The Derivatives Service Bureau (DSB)

FIX Rules of Engagement

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Proprietary Information

Contents

Preface

Change History

Date	Change	Version	Author	Revision Details
20 September 2016	Creation	0.1	Yuval Cohen	Initial Version
27 March 2017	Amendments	1.0 RC1	Yuval Cohen	Minor corrections Addition of error scenarios Additions of message samples Additional information about Product definitions Support FIX version 4.4 Branded for DSB Amended examples based on new product schema
2 May 2017	Minor typos	1.01 RC1	Yuval Cohen	Minor typo corrections
10 May 2017	Amendment	1.02 RC1	Yuval Cohen	Added AssetClass(1938) to SecurityDefinition[35=d]
19 June 2017	Amendment	1.02 RC1	Sheryl Tan	Added NoRelatedSym (146) Added "2 = No Instruments found that match selection criteria" to SecurityRequestResult (560)
28 July 2017	Additions	2.00 RC1	Yuval Cohen	Added clarifications about the number of inflight messages. Added workflows: - Search by attributes - Test for ISIN existence Added Business Message Reject
10 August 2017	Clarifications	2.01 RC1	Yuval Cohen	Clarifications about SubID, username and password.
30 August 2017	Amendment	2.02 RC1	Wernher Suratos	-Updated Section 2.2.3 to reflect latest product definitions -Updated samples to reflect latest product definitions on the following Sections 6.1, 6.4, 6.6, 6.7, and 6.10
20 September 2017	Addition	3.00 RC1	Yuval Cohen	Additions for MiFiD II (ToTV) workflows
9 October 2017	Amendment	3.01 RC1	Yuval Cohen	Amendment to subscription of ToTV records New sections 4.7, and appendix. Changed section 5.4
3 November 2017	Addition	3.02 RC1	Yuval Cohen	Added ToTV example
16 November 2017	Addition / Clarification	3.03 RC1	Yuval Cohen	Added SecurityListType(147) in SecurityList(35=y).
6 February 2018	Amendment	3.50 RC1	Yuval Cohen/ Natalia Kozlovich	Changes to subscription to ToTV Changes in sections: 4.7, 5.4 and 5.5 Section 2.4.5 added
21 February 2018	Amendment	3.60 RC1	Sheryl Tan	Updated Section 4.5 Search for ISIN or ToTV Records by Attributes
7 April 2018	Amendment	3.70 RC1	Kurt Aquino	Updated Section 4.2 Retrieve or Create ISIN Record by Attribute

1 Introduction

1.1 Document Purpose

This specification defines the implementation of the Financial Information eXchange (FIX) protocol by the DSB [The Derivatives Service Bureau (DSB) limited] for the purpose of determining the ISIN for a financial instrument. In doing so it aims to provide a comprehensive reference guide to any such institutions who wish to establish FIX connectivity to the DSB.

FIX is a public-domain specification owned and maintained by FIX Protocol, Ltd. For more information about the FIX protocol, including a list of vendors providing support, see http://www.fixtradingcommunity.org.

1.2 Intended Audience

Anyone with an interest in determining ISINs for financial OTC derivatives instruments using the FIX Protocol.

1.3 Scope

This document focuses on the use of the FIX Protocol to define and query for ISINs for OTC derivative financial products.

1.4 Contact Information

Please direct your questions on the FIX interface via email technical.support@anna-dsb.com

1.5 Functional Summary

The DSB FIX interface provides a near real time service to determine ISINs for OTC derivative financial instruments. The financial instrument is defined by a set of attributes determined by the industry as required to assure uniqueness for each type of financial instrument supported by the DSB service.
The interface is based on the FIX Protocol and once connected to DSB, the client is able to create a new ISIN, search for one (or more) ISINs or subscribe to all ISINs.

1.6 Activity Diagram Summary

The following diagram illustrates, the DSB FIX interface:

