FIX for BIST Phase 2

REFERENCE DATA

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CONFIDENTIALITY/DISCLAIMER

CONTENTS

1 REFERENCES

[1]

FIX 5.0 SP2 Protocol Specification

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

2 OVERVIEW

This document contains the specification for the FIX interface to Genium INET Reference Data.

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

The interface implemented by NASDAQ OMX follows the FIX specifications as far as possible. In the majority of cases the structure and semantics of the messages are identical to the standard.

In some cases, the protocol has been extended to cover functions not considered by the standard. These extensions are clearly detailed in the document. In other cases, the standard is ambiguous or indicates that the details should be bilaterally agreed between the parties. In these cases this manual provides a detailed description to avoid any possible ambiguity.

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

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

2.1 SUPPORTED FIX MESSAGES

2.1.1 Administrative messages

Logon
Logout
Sequence Reset
Resend Request
Test Request
Heartbeat
Reject

2.1.2 Inbound Application messages

Application Message Request
Security Definition Request
Security Status Request
Price Reference Request

2.1.3 Outbound Application messages

Application Message Request Ack
Security Definition
Security Definition Update Report
Market Definition
Trading Session List
Security Status
Price Reference
AtTheMoneyUpdate

2.2 STREAMING REFERENCE DATA OVER FIX

Genium INET Market Data over FIX is implemented using Application Sequencing..

3 THE FIX SESSION

The session layer offers limited standard FIX session support. Ordinary FIX message recovery is not supported. The Resend Request message is supported, but it will always be responded to with a Sequence Reset – gap fill message.

Message recovery is instead supported via application sequencing. See chapter 4 for details.

3.1 COMPANY IDS

The Sender- and TargetCompID define the FIX session. A session can only be active (established) between two hosts simultaneously.

- The Company ID of the marketplace is "BI". This value must be set on:
  - TargetCompID of inbound transactions
  - SenderCompID of outbound transactions
- The Company ID of the client is the participant ID (UC followed by 5 character firm ID).. This id must be set on:
  - SenderCompID of inbound transactions
  - TargetCompID of outbound transactions

3.2 SENDERSUBID

Each inbound business transaction must have the SenderSubID (tag 50) field set to an authenticated user. See the User Authentication section for details on how to authenticate a user. The SenderSubID on incoming transactions will be echoed back in TargetSubID (tag 57) on outbound transactions.

3.3 USER AUTHENTICATION

Each incoming business transaction must have a username set in the SenderSubID field. The user needs must be authenticated for the transaction to be accepted. A user is authenticated by setting the Username (553) and Password (554) in the Logon message.

3.3.1 Renew passwords

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

3.3.2 Expired passwords

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

3.4 LOGON

At Logon, clients are identified by:
- CompIDs
- IP Address

The Logon Username (553) and Password (554) fields are used to authenticate the client. When the client is authenticated, the system responds with a Logon message to the client.

3.5 HEARTBEAT INTERVALS

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

3.6 ENCRYPTION

The system does not support encryption.

3.7 DATATYPES AND REQUIRED FIELDS

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

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

3.8 CHARACTER ENCODING

The FIX gateway uses standard US ASCII encoding.

3.9 SESSION LIFETIME

The FIX session lifetime is restricted to one trading day. Unlike ordinary FIX sessions the sequence number restarts at 1 after a disconnect or Logout. Message recovery using standard FIX Resend Requests is not supported. Application Sequencing is used for message recovery.

3.10 FAILOVER AND MESSAGE RECOVERY

Message recovery in this solution is based on Application Sequencing. A client must implement Application Sequencing in order to perform message recovery. For backward compatibility reasons the ordinary FIX session-level message recovery transactions are still supported. But the response to a Resend Request will be an empty Sequence Reset –gap fill message. See chapter 4 for details on Application Sequencing.

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

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

Failover is as simple as establishing a connection to a backup gateway, and perform message recovery as described above.

NOTE: A client is not allowed to have simultaneous active connections to both a primary and a backup gateway.

3.11 THE STANDARD HEADER

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
8	BeginString	Y	Identifies beginning of new message and protocol version. ALWAYS FIRST FIELD IN MESSAGE. Valid values: FIXT.1.1
9	BodyLength	Y	Message length, in bytes, forward to the CheckSum field. ALWAYS SECOND FIELD IN MESSAGE.
35	MsgType	Y	Defines message type ALWAYS THIRD FIELD IN MESSAGE.
49	SenderCompID	Y	As specified in separate agreement
50	SenderSubID		Required on inbound transactions. Must be set to a valid authenticated user.
56	TargetCompID	Y	As specified in separate agreement
57	TargetSubID		Should not be populated on inbound transactions. Will contain the value of incoming SenderSubID on outbound transactions.
34	MsgSeqNum	Y	Integer message sequence number.
52	SendingTime	Y	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT")

3.12 THE STANDARD TRAILER

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
10	CheckSum	Y	

3.13 MESSAGE DETAILS

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

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

3.13.2 Logon – inbound to Marketplace

The response to a logon is either a Logon, which denotes a successful logon, or a Logout.
A client must be prepared to handle failure scenarios including (but not limited to):

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

Silently ignore the Logon.

- If authentication fails (for security reasons).
- If the wrong Sender or Target CompID is specified.
- For other reasons specified in the standard FIX specifications.
- If the FIX gateway has no connection with the backend system. The gateway relies on the backend to persist its state.

Respond with a Logout.

- Logon failure for other reasons than authentication/security.
- The Logout response to a Logon will always contain a note on why in the Text (58) field.

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
108	HeartBtInt	Y	Heartbeat interval. Any value greater than 10 s is accepted.
141	ResetSeqNumFlag	Q	Indicates both sides of a FIX session should reset sequence numbers. Valid values: Y = Yes **NOTE**: This solution requires resetting the sequence numbers on each Logon. Application Sequencing is used to recover lost messages.
553	Username	Q	User
554	Password	Q	Password.
925	NewPassword		New Password
1137	DefaultApplVerID	Y	The default version of FIX messages used in this session. Valid values: 9 = FIX50SP2
	Standard Trailer	Y	

3.13.3 Logon – outbound from Marketplace

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = A
98	EncryptMethod	Y	Encryption not supported. Valid values: 0 = None / Other
108	HeartBtInt	Y	As specified in inbound Logon. Valid range: Greater than 10 s
141	ResetSeqNumFlag	Q	Indicates both sides of a FIX session should reset sequence numbers. Valid values: Y = Yes **NOTE**: This solution requires resetting the sequence numbers on each Logon. Application Sequencing is used to recover lost messages.
1409	SessionStatus	Q	Status of the FIX session. Valid values: 0 = Session Active 1 = Session password changed
1137	DefaultApplVerID	Y	The default version of FIX messages used in this session. Valid values: 9 = FIX50SP2
20002	DaysToPwdExpiry		Days to password expiration.
	Standard Trailer	Y	

3.13.4 Logout (in/out)

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = 5
1409	SessionStatus		Status of the FIX session. This field must only be set by the marketplace. Valid values: 0 = Session logout complete 1=Password changed 3= New session password does not comply with policy 4= Session logout complete 5 = Invalid password or user name 6 = Account locked 8 = Password expired 9 = Invalid Session Credentials 100 = Invalid body length – session suspended 101 = Heartbeat interval too low
58	Text		Free text
	Standard Trailer	Y	

3.13.5 Sequence Reset (in/out)

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

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = 4
123	GapFillFlag		
36	NewSeqNo	Y	
	Standard Trailer	Y	

3.13.6 Resend Request (in/out)

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = 2
7	BeginSeqNo	Y	
16	EndSeqNo	Y	
	Standard Trailer	Y	

3.13.7 Heartbeat (in/out)

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = 0
112	TestReqID		Identifier included in Test Request message to be returned in resulting Heartbeat. Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Y	

3.13.8 Test Request (in/out)

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

TAG NUM	FIX FIELD NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = 1
112	TestReqID	Y	Identifier included in Test Request message to be returned in resulting Heartbeat. Required when the heartbeat is the result of a Test Request message.
	Standard Trailer	Y	

3.13.9 Reject (out)

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

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

4 APPLICATION SEQUENCING

4.1 APPLICATION SEQUENCING DETAILS

FIX Application Sequencing is a new concept introduced in FIX 5.0. It allows for a more fine-grained subscription and recovery, where the receiver can dictate what content will be sent. As such, it is very suitable for Reference Data dissemination.

The enabling of reference data is initiated by the client, which sends an Application Message Request.

4.1.1 Application IDs

The Reference Data is separated into logical streams, called an Application. The Application is assigned a unique Application ID. Each Application is sequence numbered separately. When logged in, the client requests enabling/recovery of reference data by sequence number for each Application. Note that all Applications are sent over the same FIX session.

