data Type	Comment
1351		NoApplIDs	Y	NumInGroup	Specifies number of Application ID occurrences. Should always be 1, because TCP Replayer issues a separate report for each Channel ID, when it completes an Application Resend.
→	1355	RefApplID	Y	String	Reference to the unique application identifier (the UDP Channel ID).
→	1357	RefApplLastSeqNum	N	Integer	Application sequence number of last transmitted message. This is the last application sequence number that should have been received.
→	1354	ApplRespError	N	Integer	Used if response error; resend is not possible or has missing data. Reason: 1 - Messages requested are not available 5 - Top-N message(s) of requested range not available to resend. The messages may be queued at server application, thus the client application may want to send another request to obtain the missing data. 6 - Bottom-N messages of the requested range not available for resend. 7 – Both reasons 5 and 6 together (Top-N and Bottom-N messages not available and on the requested range) **8 - System resources unavailable (for TCP Historical Replay only)**