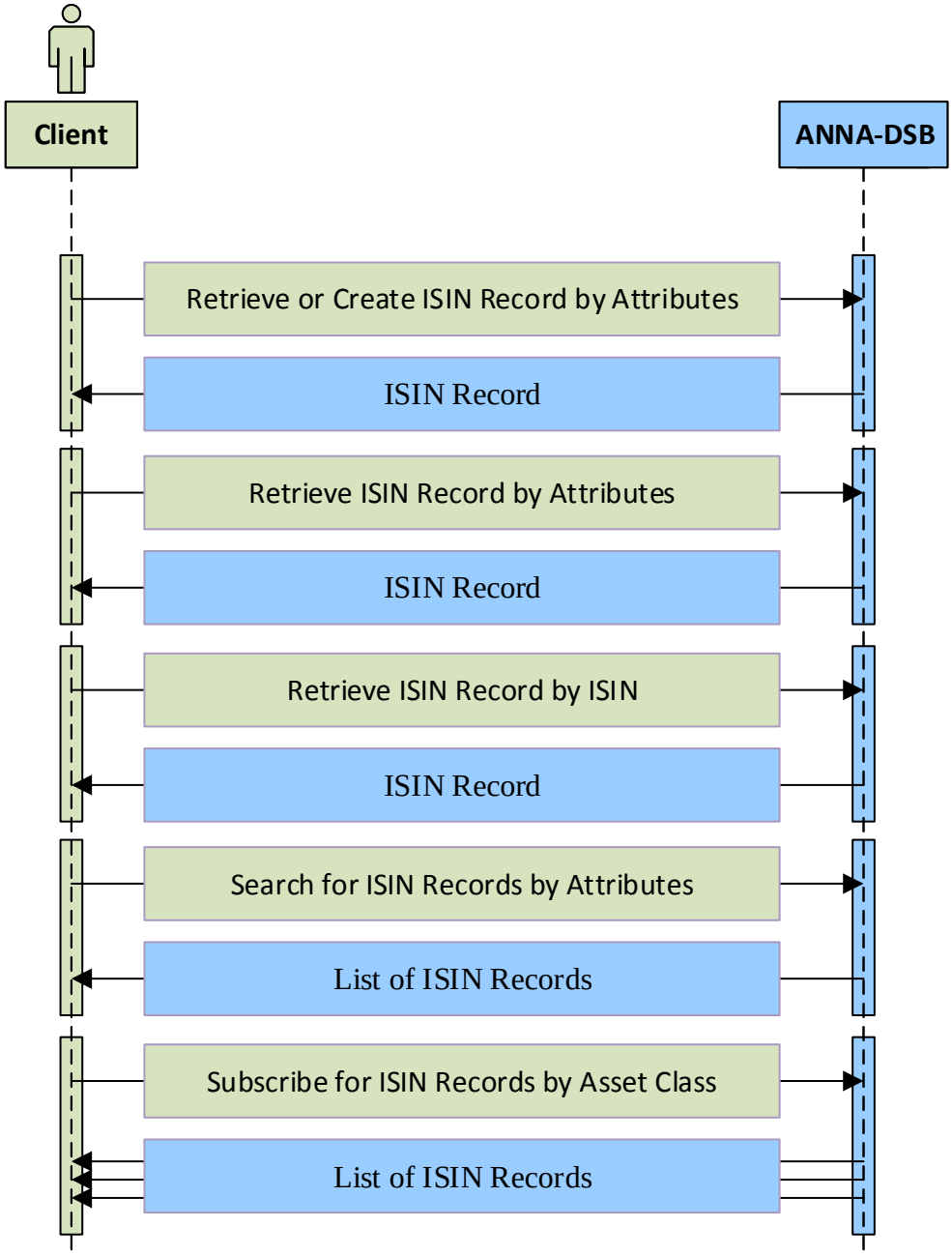

Diagram 1: Activity Diagram

1.7 Document Structure

This document contains the following sections:

Section Number	Title	Description
Section 1	Introduction	A brief introduction to this document providing background to the purpose of the document and the DSB FIX interface.
Section 2	Site Preparation	Provides details of the FIX implementation and the tasks that are required before connectivity can take place.
Section 3	FIX Session Messages	Documents the messages that are employed in the FIX Session Layer and some notes on message formatting.
Section 4	FIX Application Messages	Provides details of the application message flows that are supported DSB.
Section 5	FIX Message Reference	Contains the definitions of the application messages that are supported by the DSB FIX interface including all attributes and enumerations.
Section 6	Message Samples	Some sample FIX messages that illustrate the possible contents of the supported FIX messages.

2 Site Preparation

2.1 Introduction

The following preparation is required to connect to the DSB FIX interface:

- Select the FIX version to use: DSB FIX interface supports FIX5.0SP2 as well as FIX 4.4
- DSB operations will provide the following connectivity parameters:
    - FIX specific “channel identifier” that the counterparty will use to communicate with DSB FIX interface.
    - FIX session identifiers
        - CompID (SenderCompID and TargetCompID)– Identifies the entity that connects to the DSB over FIX
        - SubID (SenderSubID and TargetCompID)- identifies the specific message originator; Where the connection is from an intermediary the CompID identifies the intermediary, whilst the SubID identifies the end user.
    - DSB authorization and authentication
        - Username – Used by the DSB to authorise the user
        - Password - Used by the DSB to authenticate the user
    - IP addresses of the DSB FIX engine
    - Encryption methodology and parameters i.e. either TLS(SSL) keys or VPN configuration
- Make any network/firewall configuration changes required to connect to the DSB FIX service. Verify that the DSB IP FIX service addresses/port numbers are open and visible from any machine that needs to connect to the FIX service.
- Configure the local FIX engine with the DSB CompID accordingly.

2.2 JSON Product Definitions Representation as JSON Schema

2.2.1 Product Definitions

The DSB Product Committee defines the set of Product Definitions for all OTC derivatives in scope and any future changes or additions will be made under the advisement of the Product Committee. Each Product Definition can be identified by:

- Asset Class
- Instrument Type
- Use case
- Level

Further information about the Product Definition will be available on our web-site.

2.2.2 JSON and JSON Schema

JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others. JSON Schema describe existing data format in a clear, human and machine readable documentation and provides complete structural validation which are useful to validate the client submitted data.

JSON standards are available in ECMA-404 as well as in RFC-7159.

JSON Schema standards are available in: JSON-SCHEMA-04

2.2.3 Product Definition as JSON Schema

The Product Definitions are formatted as a machine readable format in a set of JSON schema files, which are made available by the DSB system. Users are expected to use these JSON schema when requesting an ISIN numbers via FIX messaging.

For each Product Definition there are two JSON schema files:

1	**File**: Request schema file **Description**: a schema that defines the attributes in order to request a new ISIN **Naming Convention**: Request.<AssetClass>.<InstrumentType>.<UseCase>.<Level>.json **Example of a name:** Request.Rate.Swap.Fixed_Fixed.InstRefDataReporting.json
2	**File**: Record schema file **Description**: a schema that defines the attributes in the ISIN record which is returned from the DSB **Naming Convention**: <AssetClass>.<InstrumentType>.<UseCase>.<Level>.<Version>.json **Example of a name:** Rate.Swap.Fixed_Fixed.InstRefDataReporting.V1.json

The example for the name above is for a Product Definition where:

- Asset Class = Rate
- Instrument Type = Swap
- Use Case = Fixed_Fixed
- Level = InstRefDataReporting

The (Template) Version is added for backwords compatibility to the record file only

- Template Version = V1

2.2.4 Using JSON Schema

This subsection lists some of the main tasks and procedures to interact with the DSB system

1. User needs to obtain the up-to-date JSON schema
    I. JSON schema are available to download from the DSB web-site (in the file-download section)
    II. JSON schema are also available through GitHub in: https://github.com/ANNA-DSB
2. To request a new ISIN, the user needs to:
    I. Select a 'Request' JSON schema. Each Request JSON Schema can be uniquely identified by four attributes:
        - Asset Class
        - Instrument Type
        - Use Case
        - Level
    II. Format the required instrument and supply its attributes as a valid *JSON request for an instrument record* based on the Request JSON Schema
    III. "Wrap" the *JSON request for an instrument record* within a SecurityDefinitionRequest FIX message [message type = c]
3. User may send the SecurityDefinitionRequest over the FIX session to DSB. This message contains a *JSON request for an instrument record* in tag SecurityXML(1185)
4. The DSB will reply with a SecurityDefinition FIX message [message type = d]
5. In case the Security Definition Request succeeds, then the SecurityDefinition FIX message contains a *JSON instrument record* in FIX tag SecurityXML (1185)
6. To parse the *JSON instrument record,* the user needs to:
    I. Extract the TemplateVersion attribute and Header which contains:
        - Asset Class
        - Instrument Type
        - Use Case
        - Level
    II. Select the relevant JSON record schema that matches above attribute
    III. Continue to parse additional attributes in the *JSON instrument record* as it must be a valid record based on the schema found above