The Application ID used for Reference Data is:

APPL ID	TYPE OF DATA	COMMENT
R	Reference Data	A single Application ID for all reference data.

4.1.2 The ApplicationSequenceControl group

Every Reference Data message contains the ApplicationSequenceControl group. The group contains the Application ID and sequence number used in recovery. The receiver needs to track the sequence number for each application. ApplID (1180) contains the Application ID. Tag 1181, ApplSeqNum contains the sequence number.

ApplLastSeqNum contains the sequence number of the last sequence number sent for this Application ID on the current session. This allows gaps in the sequence. A receiver must check this field to avoid unnecessary resends.

The ApplResendFlag (1352) is only set on the responses to a request for resending of Application IDs that support full recovery. Full recovery is not available for Reference Data (see section 4.2.1 for details).

TAG NO	TAG NAME	COMMENT
1180	ApplicationSequenceControl/ ApplID	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Sequence number for this Application ID.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Last sequence number for this Application ID. Used to indicate gaps in the sequence.
1352	ApplicationSequenceControl/ ApplResendFlag	Set to Y if this message is a result of a resend. Valid values: Y = Yes N = No (default if not present)

4.1.3 The ApplIDRequestGrp

The ApplIDRequestGrp is a repeating group in the Application Message Request message that contains the requested sequence numbers for each Application ID. The following fields are used:

TAG NO	TAG NAME	COMMENT
1351	ApplIDRequestGrp/NoApplIDs	Number of Application IDs in this request.
1355	ApplIDRequestGrp/RefApplID	Application ID. Valid values: R = Reference Data
1182	ApplIDRequestGrp/ApplBegSeqNum	First requested sequence number. Ignored for non-recoverable Application IDs.
1183	ApplIDRequestGrp/ApplEndSeqNum	Only 0 (zero) is allowed (subscription will always be enabled.

4.2 REQUESTING AND RECOVERING REFERENCE DATA

In this solution Reference Data is sent to the client after an Application Message Request has been issued.

4.2.1 Limitations to Reference Data recovery

The Application Message Request also contains the application sequence numbers which governs recovery of lost data. Note that for reference data, full recovery is not supported. A request will result in enabling the real-time transmission of the data for the Application IDs in the request. The real-time data is preceded with an initial snapshot providing the current state. Regardless of the sequence numbers given in the request, the response will always start at the next sequence number with the real-time data (preceded with a possible snapshot).

4.2.2 Application Message Request

An Application Message Request is a general request to enable reference data as well as to recover lost reference data.

The message contains a repeating group with one entry for each *Application ID (see section 4.1.1 for a list of available applications).* Each Application ID present in the message enables the “subscription” on that type of data (given that the user is authorized to see said data).

REQUEST SEQUENCE NUMBERS

For each Application ID it is also possible to supply a start and end application sequence number to recover lost messages.

ApplEndSeqNum (1183) is used to define the end of a set of messages to recover. If it is set to 0 it means that a subscription is enabled. In this solution a request for an Application ID always enables the subscription, *ApplEndSeqNum must be set to 0.*

NOTE: As a consequence of always enabling a subscription, subsequent requests for the same Application ID after Logon will result in a reject.

ApplBegSeqNum (1182) is used to set the beginning of the messages to be sent.

- For the non-recoverable Application IDs this value is ignored. A snapshot will always be sent prior to the real-time messages.
- For the fully recoverable Application IDs, this value will dictate the starting point of the recovery. If ApplBegSeqNum is higher than the last sequence number, real-time messages will be enabled without any recovery.

NOTE: The receiver *must* keep track of the sequence numbers on each Application ID received to be able to recover in any situation where messages have been lost.

NOTE 2: Complete message recovery for all reference data is *not* possible.

The Response to an Application Message Request is an Application Message Request Ack. If the request was successful, the Ack will be followed by Reference Data messages.

4.2.3 Application Message Request Ack

The Application Message Request Ack (request ack) message is the response to an Application Message Request.

The ApplResponseType field (1348) signals if the request was successful or not.

5.2.3.1 SUCCESSFUL REQUESTS

For a completely successful request, the request ack will contain:

- ApplResponseType = 0 (Request successfully processed)

Following the Application Message Request Ack, the messages will always be sent in the following order:

1. Market Definitions
2. Trading Session List
3. Security Definitions
4. Security Statuses
5. Price References

NOTE: A request may fail for some Application IDs, but still be successful for other.

5.2.3.2 REQUESTS FAILING FOR ONE OR MORE APPLICATION IDS

If a request is made for a non-existent application id, the request ack will contain:

- ApplResponseType = 1 (application does not exist)
- ApplResponseError = 0 (application does not exist) for that Application ID.

If a request is made for an application already requested previously, the request ack will contain:

- ApplResponseType = 3 (Duplicate requests for application)
- ApplResponseError = 3 (Duplicate requests for application) for that Application ID.

If a request is made for an application with ApplEndSeqNum (1183) not set to 0 (zero), the following will be returned in the request ack:

- ApplResponseError = 1 for that Application ID.

5 REFERENCE DATA

5.1 INTRODUCTION

The systems allow the transmission of Security Definitions, Market Definitions, Security Statuses, Price References and Trading Session Lists. To enable Reference Data the receiver logs in and sends an Application Message Request.

An Application Message Request is a general request for reference data. The same message is also used to recover lost messages. A successful Application Message Request returns one or more Reference Data messages.

The System also supports requests for Security Status, Security Definition and Price Reference which will send out information for a single instrument without setting up a subscription. The unsolicited indicator (tag 325) will indicate if the Security Definition, Security Status or Price Reference message was sent out as part of a subscription or not.

5.2 REQUESTING REFERENCE DATA

In this solution Reference Data is sent to the client after an Application Message Request has been issued. All Reference Data messages are enabled by this single request. See chapter 4 for details.

The System also supports requests for Security Statuses, Security Definitions and Price References without setting up a subscription by sending in a Application Message Request.

5.3 MAIN WORKFLOW

5.3.1 Security Definition

The Security Definition is used to publish start-of-day reference data for each tradable security in the system. For intra-day updates the Security Definition Update Report is used. Price field and corporate action updates will not trigger a Security Definition Update Message.

5.3.2 Market Definition

The Market Definition message is used to publish information on the market structure of the marketplace. Each tradable security belongs to one market (represented by one Market Definition message).

5.3.3 Trading Session List

The Trading Session List message contains all trading states (Trading Sessions) the instruments can be in. It contains information on Trading Rules, Matching Rules, and allowed order types for each state.

NASDAQ OMX Extension: TradingSessionID (336) contains the actual ID of the state. Security Status messages also contain this ID to identify the state it refers to. This is in contrast to standard FIX where TradingSessionID contains enums such as DAY, HALFDAY etc.

5.3.4 Security Status

All session State change information is sent on the instrument level using the Security Status message. The Security Status message also contains information about last traded price and corporate actions.

5.3.5 Price Reference

Price reference contains reference price, current upper and lower limits, base price and previous day closing price for an instrument.

For price limits both the static and current price limits will be considered when this message is sent.
The disseminated range will be the smallest allowed range.

Example:
The static price limits are: 10.00 – 10.50
The dynamic price limits are: 10.10 – 10.60
Result: The disseminated price limits are: 10.10 – 10.50

When there is fixed matching there is no allowed price limit range. In such a case the upper and lower limit values sent in fix will be the same as the base price. When there is no price limits the upper and lower price limit tags will not be sent at all.

5.4 MESSAGE DETAILS

5.4.1 Security Definition (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = d
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
55	Symbol	Q	Short name.
107	SecurityDesc		Long name
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
167	SecurityType		Valid values: 1 = Options 2 = Forward 3 = Futures 4 = FRA 5 = Cash 6 = Payment 7 = Exchange Rate 8 = Interest rate swap 9 = REPO 11 = Combination 12 = Guarantee 13 = OTC general 14 = Equity warrant 15 = Security lending 17 = Strip 18 = Certificates
541	MaturityDate		Date of Maturity.
20041	NoCouponBlock		Number of listed coupons
→	223 CouponRate		
→	224 CouponPaymentDate		
306	UnderlyingIssuer		
231	ContractMultiplier		Specifies the ratio or multiply factor to convert from "nominal" units (e.g. contracts) to total units (e.g. shares).
1244	FlexibleIndicator		Used to indicate if a security has been defined as flexible according to "non-standard" means.
1242	FlexProductEligibilityIndictor		Used to indicate if a product or group of product supports the creation of flexible securities

711	NoUnderlyings			Number of underlying instruments. This group is only set if the instrument is derived from an underlying instrument. NOTE: Underlying information will only be set if the underlying is traded within the system.
→	311	UnderlyingSymbol		Underlying identity.
→	309	UnderlyingSecurityID		Orderbook ID of underlying
→	305	UnderlyingSecurityIDSource		Valid values: M = Marketplace-assigned identifier
→	318	UnderlyingCurrency		Underlying security's Currency.
21019	NoCollUnderlyings			Number of Collateral underlying instruments. This group is only set if the instrument have a related Collateral.
→	21020	CollUnderlyingSymbol		Underlying identity.
→	21021	CollUnderlyingSecurityID		Orderbook ID of underlying
→	21022	CollUnderlyingSecurityIDSource		Valid values: M = Marketplace-assigned identifier
→	21023	CollUnderlyingCurrency		Underlying security's Currency.
200	MaturityMonthYear			Specifies the month and year of maturity. Format: YYYYMM
201	PutOrCall			Indicates whether an option contract is a put or call. Valid values: 0 = Put 1 = Call
202	StrikePrice			Strike Price for an Option.
15	Currency			Currency of exercise / subscription / strike price
21001	InstClassification			Instrument classification grouping
20035	LastTradingDate			Date of Last Trading
20037	FirstTradingDate			Date of First Trading
20036	LastTradingTime			Time of Last Trading
20038	FirstTradingTime			Time of First Trading
20039	SectorCode			Sector Code
20040	SectorCodeDesc			Sector Code Description
225	IssueDate			
873	DatedDate			
454	NoSecurityAltID			Number of alternate Security Identifiers
	455	SecurityAltID		International Securities Identification Number (ISIN)
	456	SecurityAltIDSource		Valid values: 4 = ISIN number
555	NoLegs			Number of legs (for strategy/combination) instruments. NOTE: Only used for strategies.
→	600	LegSymbol		Short name of leg instrument.
→	602	LegSecurityID		Order book ID of leg instrument.
→	603	LegSecurityIDSource		Valid values: M = Marketplace-assigned identifier
→	623	LegRatioQty		The ratio of quantity for this individual leg relative to the entire multileg security.
→	624	LegSide		The side of this individual leg (multileg security). Valid values: B = As Defined

				C = Opposite
1310	NoMarketSegments		Q	Number of market segments on which the security is traded. Will always be 1.
→	1301	MarketID	Q	Name of the market
→	1300	MarketSegmentID		Market Segment Code. Valid Values: CMF = VIOP – EMTIA VIS – TRY CRF = VIOP – DOVIZ VIS – TRY CRFU = VIOP – DOVIZ VIS – USD CRO = VIOP – DOVIZ OPSIYON – TRY ENF = VIOP – ENERJI VIS – TRY ETF = VIOP – BORSA YATIRIM FONU VIS – TRY FGAP = BAP – GAP – TL FGRB = BAP – GCREPO-BANKALARARASI-TL FGRK = BAP-GCREPO-KUCUK-TL FGRN = BAP-GCREPO-NORMAL-TL FKEE = BAP-KES-EUR FKEK = BAP-KES-KUCUK-TL FKET = BAP-KES-NORMAL-TL FKEU = BAP-KES-USD FMKR = BAP-MKTR-TL FNYE = BAP-NIP-EUR FNYT = BAP-NIP-TL FNYU = BAP-NIP-USD FRPY = BAP-PAY REPO – TL FTAS = BAP-TAAHHUTLU-SUKUK-TL FTME = BAP-TEMERRUT-EUR FTMT = BAP-TEMERRUT-TL FTMU = BAP-TEMERRUT-USD FUTE = BAP-UTP-EUR FUTU = BAP-UTP-USD FIF = VIOP – YABANCI ENDEKSLER VIS – TRY G = PAY-GELISEN ISLETMELER PAZARI INF = VIOP – ENDEKS VIS – TRY INO = VIOP – ENDEKS OPSIYON – TRY IP = IHRAC PAZARI K = PAY-KOLLEKTIF&YAPILANDIRILMIS UR. PAZARI KCMH = KMP CUMHURIYET ALTINI KES = KESIN ALIM SATIM KFIX = KMP ALTIN FIKSING KLEN = KMP ODUNC PIYASASI KN1E = KMP ALTIN – S. DISI ve CEVHER (EUR) KN1T = KMP ALTIN – S. DISI ve CEVHER (TRY) KN1U = KMP ALTIN – S. DISI ve CEVHER (USD)

				KN2E = KMP GUMUS – S. DISI ve CEVHER (EUR) KN2T = KMP GUMUS – S. DISI ve CEVHER (TRY) KN2U = KMP GUMUS – S. DISI ve CEVHER (USD) KN3E = KMP PLATIN – S. DISI (EUR) KN3T = KMP PLATIN – S. DISI (TRY) KN3U = KMP PLATIN – S. DISI (USD) KN4E = KMP PALADYUM – S. DISI (EUR) KN4T = KMP PALADYUM – S. DISI (TRY) KN4U = KMP PALADYUM – S. DISI (USD) KS1E = KMP ALTIN – STANDART (EUR) KS1T = KMP ALTIN – STANDART (TRY) KS1U = KMP ALTIN – STANDART (USD) KS2E = KMP GUMUS – STANDART (EUR) KS2T = KMP GUMUS – STANDART (TRY) KS2U = KMP GUMUS – STANDART (USD) KS3E = KMP PLATIN – STANDART (EUR) KS3T = KMP PLATIN – STANDART (TRY) KS3U = KMP PLATIN – STANDART (USD) KS4E = KMP PALADYUM – STANDART (EUR) KS4T = KMP PALADYUM – STANDART (TRY) KS4U = KMP PALADYUM – STANDART (USD) KTEK = KMPALTIN TEK FIYAT MTF = VIOP – METAL VIS – USD N = PAY-ANA PAZAR ONF = VIOP – GECELIK REPO VIS – TRY PMF = VIOP – KIYMETLI MADENLER VIS – TRY PMFU = VIOP – KIYMETLI MADENLER VIS – USD Q = PAY-NITELIKLI YATIRIMCI ISLEMLERI PAZARI S = PAY-PIYASA ONCESI ISLEM PLATFORMU SSF = VIOP – PAY VIS – TRY SSO = VIOP – PAY OPSIYON – TRY W = PAY-YAKIN IZLEME PAZARI Z = PAY-YILDIZ PAZAR E = PAY-EMTIA PAZARI
→	1396	MarketSegmentDesc		Market Segment Name
→	1205	NoTickRules		Number of Tick Rules NOTE: Tick Rules are associated with the security, not with the market.
→	→	1206 StartTickPriceRange		Starting price range for specified tick increment
→	→	1207 EndTickPriceRange		Ending price range for the specified tick increment
→	→	1208 TickIncrement		Tick increment for stated price range. Specifies the valid price increments at which a security can be quoted and traded

→	21015	NoCollTickRules			Number of Tick Rules NOTE: Optinal Tick Rules that, if defined, are used when this security is used as collateral
→	→	21016	CollTickIncrement		Tick increment for stated price range. Specifies the valid price increments at which a security can be quoted and traded
→	→	21017	CollStartTickPriceRange		Starting price range for specified tick increment
→	→	21018	CollEndTickPriceRange		Ending price range for the specified tick increment
	1234	NoLotTypeRules			Number of Lot Types NOTE: Lot Types are associated with the security, not with the market.
→	→	1093	LotType		Lot Type. Valid values:2 = Round Lot 3 = Block Lot
→	→	1231	MinLotSize		Lot size of lot type specified in LotType(1093). To enter an order for this particular Lot Type MatchIncrement needs to be set to this value. Note that order quantity must be a multiple of this value.
→	→	21010	LotStartPrice		
→	→	21012	LotMaxTradeVol		The maximum order quantity that can be submitted for a security. It is valid only for Normal Limit Price Orders.
→	→	21013	LotMinQty		The minimum quantity of an order for the defined price level
→	→	21068	LotMinQuote		The minimum quote quantity that can be submitted for a security.
→	→	21069	LotMaxQuote		The maximum quote quantity that can be submitted for a security.
→	→	21009	LotDisplayHighQty		The maximum show quantity allowed in an order for the defined price level
→	→	21014	LotDisplayLowQty		The minimum show quantity allowed in an order for the defined price level
→	→	21011	LotDefaultQtyLimit		Default limit in case no price source series or closing price can be found
228	Factor				Price quotation factor
292	CorporateAction				Corporate Actions currently active for this security. Valid values: 01 = R.H. Kullandirilarak Bedelli Sermaye Art 02 = R.H. Kullandirilmadan Bedlli Sermaye Art 03 = Bedelsiz Sermaye Artirimi 04 = Sermaye Azaltimi 05 = Birlesme / Devralma 06 = Temettu 99 = Diger Important Note: When multiple corporate actions occur, tag 292 is sent with a space character between multiple values. (i.e. "292=01 03")
1150	TradingReferencePrice				Reference price.
21003	BasePrice				Base price.