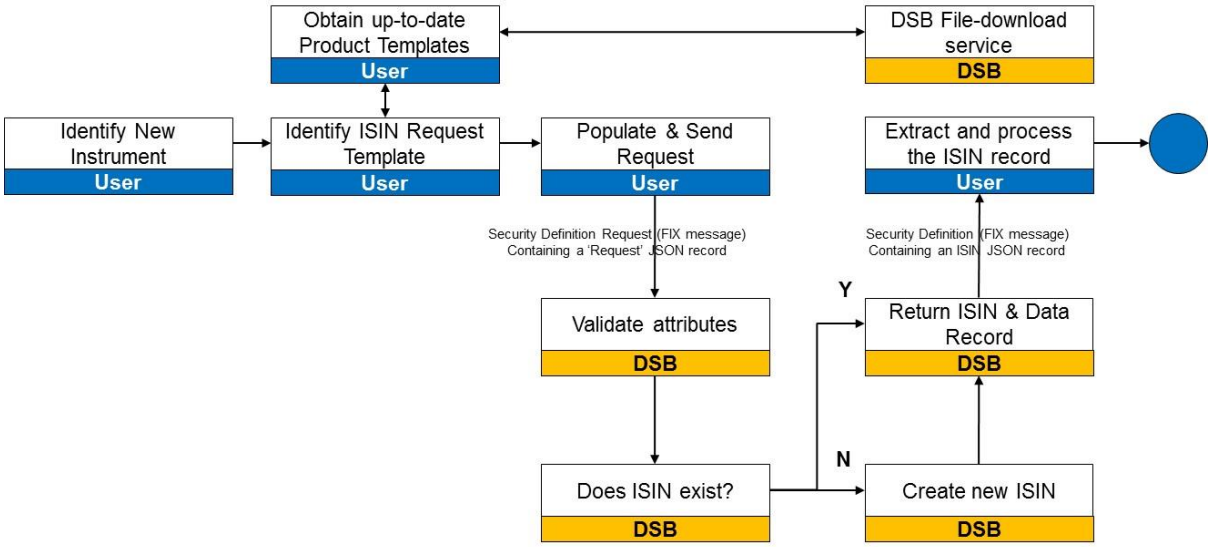

Diagram 2: Using JSON Schema

2.3 MiFiD II Data (ToTV)

The DSB provides access to a composite instruments records that are available in FiRDS reference data or in FiRDS transparency data
The business requirements as well as the methodology to create and update these records are available in: https://github.com/ANNA-DSB/ToTV-uToTV
The ToTV records are reported as JSON records based on the JSON schema that is available in: https://github.com/ANNA-DSB/ToTV-uToTV

The ToTV records contain:

- The entire ISIN record, if such is available in the DSB
- All the reference data that was reported in FiRDS aggregated by MIC
- The transparency thresholds like pre-trade and post-trade 'large in scale' (LIS) and 'instrument size specific' (SSTI) and others.
- Derived flags like the ToTV and uToTV flag.
- The last modified date of the record

Users can indicate in the FIX API if they would like to receive DSB ISIN records or ToTV records.

2.4 FIX Protocol Implementation Notes

The DSB FIX interface supports a subset of the FIX specification. The latest versions of the FIX specification documents can be found at http://www.fixtradingcommunity.org
This document is not meant to restate the FIX specification, but rather to explain how DSB FIX service has chosen to interpret certain aspects of the protocol.

2.4.1 Data Format Notes

DSB FIX interface supports tag/value formatting. No FIXML support.

2.4.2 Data Encryption

Internal FIX encryption (using Logon field 98) will not be supported by the DSB FIX interface implementation. Data security is addressed at the communications level through the use of private circuits.

2.4.3 Restricting number of inflight messages

According to the DSB Acceptable User Policy, the DSB restrict users to send a single SecurityDefinitionRequest[35=c] at a time. i.e. users are expected to wait for a response (message SecurityDefinition[35=d]) before sending the next SecurityDefinitionRequest[35=c] message. Messages of type SecurityDefinitionRequest[35=c] that are sent in “a burst” (i.e. without waiting for a response) may be rejected with a BusinessMessageReject(35=j) message.

2.4.4 Throttling: Restrict multiple inflight messages

The DSB FIX interface restrict users to send only a single message type at a time. Users expected to wait for a response from the DSB before sending the next message of the same type.

The DSB will send a BusinessMessageReject[35=j] in case users sends too many messages without waiting for a response.

2.4.5 Restricting number of weekly calls per user

According to the DSB Acceptable User Policy, the DSB restricts number of weekly calls per user for ISIN search requests as well as ISIN creation requests (see (h) in 2.3). ToTV search requests are also capped, but the ToTV search request cap is separate to the ISIN search requests cap and does not reduce it.

Users connected via an API must not undertake to send the DSB Service more than 100,000 ToTV search requests (SecurityDefinitionRequest[35=c] having SecurityRequestType(321)= Product(6)) in any given calendar week across all API connections.

3 FIX Session Messages

3.1 Standard Header Fields

The message header contains information necessary for routing of all FIX messages.
Fields that are defined in the FIX specification but are not included in the following table will be ignored.

Name	Datatype	Tag	Rq	Description
BeginString	String	8	Y	FIX 5.0: Always set to: FIXT.1.1 FIX 4.4: Always set to: FIX4.4
BodyLength	Length	9	Y	Message length, in bytes, forward to the CheckSum field. Always the second field of the message.
MsgType	String	35	Y	Always the third field of the message. Supported values: 0 = Heartbeat 1 = TestRequest 2 = ResendRequest 3 = Reject 4 = SequenceReset 5 = Logout A = Logon j = BusinessMessageReject c = SecurityDefinitionRequest d SecurityDefinition x = SecurityListRequest y = SecurityList
ApplVerID	String	1128	Y	FIX 5.0: Field must contain: 9 = FIX50SP2 FIX 4.4: Field must contain: 6 = FIX44
SenderCompID	String	49	Y	Assigned value used to identify firm sending message.
TargetCompID	String	56	Y	Assigned value used to identify receiving firm
MsgSeqNum	SeqNum	34	Y	Integer message sequence number.
PossDupFlag	Boolean	43	N	Indicates possible retransmission of message with this sequence number. Supported values: N = Original transmission Y = Possible duplicate
SendingTime	UTCTimestamp	52	Y	Time of message transmission.
OrigSendingTime	UTCTimestamp	122	N	Original time of message transmission when retransmitting as the result of a resend request.
SenderSubID	String	50	N	According to the FIX Standard
SenderLocationID	String	142	N	According to the FIX Standard
TargetSubID	String	57	N	According to the FIX Standard
TargetLocationID	String	143	N	According to the FIX Standard

3.2 Standard Trailer Fields

The message trailer is included on all FIX messages.

Name	Datatype	Tag	Rq	Description
CheckSum	String	10	Y	As per FIX specification

3.3 Heartbeat (35=0) Message

Heartbeat messages are sent at regular intervals to maintain a FIX session during periods of inactivity and to validate both parties are connected. The processing of these messages is per the FIX specification and the heartbeat interval is specified in the HeartBtInt (108) field of the Logon message.

3.4 Logon (35=A) Message

Logon message contains authentication information for a user attempting to establish a FIX connection. FIX counterparties should not send any FIX messages to DSB FIX interface until after a Logon acknowledgment has been received.

The Logon message is used to establish a FIX session and the session is always initiated by the counterparty. DSB FIX interface will always be the server listening for Logon requests. Each time a connection is established to the DSB FIX interface, the counterparty must send a Logon message. DSB FIX interface will send a Logon message in response to indicate that a session has been successfully established (or re-established).

Name	Data Type	Tag	Rq	Description
<StandardHeader> component			Y	MsgType = A
EncryptMethod	int	98	Y	This will be set to 0. 0 = None / Other
HeartBtInt	int	108	Y	DSB FIX interface will set this value to 30 seconds by default.
ResetSeqNumFlag	Boolean	141	N	Indicates both sides of a FIX session should reset sequence numbers N = No Y = Yes, reset sequence numbers
MaxMessageSize	Length	383	N	Can be used to specify the maximum number of bytes supported for messages received
Username	String	553	**Y**	Userid or Username Mandatory for Logon messages from the sender.
Password	String	554	**Y**	Mandatory for Logon messages from the sender.
DefaultApplVerID	String	1137	Y	FIX 5.0: Field must contain: 9 = FIX50SP2 FIX 4.4: Field must contain: 6 = FIX44
<StandardTrailer> component			Y	

Notes:

- If a counterparty's Logon request cannot be accepted because a session is already active, the communications line will be dropped immediately.
- If a counter party's Logon request cannot be accepted due to an authentication failure, the communications line will be dropped immediately.
- FIX sessions will be reset each weekend. Message sequence numbers are assumed to begin with "1" at the start of each session. In some cases, FIX sessions may be reset during the day upon re-connection.

3.5 TestRequest (35=1) Message

DSB FIX interface will send a TestRequest message to force a Heartbeat message from the client if inactivity is detected for a period longer than the specified interval in the client's Logon message. If inactivity continues for a second heartbeat interval,
DSB FIX interface will send a Logout message and break the TCP/IP connection. The client is required to implement the same logic.

3.6 ResendRequest (35=2) Message

ResendRequest messages can be sent and received by DSB FIX interface. The processing of these messages is as per the FIX specification.

3.7 Reject (35=3)

Reject messages can be sent and received by DSB FIX interface. The processing of these messages is as per the FIX specification.

3.8 SequenceReset (35=4) Message

SequenceReset messages can be sent and received by DSB FIX interface. The processing of these messages is as per the FIX specification.

3.9 Logout (35=5) Message

Logout messages can be sent and received by DSB FIX interface. The processing of these messages is as per the FIX specification.

4 FIX Message Flows

4.1 Introduction

This section looks at the messages that will be supported by DSB FIX interface.

4.2 Retrieve or Create ISIN Record by Attribute

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Request Security identity for the specifications provided(1) is used to create an ISIN record for a financial instrument or return the existing record if the ISIN record already exists. The financial instrument is defined by a *JSON instrument request* object provided in the "record" within the body of the request.

The input SecurityDefinitionRequest(35=c) must contain a "record" component within SecurityXML(1185) where the financial instrument is provided.

The FIX API service will first search for an existing ISIN that has identical attributes as the record (up to normalization, see section 6 in: DSB UAT Product Definition.pdf) and if such an ISIN exists, the result record will contain the ISIN.

If such an ISIN does not exist, the DSB will create a new ISIN for this request.

In both cases, provided the request is valid, the resulting record will contain an ISIN. The client will not be able to tell if the ISIN was just allocated or if it existed prior to this call.

Please note that multiple requests (array) in a single creation of a record is not supported.

The following diagram illustrates the workflow:

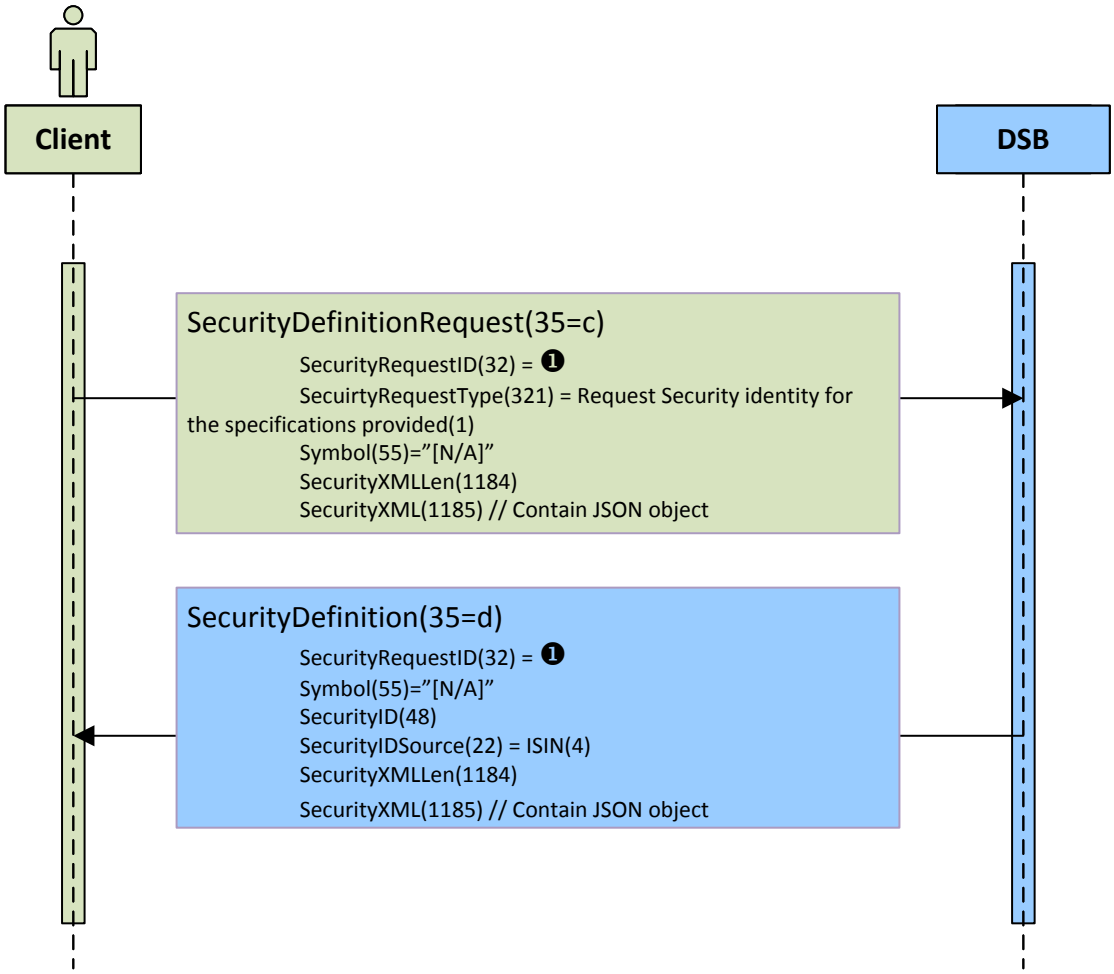

Diagram 3: Retrieve or Create ISIN Record by Attribute

4.2.1 Expected Results

The following table contains possible attributes' values of the SecurityDefinition (35=D) message:

Scenario	Security Request Result (560)	Information is available in Text(58) attribute	Expected user action
Valid request: ISIN and JSON payload are available	Valid request(0)	✘	
Conditional attribute is missing **Malformed of JSON product payload** **Invalid value in one of the JSON product payload**	Invalid Or Unsupported Request(1)	✓	Correct the FIX message or the payload
User is not permitted to create an ISIN	Not Authorized To Retrieve Instrument Data (3)	✓	Check tags: Username(553) and Password(554) on the Logon message. Contact Support
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	✘	Contact Support

4.3 Retrieve ISIN Record by Attributes

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Symbol(4) is used to return the existing record if the ISIN record already exists. This workflow guarantees that no new record will be added to the system.
The financial instrument is defined by a *JSON instrument request* object provided in the "record" within the body of the request.

The input SecurityDefinitionRequest(35=c) must contain a "record" component within SecurityXML(1185) where the financial instrument is provided.

The FIX API service will first search for an existing ISIN that has identical attributes as the record (up to normalization, see section 6 in: DSB UAT Product Definition.pdf) and if such an ISIN exists, the result record will contain the ISIN.

If such an ISIN does not exist, then the ISIN record is still returned, including attributes such as the CFI and FISN, but without the ISIN itself and the record is not added to the system.

The following diagram illustrates the workflow:

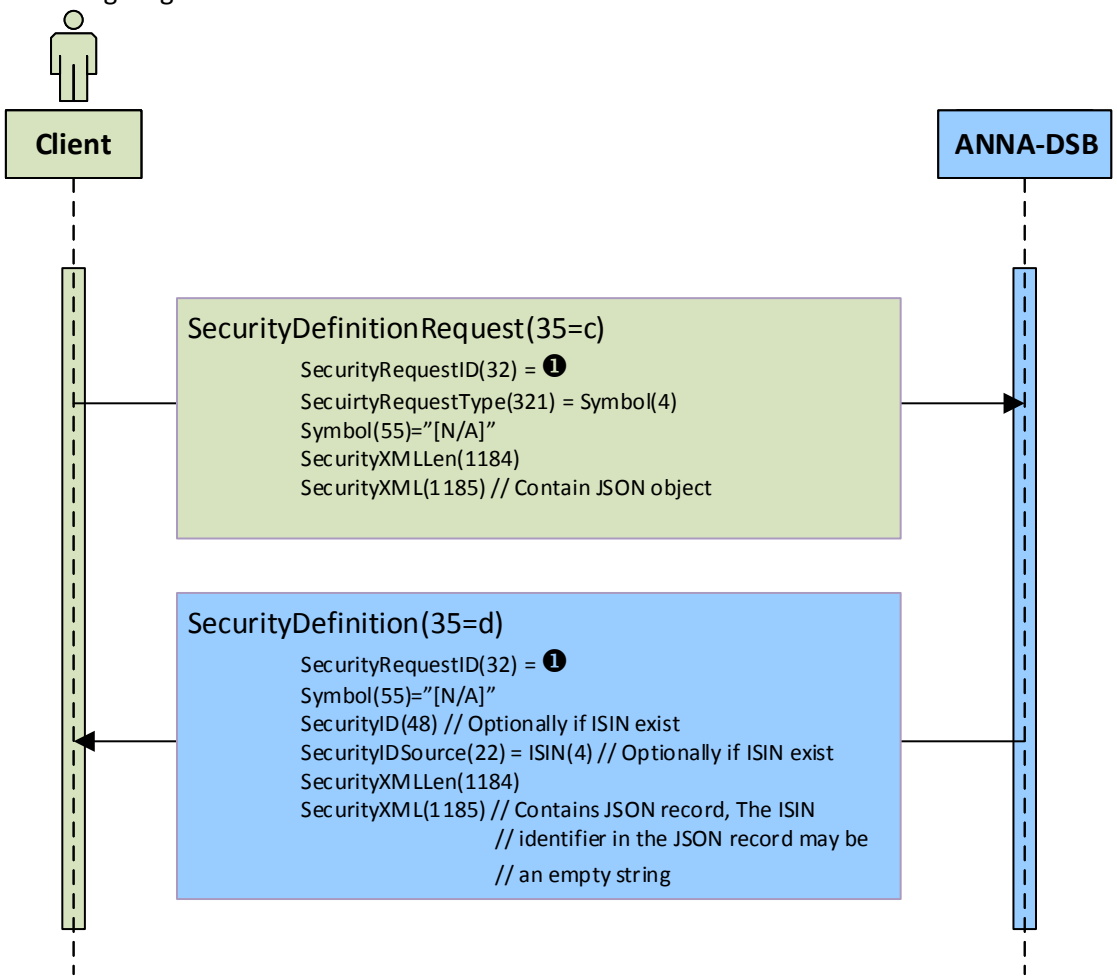

Diagram 4: Retrieve or Create ISIN Record by Attributes

4.3.1 Expected Results

The following table contains possible attributes' values of the SecurityDefinition (35=D) message:

Scenario	Security Request Result (560)	Information is available in Text(58) attribute	Expected user action
Valid request: JSON payload is available in SecurityXML(1185) and it contains a valid ISIN identifier	Valid request(0)	✘	
Valid request: JSON payload is available in SecurityXML(1185) yet the ISIN identifier is empty. Other attributes like the CFI and FISN are populated.	No instruments found that match selection criteria(2)	✘	
Conditional attribute is missing Malformed of JSON product payload Invalid value in one of the JSON product payload	Invalid Or Unsupported Request(1)	✓	Correct the FIX message or the payload
User is not permitted to create an ISIN	Not Authorized To Retrieve Instrument Data (3)	✓	Check tags: Username(553) and Password(554) on the Logon message. Contact Support
System is unavailable Any other internal error	Instrument Data Temporarily Unavailable(4)	✘	Contact Support

4.4 Retrieve ISIN or ToTV Record by ISIN

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Request Security identity and specifications(0) is used to return the ISIN Record for an existing ISIN.
The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Product(6) is used to return the ToTV Record for an existing ISIN.
The ISIN is specified in SecurityID(tag 48). The SecurityIDSource(22) is set to ISIN(4).

The following diagram illustrates the workflow:

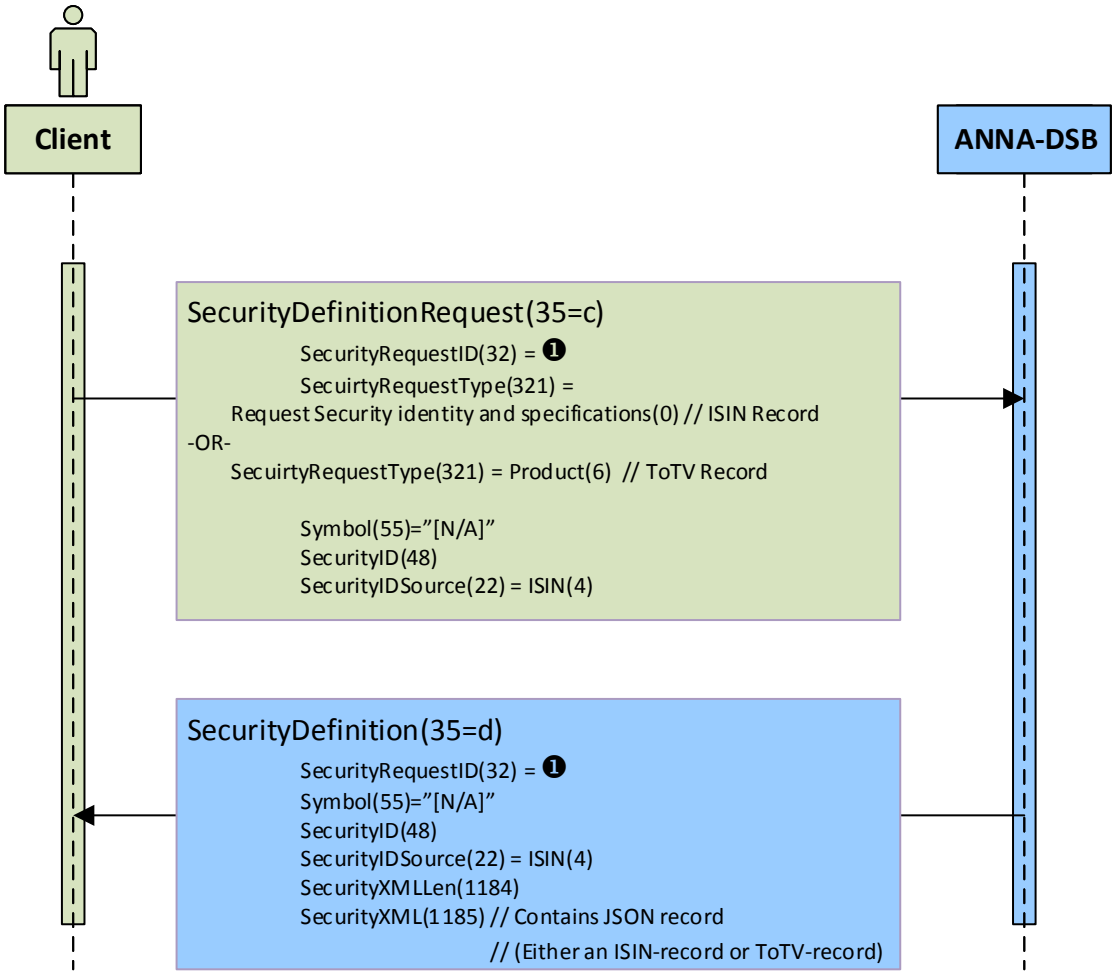

Diagram 5: Request the OTC product definition for an ISIN

4.4.1 Expected Results

The following table contains possible attributes' values of the SecurityDefinition (35=D) message:

Scenario	Security Request Result (560)	Information is available in Text(58) attribute
ISIN and product definitions are available	Valid request(0)	✘
ISIN does not exist	No Instruments Found(2)	✓

4.5 Search for ISIN or ToTV Records by Attributes

The SecurityListRequest(35=x) having SubscriptionRequestType(263) = Snapshot(0), ApplSeqNum(1181)=0 and non-empty Text(58) is used to search for records that match the supplied criteria that is provided in the Text(58) tag.