1116	NoRootPartyIDs			Number of party id entries (used to show market makers for this security)
→	1117	RootPartyID	Q	Party identifier.
→	1118	RootPartyIDSource	Q	Valid values: D = Proprietary/Custom code
→	1119	RootPartyRole	Q	Identifies the type of role for the PartyID specified. Valid values: 35 = Liquidity Provider 66 = Market Maker
→	1120	NoRootPartySubIDs		Number if party id enteries (used to show market maker's obligation in this security
→	→	1121 RootPartySubID		Valid values: 11 = Market Hours Continuous Quoting 12 = Market Hours Quote Request 21 = Off Market Hours Continuous Quoting 22 = Off Market Hours Quote Request
→	→	1122 RootPartySubIDType		Valid value 4001 = Market Maker Obligations
21004	TradingMethod			The two character information field from the Instrument Class.
21005	GrossSettlement			Y if gross settlement is applied on the Instrument Class level, otherwise N.
916	StartDate			For Fixed-income market series, -Value1 date For equity market series, -First trading date for extra-ordinary series. None if no date is defined.
917	EndDate			For Fixed-income market series, -Value2 date For equity market series, Last trading date for extra-ordinary series. None if no date is defined.
577	ClearingInstruction			Values: 1= Clear against Central Counterparty 7 = Exclude from central counterparty
325	Unsolicited Indicator			Indicates whether the message is sent as a result of a subscription request or not. Will be 'N' in initial startup request to FIX client. Otherwise 'Y'.
21007	TradingSessionName			Name of the Trading Session
21008	PartitionId		Q	Which partition this security is traded on.
21026	DerivativeLevel			Specifies the level of derivation for the instrument. Valid values: 0 = Spot 1 = Derivative on a spot 2 = Derivative on a derivative of level 1
21027	NumberOfSharesIssued			Specifies the total number of shares issued for this security.
21028	PhysicalDelivery			Specifies whether the instrument is defined with physical delivery or not. Valid values: Y/N
21029	Multiplier			This is an optional field that provides additional information for Warrants/Certificates.

21030	Reference		This is an optional field that provides additional information for Warrants/Certificates.
21032	InstrumentType	Q	Instrument Type
21031	SeriesDesc	Q	Valid values: S – Standard Instrument NS – Non-Standard Instrument
1194	ExerciseStyle		Valid values:0 = European1 = American2 = Bermuda
965	SecurityStatus	Q	Valid values: 1 = Active2 = Inactive
1148	LowLimitPrice		Current lower limit for price limits.
1149	HighLimitPrice		Current upper limit for price limits.
5011	OrderMaxValue		Maximum order value, only applicable for equity market.
38	OrderQty		
159	AccuredInterestAmt		Amount of Accrued Interest for fixed income and fixed income derivatives
1948	CouponFrequencyPeriod		Time unit multiplier for the frequency of fixed income instruments coupon payment.
1949	CouponFrequencyUnit		Time unit associated with the frequency of fixed income instruments coupon payment.
1950	CouponDayCount		The day count convention used in interest calculations for fixed income instruments. Valid values: 1-US30360 4-EU30360 6- ACT360 7- ACT365 8- ACTAFB 9- ACTACT ISMA 17- ACT364
21059	CouponInterest		The coupon interest for the underlying. (Only applicable for interest-related fixed-income instruments.)
21055	OddFirstCoupon		Y if odd-first coupon is used, otherwise N.
21056	OddLastCoupon		Y if odd-last coupon is used, otherwise N.
21057	PremiumUnit		Order entry price unit Valid values: 1 – Price 2– Yield 3 – Point 7 – Basis point 8 – Clean price 9 – Dirty price 12 – Rate
21058	FixedIncomeType		Type of fixed-income underlying. Valid values: 12 – Type 1 Discounted securities 13 – Type 2 Fixed rate bonds 14 – Type 3A Variable rate bonds next coupon is known 15 – Type 4 Index linked strips 16 – Type 5 Index linked bonds 17 – Type 6 Euro bonds USD

				18 – Type 7 Euro bonds EUR 19 – Type 8A Irregular Clean price 20 – Type 3B Variable rate bonds next coupon is unknown 21 – Type 8B Irregular Dirty price 22- Type 10A TLREF linked bonds – Simple weighted average 23- Type 10B TLREF linked bonds – Compounded 24- Type 10C TLREF linked bonds – Index based
1940	AssetType			Valid values: Precious
1938	AssetClass			Valid values: 5 – Commodity
1939	AssetSubClass			Valid values: 13 – Metal
996	UnitOfMeasure			Metal weight unit. The certified weight of the precious metal. Valid values: KG – kilogram GR – gram OZ – Troy ounce
21061	FinenessNotation			The market convention for notation of the metal purity
21062	MetalWeightConversionFactor			The conversion factor is used to normalize the order and trade price
21060	Fineness			The purity of the metal, accurate to 4 decimal places. Valid range: 0.0001 to 1.0000
1147	UnitOfMeasureQty			The certified weight of the precious metal
21050	NoTradeReports			Number of Trade Reports.
→	21051	TradeReportCode		Number to be used in tag 828 TrdType in Trade Reports. Please refer to the list of supported Trade Type values supplied by the marketplace.
→	21052	MinTradeRepQty		Minimum quantity in Trade Report.
→	21053	MaxTradeRepQty		Maximum quantity in Trade Report.
→	21064	TrLotsize		Trade Report Lotsize
60	TransactTime			Dissemination time = Current time
2304	NoAssetAttributes			
→	2305	AssetAttributeType		Valid values: MetalType Shape Refinery
→	2306	AssetAttributeValue		Asset attribute values directly depend on previously selected type. For metal types: AU – gold AG – silver PT – platinum PD – palladium For shape types: BA – Bar MB – Mini Bar LB – Large Bar GB – Granule Bag NS – Non-standard OR – Ore For refinery types: I – GDL In

			O – GDL Out
21063	DaysToMaturity / Repo Term		Number of days to maturity date / repo term for Fixed-Income market series.
8000	ShortSaleRestriction		Indicates whether a restriction applies to short selling a security. Valid values: 0 = Undefined 1 = No restrictions 2 = Security is not shortable
21070	ShortSellValidation		Specify what Short Sell validation rule that should be used. This value is only used by the system for orders that are flagged as Short Sell. Valid values; 0 : No validation 1 : Price greater or equal to LTP 3 : Undefined
21065	IndexClassification		Specify a valid Index Classification
21066	ValueDate		Value date for underlying.
21067	ResetDate		
743	DeliveryDate		Delivery Start Date
21071	PositionIncreasingOrders		0 : Allowed 1 : Notice (*) 2 : Warning (*) 3 : Not Allowed (*) Currently unavailable, reserved for future use Only valid for Derivatives Market
21072	NumberOfDecimalInPrice		Number of decimals used in price for the order book.
21073	InstrumentClass		The Instrument class identity.
	Standard Trailer	Y	

5.4.2 Security Definition Request (in)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = c
320	SecurityReqID	Y	Client-generated identifier.
321	SecurityRequestType	Y	Type of Security Definition request. Valid values: 4 = Symbol
55	Symbol	Q	Short name.
	Standard Trailer	Y	

5.4.3 Security Definition Update Report (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = BP
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
980	SecurityUpdateAction	Q	Valid values: A = Add D = Delete M = Modify
55	Symbol	Q	Short name
107	SecurityDesc		Long name
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
167	SecurityType		Valid values: 1 = Options 2 = Forward 3 = Futures 4 = FRA 5 = Cash 6 = Payment 7 = Exchange Rate 8 = Interest rate swap 9 = REPO 11 = Combination 12 = Guarantee 13 = OTC general 14 = Equity warrant 15 = Security lending 17 = Strip 18 = Certificates
541	MaturityDate		Date of Maturity.
20041	NoCouponBlock		Number of listed coupons
	223 CouponRate		
	224 CouponPaymentDate		
306	UnderlyingIssuer		
231	ContractMultiplier		Specifies the ratio or multiply factor to convert from “nominal” units (e.g. contracts) to total units (e.g. shares).

1244	FlexibleIndicator			Used to indicate if a security has been defined as flexible according to "non-standard" means.
1242	FlexProductEligibilityIndictor			Used to indicate if a product or group of product supports the creation of flexible securities
711	NoUnderlyings			Number of underlying instruments. This group is only set if the instrument is derived from an underlying instrument. **NOTE**: Underlying information will only be set if the underlying is traded within the system.
→	311	UnderlyingSymbol		Underlying identity.
→	318	UnderlyingCurrency		Underlying security's Currency.
→	309	UnderlyingSecurityID		Orderbook ID of underlying
→	305	UnderlyingSecurityIDSource		Valid values: M = Marketplace-assigned identifier
21019	NoCollUnderlyings			Number of Collateral underlying instruments. This group is only set if the instrument have a related Collateral.
→	21020	CollUnderlyingSymbol		Underlying identity.
→	21021	CollUnderlyingSecurityID		Orderbook ID of underlying
→	21022	CollUnderlyingSecurityIDSource		Valid values: M = Marketplace-assigned identifier
→	21023	CollUnderlyingCurrency		Underlying security's Currency.
200	MaturityMonthYear			Specifies the month and year of maturity. Format: YYYYMM
201	PutOrCall			Indicates whether an option contract is a put or call. Valid values: 0 = Put 1 = Call
202	StrikePrice			Strike Price for an Option.
15	Currency			Currency of exercise / subscription / strike price
21001	InstClassification			Instrument classification grouping
20035	LastTradingDate			Date of Last Trading
20036	LastTradingTime			Time of Last Trading
20037	FirstTradingDate			Date of First Trading
20038	FirstTradingTime			Time of First Trading
20039	SectorCode			Sector Code
20040	SectorCodeDesc			Sector Code Description
225	IssueDate			
873	DatedDate			
454	NoSecurityAltID			Number of alternate Security Identifiers

	455	SecurityAltID		International Securities Identification Number (ISIN)
	456	SecurityAltIDSource		Valid Values: 4 = ISIN number
555	NoLegs			Number of legs (for strategy/combination) instruments. **NOTE**: Only used for strategies.
→	600	LegSymbol		Short name of leg instrument.
→	602	LegSecurityID		Order book ID of leg instrument.
→	603	LegSecurityIDSource		Valid values: M = Marketplace-assigned identifier
→	623	LegRatioQty		The ratio of quantity for this individual leg relative to the entire multileg security.
→	624	LegSide		The side of this individual leg (multileg security). Valid values: B = As Defined C = Opposite
1310	NoMarketSegments		Q	Number of market segments on which the security is traded. Will always be 1.
→	1301	MarketID	Q	Name of the Market
→	1300	MarketSegmentID		Market Segment Code. Valid Values: CMF = VIOP – EMTIA VIS – TRY CRF = VIOP – DOVIZ VIS – TRY CRFU = VIOP – DOVIZ VIS – USD CRO = VIOP – DOVIZ OPSIYON – TRY ENF = VIOP – ENERJI VIS – TRY ETF = VIOP – BORSA YATIRIM FONU VIS – TRY FGAP = BAP – GAP – TL FGRB = BAP – GCREPO-BANKALARARASI-TL FGRK = BAP-GCREPO-KUCUK-TL FGRN = BAP-GCREPO-NORMAL-TL FKEE = BAP-KES-EUR FKEK = BAP-KES-KUCUK-TL FKET = BAP-KES-NORMAL-TL FKEU = BAP-KES-USD FMKR = BAP-MKTR-TL FNYE = BAP-NIP-EUR FNYT = BAP-NIP-TL FNYU = BAP-NIP-USD FRPY = BAP-PAY REPO – TL FTAS = BAP-TAAHHUTLU-SUKUK-TL FTME = BAP-TEMERRUT-EUR

				FTMT = BAP-TEMERRUT-TL FTMU = BAP-TEMERRUT-USD FUTE = BAP-UTP-EUR FUTU = BAP-UTP-USD FIF = VIOP – YABANCI ENDEKSLER VIS – TRY G = PAY-GELISEN ISLETMELER PAZARI INF = VIOP – ENDEKS VIS – TRY INO = VIOP – ENDEKS OPSIYON – TRY IP = IHRAC PAZARI K = PAY-KOLLEKTIF&YAPILANDIRILMISUR. PAZARI KCMH = KMP CUMHURIYET ALTINI KES = KESIN ALIM SATIM KFIX = KMP ALTIN FIKSING KLEN = KMP ODUNC PIYASASI KN1E = KMP ALTIN – S. DISI ve CEVHER (EUR) KN1T = KMP ALTIN – S. DISI ve CEVHER (TRY) KN1U = KMP ALTIN – S. DISI ve CEVHER (USD) KN2E = KMP GUMUS – S. DISI ve CEVHER (EUR) KN2T = KMP GUMUS – S. DISI ve CEVHER (TRY) KN2U = KMP GUMUS – S. DISI ve CEVHER (USD) KN3E = KMP PLATIN – S. DISI (EUR) KN3T = KMP PLATIN – S. DISI (TRY) KN3U = KMP PLATIN – S. DISI (USD) KN4E = KMP PALADYUM – S. DISI (EUR) KN4T = KMP PALADYUM – S. DISI (TRY) KN4U = KMP PALADYUM – S. DISI (USD) KS1E = KMP ALTIN – STANDART (EUR) KS1T = KMP ALTIN – STANDART (TRY) KS1U = KMP ALTIN – STANDART (USD) KS2E = KMP GUMUS – STANDART (EUR)

					KS2T = KMP GUMUS – STANDART (TRY) KS2U = KMP GUMUS – STANDART (USD) KS3E = KMP PLATIN – STANDART (EUR) KS3T = KMP PLATIN – STANDART (TRY) KS3U = KMP PLATIN – STANDART (USD) KS4E = KMP PALADYUM – STANDART (EUR) KS4T = KMP PALADYUM – STANDART (TRY) KS4U = KMP PALADYUM – STANDART (USD) KTEK = KMPALTIN TEK FIYAT MTF = VIOP – METAL VIS – USD N = PAY-ANA PAZAR ONF = VIOP – GECELIK REPO VIS – TRY PMF = VIOP – KIYMETLI MADENLER VIS – TRY PMFU = VIOP – KIYMETLI MADENLER VIS – USD Q = PAY-NITELIKLI YATIRIMCI ISLEMLERI PAZARI S = PAY-PIYASA ONCESI ISLEM PLATFORMU SSF = VIOP – PAY VIS – TRY SSO = VIOP – PAY OPSIYON – TRY W = PAY-YAKIN IZLEME PAZARI Z = PAY-YILDIZ PAZAR E = PAY-EMTIA PAZARI
→	1396	MarketSegmentDesc			Market Segment Name
→	1205	NoTickRules			Number of Tick Rules **NOTE**: Tick Rules are associated with the security, not with the market.
→	→	1206	StartTickPriceRange		Starting price range for specified tick increment
→	→	1207	EndTickPriceRange		Ending price range for the specified tick increment
→	→	1208	TickIncrement		Tick increment for stated price range. Specifies the valid price increments at which a security can be quoted and traded
→	21015	NoCollTickRules			Number of Tick Rules NOTE: Optinal Tick Rules that, if defined, are used when this security is used as collateral

→	→	21016	CollTickIncrement		Tick increment for stated price range. Specifies the valid price increments at which a security can be quoted and traded
→	→	21017	CollStartTickPriceRange		Starting price range for specified tick increment
→	→	21018	CollEndTickPriceRange		Ending price range for the specified tick increment
→	1234	NoLotTypeRules			Number of Lot Types **NOTE**: Lot Types are associated with the security, not with the market.
→	→	1093	LotType		Lot Type. Valid values:2 = Round Lot 3 = Block Lot
→	→	1231	MinLotSize		Lot size of lot type specified in LotType(1093). To enter an order for this particular Lot Type MatchIncrement needs to be set to this value. Note that order quantity must be a multiple of this value.
→	→	21010	LotStartPrice		
→	→	21012	LotMaxTradeVol		The maximum order quantity that can be submitted for a security. It is valid only for Normal Limit Price Orders.
→	→	21013	LotMinQty		The minimum quantity of an order for the defined price level
→	→	21068	LotMinQuote		The minimum quote quantity that can be submitted for a security.
→	→	21069	LotMaxQuote		The maximum quote quantity that can be submitted for a security.
→	→	21009	LotDisplayHighQty		The maximum show quantity allowed in an order for the defined price level
→	→	21014	LotDisplayLowQty		The minimum show quantity allowed in an order for the defined price level
→	→	21011	LotDefaultQtyLimit		Default limit in case no price source series or closing price can be found
228	Factor				Price quotation factor
292	CorporateAction				Corporate Actions currently active for this security. Valid values: 01 = R.H. Kullandirilarak Bedelli Sermaye Art 02 = R.H. Kullandirilmadan Bedlli Sermaye Art 03 = Bedelsiz Sermaye Artirimi 04 = Sermaye Azaltimi 05 = Birlesme / Devralma 06 = Temettu