By default, the search is for ISIN records. To search for ToTV records, there is a need to add SecurityListType(1470)=100 to the SecurityListRequest(35=x) message. Single ISIN only can be specified in the search criteria for the ToTV data.

The response message is SecurityList(35=y). A valid response contains:

- SecurityRequestResults(560)=Valid Request(0)
- TotNoRelatedSym(393): The total number of ISIN records that matches the search criteria
- NoRelatedSym(146): The number of ISIN records in this message
- ApplSeqNum(1181): as supplied by the user

The message may contain up to 1,000 records.

If TotNoRelatedSym(393) is greater than NoRelatedSym(146), user may increment ApplSeqNum(1181)=0 and send the SecurityListRequest(35=x) message again to retrieve the next set of results.

When there are no matching records the SecurityList(35=y) response message contains:

- SecurityRequestResults(560)=No instruments found that match selection criteria(2)
- TotNoRelatedSym(393) = 0

The following diagram illustrates the workflow:

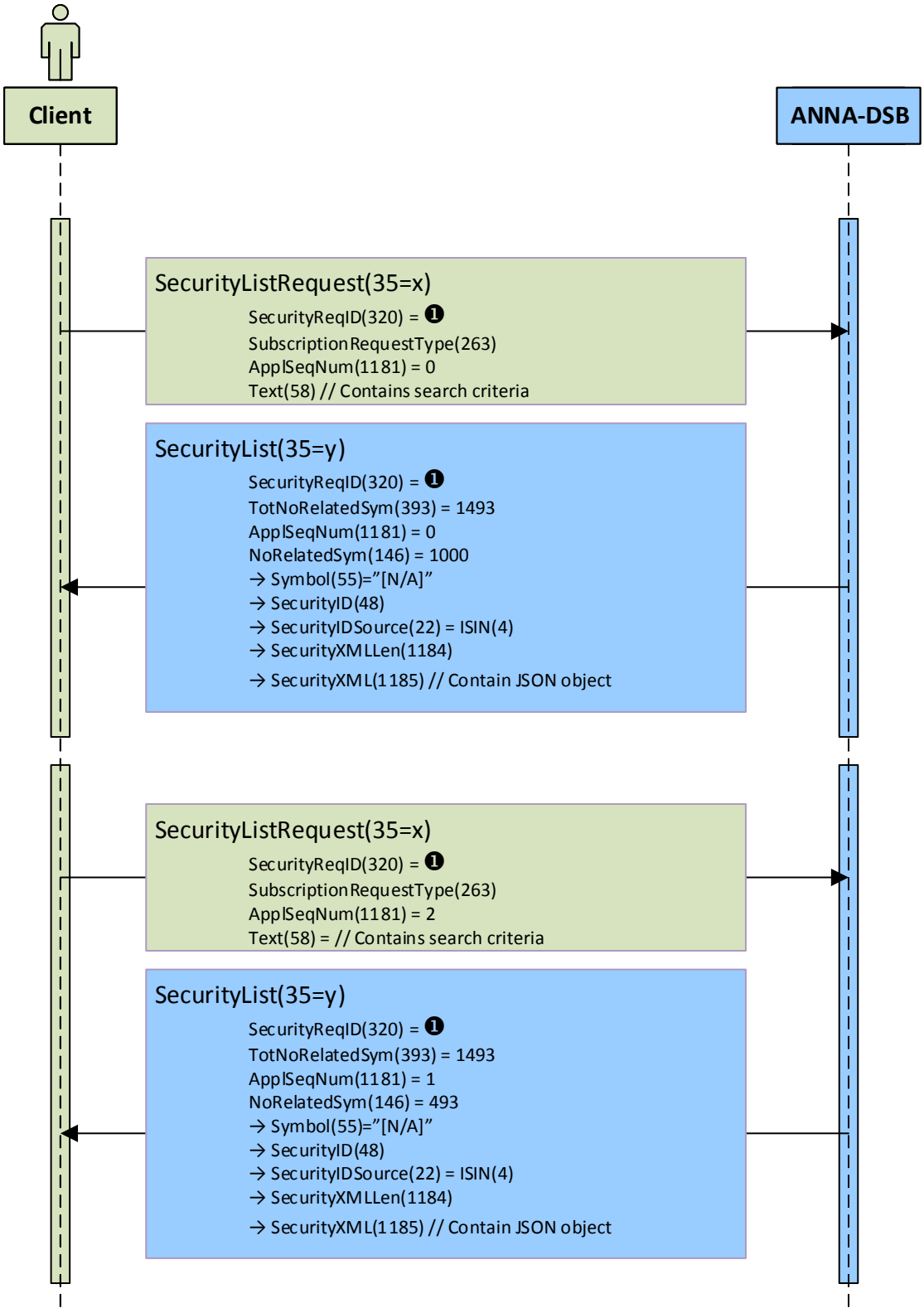

Diagram 6: Search for Records by Attributes

4.5.1 Expected Results

The following table contains possible attributes' values of the SecurityList (35=y) message:

Scenario	Security Request Result (560)	Expected user action
Valid Request	Valid request(0)	
Conditional attribute is missing **Invalid attributes' value on the Request**	Invalid Or Unsupported Request(1)	Correct the FIX message
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact Support

4.6 Subscribe to ISIN Records

The SecurityListRequest(35=x) is used to subscribe to Records. The list of Records that were created or updated today (UTC time) are returned in SecurityList(35=y) message(s). The client can subscribe to receive either a snapshot or snapshot and updates.

Clients may filter the request to retrieve ISIN Records of only a single asset class by attaching AssetClass(1938) attribute to the message.