					99 = Diger Important Note: When multiple corporate actions occur, tag 292 is sent with a space character between multiple values. (i.e. "292=01 03")
1150	TradingReferencePrice				Reference price.
21003	BasePrice				Base price.
1116	NoRootPartyIDs				Number of party id entries (used to show market makers for this security)
→	1117	RootPartyID		Q	Party identifier.
→	1118	RootPartyIDSource		Q	Valid values: D = Proprietary/Custom code
→	1119	RootPartyRole		Q	Identifies the type of role for the PartyID specified. Valid values: 35 = Liquidity Provider 66 = Market Maker
→	1120	NoRootPartySubIDs			Number if party id enteries (used to show market maker's obligation in this security
→	→	1121	RootPartySubID		Valid values: 11 = Market Hours Continuous Quoting 12 = Market Hours Quote Request 21 = Off Market Hours Continuous Quoting 22 = Off Market Hours Quote Request
→	→	1122	RootPartySubIDType		Valid value 4001 = Market Maker Obligations
21004	TradingMethod				The two character information field from the Instrument Class.
21005	GrossSettlement				Y if gross settlement is applied on the Instrument Class level, otherwise N.
916	StartDate				For Fixed-income market series, -Value1 date For equity market series, -First trading date for extra-ordinary series. None if no date is defined..
917	EndDate				For Fixed-income market series, -Value2 date For equity market series, -First trading date for extra-ordinary series. None if no date is defined.
577	ClearingInstruction				Values: 2 = Clear against Central Counterparty 7 = Exclude from central counterparty
21007	TradingSessionName				Name of the trading session.
21008	PartitionId				Which partition this security is traded on.
21026	DerivativeLevel				Specifies the level of derivation for the instrument.

			Valid values: 0 = Spot 1 = Derivative on a spot 2 = Derivative on a derivative of level 1
21027	NumberOfSharesIssued		Specifies the total number of shares issued for this security.
21028	PhysicalDelivery		Specifies whether the instrument is defined with physical delivery or not. Valid values: Y/N
21029	Multiplier		This is an optional field that provides additional information for Warrants/Certificates.
21030	Reference		This is an optional field that provides additional information for Warrants/Certificates.
21032	InstrumentType	Q	Instrument Type
21031	SeriesDesc	Q	Valid values: S – Standard Instrument NS – Non-Standard Instrument
1194	ExerciseStyle		Valid values:0 = European1 = American2 = Bermuda
965	SecurityStatus	Q	Valid values: 1 = Active2 = Inactive
1148	LowLimitPrice		Current lower limit for price limits.
1149	HighLimitPrice		Current upper limit for price limits.
5011	OrderMaxValue		Maximum order value, only applicable for equity market.
38	OrderQty		
159	AccuredInterestAmt		Amount of Accrued Interest for fixed income and fixed income derivatives
1948	CouponFrequencyPeriod		Time unit multiplier for the frequency of fixed income instruments coupon payment.
1949	CouponFrequencyUnit		Time unit associated with the frequency of fixed income instruments coupon payment.
1950	CouponDayCount		The day count convention used in interest calculations for fixed income instruments. Valid values: 1-US30360 4-EU30360 6- ACT360 7- ACT365 8- ACTAFB 9- ACTACT ISMA 17- ACT364
21059	CouponInterest		The coupon interest for the underlying. (Only applicable for

			interest-related fixed-income instruments.)
21055	OddFirstCoupon		Y if odd-first coupon is used, otherwise N.
21056	OddLastCoupon		Y if odd-last coupon is used, otherwise N.
21057	PremiumUnit		Order entry price unit Valid values: 1 - Price 2 – Yield 3 - Point 7 - Basis point 8 – Clean price 9 – Dirty price 12 – Rate
21058	FixedIncomeType		Type of fixed-income underlying. Valid values: 12 – Type 1 Discounted securities 13 – Type 2 Fixed rate bonds 14 – Type 3A Variable rate bonds next coupon is known 15 – Type 4 Index linked strips 16 – Type 5 Index linked bonds 17 – Type 6 Euro bonds USD 18 – Type 7 Euro bonds EUR 19 – Type 8A Irregular Clean price 20 – Type 3B Variable rate bonds next coupon is unknown 21 – Type 8B Irregular Dirty price 22- Type 10A TLREF linked bonds – Simple weighted average 23- Type 10B TLREF linked bonds – Compounded 24- Type 10C TLREF linked bonds – Index based
1940	AssetType		Valid values: Precious
1938	AssetClass		Valid values: 5 – Commodity
1939	AssetSubClass		Valid values: 13 – Metal
996	UnitOfMeasure		Metal weight unit. The certified weight of the precious metal. Valid values: KG – kilogram GR – gram OZ – Troy ounce
21061	FinenessNotation		The market convention for notation of the metal purity
21062	MetalWeightConversionFactor		The conversion factor is used to normalize the order and trade price
21060	Fineness		The purity of the metal, accurate to 4 decimal places. Valid range: 0.0001 to 1.0000
1147	UnitOfMeasureQty		The certified weight of the precious metal

21050	NoTradeReports		Number of Trade Reports.
→ 21051	TradeReportCode		Number to be used in tag 828 TrdType in Trade Reports. Please refer to the list of supported Trade Type values supplied by the marketplace.
→ 21052	MinTradeRepQty		Minimum quantity in Trade Report.
→ 21053	MaxTradeRepQty		Maximum quantity in Trade Report.
→ 21064	TrLotsize		Trade Report Lotsize
60	TransactTime		Dissemination time = Current time
2304	NoAssetAttributes		
→ 2305	AssetAttributeType		Valid values: MetalType Shape Refinery
→ 2306	AssetAttributeValue		Asset attribute values directly depend on previously selected type. For metal types: AU – gold AG – silver PT – platinum PD – palladium For shape types: BA – Bar MB – Mini Bar LB – Large Bar GB – Granule Bag NS – Non-standard OR – Ore For refinery types: I – GDL In O – GDL Out
21063	DaysToMaturity / Repo Term		Number of days to maturity date / repo term for Fixed-Income market series.
8000	ShortSaleRestriction		Indicates whether a restriction applies to short selling a security. Valid values: 0 = Undefined 1 = No restrictions 2 = Security is not shortable
21070	ShortSellValidation		Specify what Short Sell validation rule that should be used. This value is only used by the system for orders that are flagged as Short Sell. Valid values; 0 : No validation 1 : Price greater or equal to LTP 3 : Undefined
21065	IndexClassification		Specify a valid Index Classification
21066	ValueDate		Value date for underlying.
21067	ResetDate		
743	DeliveryDate		Delivery Start Date
21071	PositionIncreasingOrders		0 : Allowed

			1 : Notice (*) 2 : Warning (*) 3 : Not Allowed (*) Currently unavailable, reserved for future use Only valid for Derivatives Market
21072	NumberOfDecimalInPrice		Number of decimals used in price for the order book.
21073	InstrumentClass		The Instrument class identity.
	Standard Trailer	Y	

5.4.4 Market Definition (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = BU
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
1394	MarketReportID	Y	Required in FIX. Will be set, but can be ignored.
1301	MarketID	Y	Five-character market identifier.
	Standard Trailer	Y	

5.4.5 Trading Session List (out)

TAG	FIX TAG NAME			REQ'D	COMMENT
	Standard Header			Y	MsgType = BJ
1180	ApplicationSequenceControl/ ApplID			Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum			Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum			Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
386	NoTradingSessions			Y	Number of Trading Sessions (states) listed in this message
→	336	TradingSessionID		Y	ID of Trading Session
→	1326	TradingSessionDesc		Q	Human-readable name of Trading Session
→	1237	NoOrdTypeRules			Will always be 1
→	→	40	OrdType		Shows whether Market orders are allowed in this state. Valid values: 1 = Market
→	1239	NoTimeInForceRules			Indicates number of allowed distinct order type rules
→	→	59	TimeInForce		Shows whether IOC or FOK orders are allowed in this state. Valid values: 3 = Immediate Or Cancel (IOC) 4 = Fill Or Kill (FOK)
→	1235	NoMatchRules			Will always be 1
→	→	1142	MatchAlgorithm		Required in FIX if group is present. Always set to [N/A]
→	→	574	MatchType		Valid values: 4 = Auto-match
→	20032	SessionStateTypeNumber			NASDAQExtension: The number used in TriggerTradingSessionID on an order to trigger it when this state occurs.
→	21024	OffHoursTrading			This flag indicates if a session is off hours or not
	Standard Trailer			Y	

5.4.6 Security Status Request (in)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = e
263	Subscription Request Type	Q	Subscription request type. Valid values: 0 = Snapshot

55	Symbol	Q	Short name.
324	SecurityStatusReqID	Q	Client-generated identifier.
	Standard Trailer	Y	

5.4.7 Security Status (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = f
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
55	Symbol	Q	Short name.
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
336	TradingSessionID		ID of Session State
326	SecurityTradingStatus		Will be sent out when a security is suspended or resumed. Values: 2 = Trading Halt 3 = Resume
325	Unsolicited Indicator		Indicates whether the message is sent as a result of a subscription request or not. **Will be 'N' in initial startup request to FIX client. Otherwise 'Y'.**
292	CorporateAction		Corporate Actions currently active for this security Valid values: 01 = R.H. Kullandirilarak Bedelli Sermaye Art 02 = R.H. Kullandirilmadan Bedlli Sermaye Art 03 = Bedelsiz Sermaye Artirimi 04 = Sermaye Azaltimi 05 = Birlesme / Devralma 06 = Temettu 99 = Diger Important Note: When multiple corporate actions occur, tag 292 is sent with a space character between multiple values. (i.e. "292=01 03")
31	LastPX		Last trade price in the related security in the last session. This price is not updated in real time after every trade.
	Standard Trailer	Y	

5.4.8 Price Reference Request (in)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = pp
55	Symbol	Q	Short name.
	Standard Trailer	Y	

5.4.9 Price Reference (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = pr
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
55	Symbol	Q	Short name.
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
325	Unsolicited Indicator	Q	Indicates whether the message is sent as a result of a subscription request or not. **Will be 'N' in initial startup request to FIX client. Otherwise 'Y'.**
1148	LowLimitPrice		Current lower limit for price limits.
1149	HighLimitPrice		Current upper limit for price limits.
1150	TradingReferencePrice		Reference Price
21003	Base Price		Base Price
21025	TheoreticalPrice		Theoretical Price
140	PrevClosePx		Previous day's closing price
60	TransactTime		Dissemination time = Current time
	Standard Trailer	Y	

5.4.10 At The Money Update (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = mm
1180	ApplicationSequenceControl/ ApplID	Q	Application ID. Valid values: R = Reference Data
1181	ApplicationSequenceControl/ ApplSeqNum	Q	Application sequence number assigned to the message by the application generating the message.
1350	ApplicationSequenceControl/ ApplLastSeqNum	Q	The previous sequence number in the application sequence stream. Permits an application to publish messages with sequence gaps where it cannot be avoided.
55	Symbol	Q	Short name.
48	SecurityID	Q	Orderbook ID
22	SecurityIDSource	Q	Valid values: M = Marketplace-assigned identifier
202	Strike Price	Q	Strike Price for an Option
541	MaturityDate	Q	Date of maturity. Additional Note:

			At-The-Money Maturity Date may differ from Maturity Date at the Securtiy Definition\Security Definition Update message(s). Maturity Date may be changed after it is created due to Derivatives Market decision. In case of this change, ATM Maturity Date shows original expiration date.
21054	ATMPrice	Q	At-The-Money price.
21003	BasePrice	Q	Used base Price
201	PutOrCall	Q	Indicates whether an option contract is put or call
60	TransactTime		Dissemination time = Current time
	Standard Trailer	Y	

5.4.11 Application Message Request (in)

TAG	FIX TAG NAME		REQ'D	COMMENT
	Standard Header		Y	MsgType = BW
1346	ApplReqID		Y	Unique identifier for request
1347	ApplReqType		Y	Type of Application Message Request being made. Valid values: 1 = Subscription to the specified Applications
1351	NoApplIDs			Number of Application IDs in this request
→	1355	RefApplID	Q	Application ID requested. Valid values: R = Reference Data
→	1182	ApplBegSeqNum		Sequence number of first message to be resent.
→	1183	ApplEndSeqNum		Last Sequence number of message to be resent or 0 (zero) for all messages.
	Standard Trailer		Y	

5.4.12 Application Message Request Ack (out)

TAG	FIX TAG NAME	REQ'D	COMMENT
	Standard Header	Y	MsgType = BX
1353	ApplResponseID	Y	Identifier for the Application Message Request Ack
1346	ApplReqID	Q	Identifier of the request associated with this ACK message
1347	ApplReqType	Q	Type of Application Message Request being made. Valid values: 1 = Subscription to the specified Applications
1348	ApplResponseType	Q	Used to indicate the type of acknowledgement being sent. Valid Values: 0 = Request successfully processed 1 = Application does not exist 2 = Messages not available 3 = Duplicate requests for application (NASDAQ OMX Extension)
1351	NoApplIDs		Number of Application IDs in this request
→	1355 RefApplID		Application ID requested. Valid values: R = Reference Data
→	1182 ApplBegSeqNum		Sequence number of first message to be resent.
→	1183 ApplEndSeqNum		Last Sequence number of message to be resent or 0 (zero) for all messages.
→	1354 ApplResponseError		Valid values: 0 = Application does not exist 1 = Messages requested are not available 3 = Duplicate requests for application (NASDAQ OMX Extension)
58	Text		
	Standard Trailer	Y	

6 APPENDIX A, NASDAQ OMX EXTENSIONS

This chapter details how this solution deviates from standard FIX 5.0 SP2. While great care has been taken to conform to the standard, a number of deviations are unavoidable to support all mechanisms provided by the host.

There are different types of deviations from the standard:

- Fields added. A few user defined fields had to be added to accommodate back-end functionality not present in FIX 5.0 SP2.
- Enumerated values added. Some fields have added enums.
- Field definition changed.

6.1 ADDED FIELDS

FIELD	NAME	ADDED TO MESSAGE	COMMENT
20002	DaysToPwdExpiry	Logon	int
577	ClearingInstruction	Security Definition Security Definition Update Report	int
20032	SessionStateTypeNumber	Trading Session List	int
20035	LastTradingDate	Security Definition Security Definition Update Report	Date
21001	InstClassification	Security Definition Security Definition Update Report	String
21003	BasePrice	Security Definition Security Definition Update Report Price Reference At The Money Update	Price
21004	TradingMethod	Security Definition Security Definition Update Report	String
21005	GrossSettlement	Security Definition Security Definition Update Report	Boolean
21007	TradingSessionName	Security Definition Security Definition Update Report	String
21008	PartitionId	Security Definition Security Definition Update Report	String
21009	LotDisplayHighQty	Repeating Group: NoLotTypeRules	Qty
21010	LotStartPrice	Repeating Group: NoLotTypeRules	Price
21011	LotDefaultQtyLimit	Repeating Group: NoLotTypeRules	Boolean
21012	LotMaxTradeVol	Repeating Group: NoLotTypeRules	Qty
21013	LotMinQty	Repeating Group: NoLotTypeRules	Qty
21014	LotDisplayLowQty	Repeating Group: NoLotTypeRules	Qty
21015	NoCollTickRules	Security Definition Security Definition Update Report	int
21016	CollTickIncrement	Repeating Group: NoCollTickRules	Price
21017	CollStartTickPriceRange	Repeating Group: NoCollTickRules	Price
21018	CollEndTickPriceRange	Repeating Group: NoCollTickRules	Price

21019	NoCollUnderlyings	Security Definition Security Definition Update Report	int
21020	CollUnderlyingSymbol	Repeating Group: NoCollUnderlyings	String
21021	CollUnderlyingSecurityID	Repeating Group: NoCollUnderlyings	String
21022	CollUnderlyingSecurityIDSource	Repeating Group: NoCollUnderlyings	String
21023	CollUnderlyingCurrency	Repeating Group: NoCollUnderlyings	String
21024	OffHoursTrading	Repeating Group: NoMatchRules	Boolean
21025	TheoreticalPrice	Price Reference	Price
21026	DerivativeLevel	Security Definition Security Definition Update Report	int
21027	NumberOfSharesIssued	Security Definition Security Definition Update Report	Qty
21028	PhysicalDelivery	Security Definition Security Definition Update Report	Boolean
21029	Multiplier	Security Definition Security Definition Update Report	String
21030	Reference	Security Definition Security Definition Update Report	String
21031	SeriesDesc	Security Definition Security Definition Update Report	String
21032	InstrumentType	Security Definition Security Definition Update Report	String
21050	NoTradeReports	Security Definition Security Definition Update Report	int
21051	TradeReportCode	Repeating Group: NoTradeReports	int
21052	MinTradeRepQty	Repeating Group: NoTradeReports	Qty
21053	MaxTradeRepQty	Repeating Group: NoTradeReports	Qty
21054	AtTheMoneyPrice	At The Money Update	Price
21063	DaysToMaturity / Repo Term	Security Definition Security Definition Update Report	int

6.2 ADDED ENUMERATIONS

ENUMERATION	ADDED TO FIELD NAME	COMMENT
100 = Invalid body length in received message, session suspended 101 = Heartbeat interval too low	SessionStatus	
101 = All or None Lot (NASDAQ OMX Extension enum)	LotType	
1 = Options 2 = Forward 3 = Futures 4 = FRA 5 = Cash 6 = Payment 7 = Exchange Rate	SecurityType	

8 = Interest rate swap 9 = REPO 11 = Combination 12 = Guarantee 13 = OTC general 14 = Equity warrant 15 = Security lending 17 = Strip 18 = Certificates		
101 = Trade Report Close 102 = System Available	TradSesStatus	
3 = Duplicate requests for application	ApplResponseType	
3 = Duplicate requests for application	ApplResponseError	

6.3 FIELD DEFINITION CHANGED

No field definitions changed.

7 REVISION HISTORY

DATE	REVISION	CHANGE DESCRIPTION
June 24, 2014	0.1	Initial version.
August 8, 2014	0.2	Added new FIX messages
September 3, 2014	0.3	Updating the newly added fix messages with correct fields.
September 12, 2014	0.4	Added tag 21007 and changed tag 1301 to 1396
October 17, 2014	0.5	Added all BIST possible values for tag 167 (Security Type)
November 19, 2014	0.6	Added new logotype.
December 3, 2014	0.7	Added MarketID to Security Definition and Security Definition Update Report. Also added Unsolicited indicator to Security Definition. Added information regarding exact match and 0 price limits.
January 26, 2015	0.8	Removed MarketSegmentDesc from marketDefinition message. Added Security status and Price reference to section 5.3.2.1
February 12, 2015	0.9	Added description for corporate action updates.
March 16, 2015	0.9.1	Added Liquidity Provider as a valid partyrole for tag 1119
April 7, 2015	0.9.2	Added possible values to tags 292, 1300 and 21007
June 9, 2015	0.9.3	Added tag 20002 to logon out message.
July 10, 2015	0.9.4	Tag 340 is no longer required in trading session list message.
August 17, 2015	0.9.5	Tag 336 is removed from the price reference message.
September 21, 2015	0.9.6	Updating the disclaimer.
Febuary 1, 2016	0.9.7	Removed prv_ts from the TradingSessionName
April 23, 2015	1.0.0	Creating initial version for phase 2
September 14,2015	1.0.2	Phase 2 specific changes and including updates from phase 1.
February 5, 2016	1.0.3	Added tag 21024 to Trading session list, rootpartysubIdGroup to security definition, AtTheMoneyMessage. Added tags 21030, 21031, 1194, 965, 21032, 1148, 1149 and the noTradeReports group to the security definition message.
February 25, 2016	1.0.4	Added derivative trading sessions to TradingSessionName
Mars 14, 2016	1.0.5	Added additional info to tags 21026-21030 for Security Definition and security definition update messages.
Mars 16, 2016	1.0.6	Corrected MsgType tag in Chapter AtTheMoneyUpdate (out) message. Added tag 21025 to Chapter Price Reference (out).
April 5, 2016	1.0.7	Removed tag 340 from Chapter Trading Session List and Trading Session List (out).
		Added new outbound message AtTheMoneyUpdate
		Added new tag 1244/FlexibleIndicator to Security Definition (out) and Security Definition Update Report (out)
		Added new tag 1242/FlexProductEligibilityIndictor to Security Definition (out) and Security Definition Update Report (out)
		Added new group 21019/NoCollUnderlyings to Security Definition (out) and Security Definition Update Report (out)
		Added new group 21015/NoCollTickRules to Security Definition (out) and Security Definition Update Report (out)
		Added new tags 21010/LotStartPrice, 21013/LotMinQty, 21009/LotDisplayHighQty, 21014/LotDisplayLowQty, 21011/LotDefaultQtyLimit to NoLotTypeRules group in Security Definition (out) and Security Definition Update Report (out)

DATE	REVISION	CHANGE DESCRIPTION
		Replaced tag 1140/MaxTradeVol with 21012/LotMaxTradeVol
		Added new group 1120/NoRootPartySubIDs
		Removed two allowed values (1 = Odd Lot and A = All or None Lot (NASDAQ Extension enum)) from tag 1093/LotType
		Added new message “AtTheMoneyUpdate (out)”
June 24, 2016	1.0.8	Updated Revision History table by adding missing entries when compared to phase 1 documentation
July 27, 2016	1.0.9	Added new SecurityType value “11 = Combination”
August 4, 2016	1.0.10	Added/updated comments for tags 21013, 21009, 21014, 21011, 228, 21051, 1300, 1237, 1239, 1235, 31.
October 24, 2016	1.0.11	Updated list of custom fields. Removed duplicate definition of tag 21028 from Security Definition and Security Definition Update Report messages.
November 15, 2016	1.0.12	Updated the list of valid values for tag 1121 RootPartySubID.
November 16, 2016	1.0.13	Copyright and disclaimer change
June 14,2017	1.0.14	Added new tags to the Security Definition and Security Definition Update Report messages: 38,159,996,1147,1938,1939,1940,1948,1949,1950,2304,2305,2306,5011,21055,21056,21057,21058,21059,21060,21061,21062
October 16,2017	1.0.15	Added new tags to the Security Definition and Security Definition Update Report messages: 223,224,306 Updated the list of valid values for tags 21057 and 1300
January 8,2018	1.0.16	Updated the list of valid values for tags 21057 and 1950
January 15,2018	1.0.16	Added new SecurityType value “17 = Strip”
January 30,2018	1.0.17	Added new tags to Security Definition and Security Definition Update Report messages: 107, 20036, 20037, 20038, 20039, 20040, 225, 873
February 22,2018	1.0.18	Added new tag to Security Definition and Security Definition Update Report messages: 20041
May 07, 2018	1.0.19	Edit in NoCollTickRules Group
May 16, 2018	1.0.20	Updated “Number of Tick Rules” repeating group.
August 9, 2018	1.0.21	Updated tags to Security Definition and Security Definition Update Report messages: 916, 917 Added new tag to Security Definition and Security Definition Update Report messages: 21063
February 13, 2018	1.0.22	167 tag values typo is updated.
March 26, 2018	1.0.23	The “Shortsalerestriction” – tag 8000 information and The “TrLotsize” – tag 21064 information are available over FIX RD in the outbound Security Definition/Security Definition Update Report messages.
April 18, 2019	1.0.24	• Added new values to tag 1409 for Logout message(MsgType=5)
October 22, 2019	1.0.25	Added new values (22, 23, 24) to tag 21058 for Security Definition (out) (MsgType = d) and Security Definition Update Report (out) (MsgType = BP)
February 6, 2020	1.0.26	Updated syntax error; 3.13.4 Logout(tag 1409), 3.13.9 Reject(tag 373), 5.4.1 Security Definition(tag 21057), 5.4.3 Security Definition Update Report(tag 21057),

DATE	REVISION	CHANGE DESCRIPTION
		5.4.5 Trading Session List(tag 59) 6.2 ADDED ENUMERATIONS
February 18, 2020	1.0.27	Added new tag 21065 (IndexClassification) and tag 21066 (ValueDate) for Security Definition (out) (MsgType = d) and Security Definition Update Report (out) (MsgType = BP)
May 22, 2020	1.0.28	Added new tag 21067 (ResetDate) for Security Definition (out) (MsgType = d) and Security Definition Update Report (out) (MsgType = BP)
April 5, 2021	1.0.29	Added new tag 743 (DeliveryDate) for Security Definition (out) (MsgType = d) and Security Definition Update Report (out) (MsgType = BP) Updated commnet of 159 tag as "Amount of Accrued Interest for fixed income and fixed income derivatives"
May 13, 2022	1.0.30	Added new tags to Security Definition and Security Definition Update Report messages: 21068 (LotMinQuote), 21069 (LotMaxQuote)
October 27, 2023	1.0.31	Added new tag to Security Definition and Security Definition Update Report messages: 21070 ShortSellValidation (Enable with Service Release 3.01)
November 28, 2023	1.0.32	Added a new enumeration (2) to tag 21070 (Enable with Service Release 3.01)
March 6, 2024	1.0.33	Updated 541(Maturity Date) tag comment in "At the Money Update" message. Added new tag to Security Definition and Security Definition Update Report messages: 21071 PositionIncreasingOrders (Enable with Service Release 3.10)
June 10, 2024	1.0.34	59 tag value is corrected.
July 23, 2024	1.0.35	Decription of tags 292 and 1300 are updated.
September 10, 2024	1.0.36	Added new tags to Security Definition and Security Definition Update Report messages: 21072 NumberOfDecimalInPrice 21073 InstrumentClass (Enable with Service Release 3.11)
November 14, 2024	1.0.37	The enumeration of ShortSellValidation (tag21070) has been updated.
November 15, 2024	1.0.38	The enumeration of ShortSaleRestriction(tag8000) and ShortSellValidation (tag21070) has been updated.