The records may be sent by the server in several SecurityList(35=y) messages. The server by default will not send more than 1,000 Records in a single SecurityList(35=y) message.

Records that were created in previous days can be downloaded through the file download service and will not be provided through this workflow.

The following diagram illustrates the workflow:

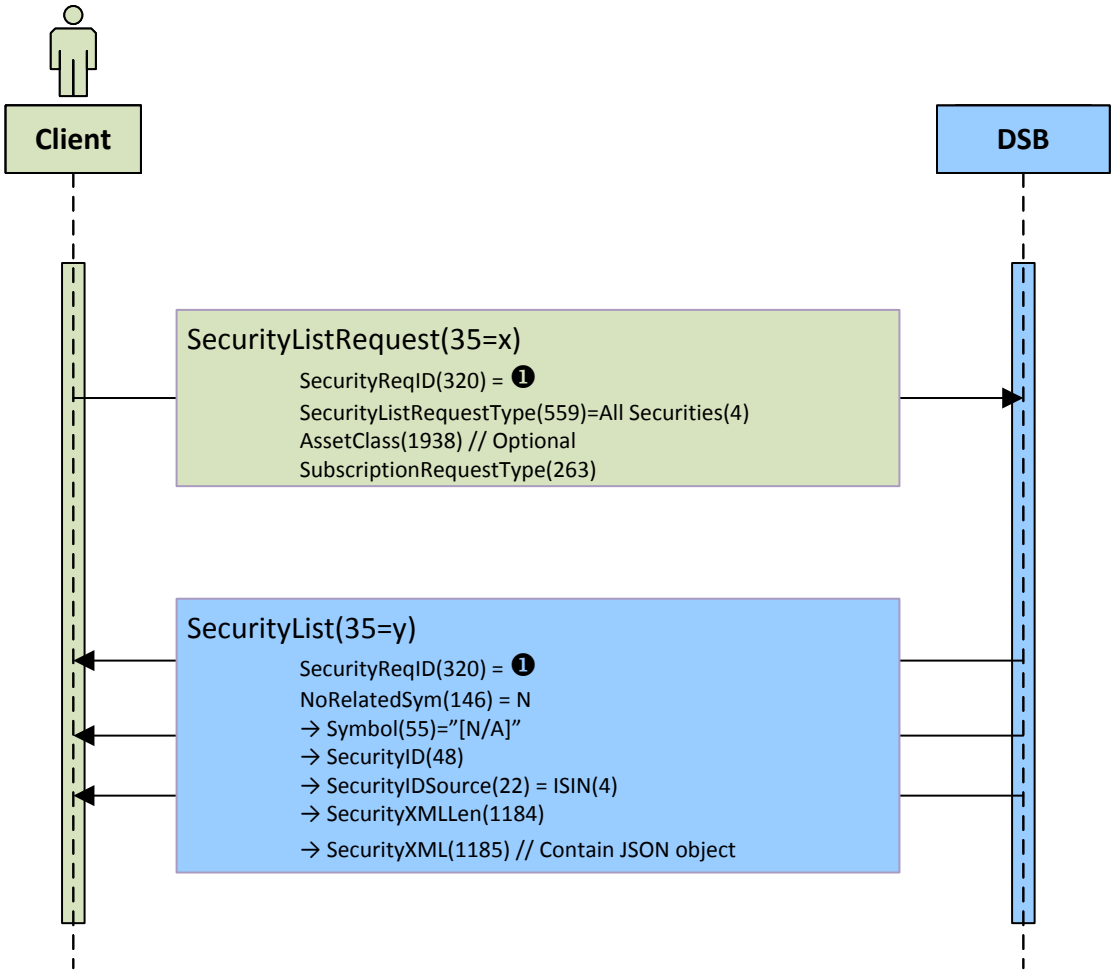

Diagram 7: Subscribe to ISIN Records

4.6.1 Expected Results

The following table contains possible attributes' values of the SecurityList (35=y) message:

Scenario	Security Request Result (560)	Expected user action
Valid Request	Valid request(0)	
Conditional attribute is missing **Invalid attributes' value on the Request**	Invalid Or Unsupported Request(1)	Correct the FIX message
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact support

4.7 Subscribe to ToTV Records

The SecurityListRequest(35=x) is used to subscribe to Records. The list of Records that were created or updated today (UTC time) are returned in SecurityList(35=y) message(s). The client can subscribe to receive either a snapshot or snapshot and updates.

To subscribe for ToTV records, there is a need to add

- ApplID(1180) = ToTV
- ApplSeqNum(1181) = 1

to the SecurityListRequest(35=x) message.

Clients may filter the request to retrieve ToTV Records of only a single CFI category and a single CFI group. See appendix below for the list of CFI categories and groups. To filter the results for a single CFI category and a single CFI group, users need to attach CFI(461) to the Instrument component of the SecurityListRequest(35=x). Only the first two characters of the CFI field are significant, yet the field needs to contain all six characters in total, having "****" as the last 4 characters.
For example, to subscribe to category Equities and group Common/ordinary shares, there is a need to attach CFI(461)=ES**** to the subscription message.

The server will reply with a single SecurityList(35=y) message ("1st page") containing up to 1,000 ToTV records.
Once client completes to process the first message, they may send another SecurityListRequest(35=x) message with ApplSeqNum(1181) = 2 for the next ("2nd page") page of ToTV records.

Users should repeat this process to get the next page.

Notes:

- There may be a long period of time until the next ToTV records are available.

- Any value greater than 1 in ApplSeqNum(1181) in the SecurityListRequest(35=x) message indicates to the server to send the 'next page'. The value does not serve to count the pages.

- Clients should not send another (second) SecurityListRequest(35=x) message (having the same filters) before the first was responded with a SecurityList(35=y). In case they do, the server will respond with a BusinessMessageRejecy(35=j) message having
  - BusinessMessageReject(380)=Throttle limit exceeded(8)
    or in severe cases (too many inflight messages),
  - BusinessMessageReject(380)=Throttle limit exceeded, session will be disconnected(9)

- Records that were created in previous days can be downloaded through the ToTV file download service and will not be provided through this workflow.

The following diagram illustrates the workflow:

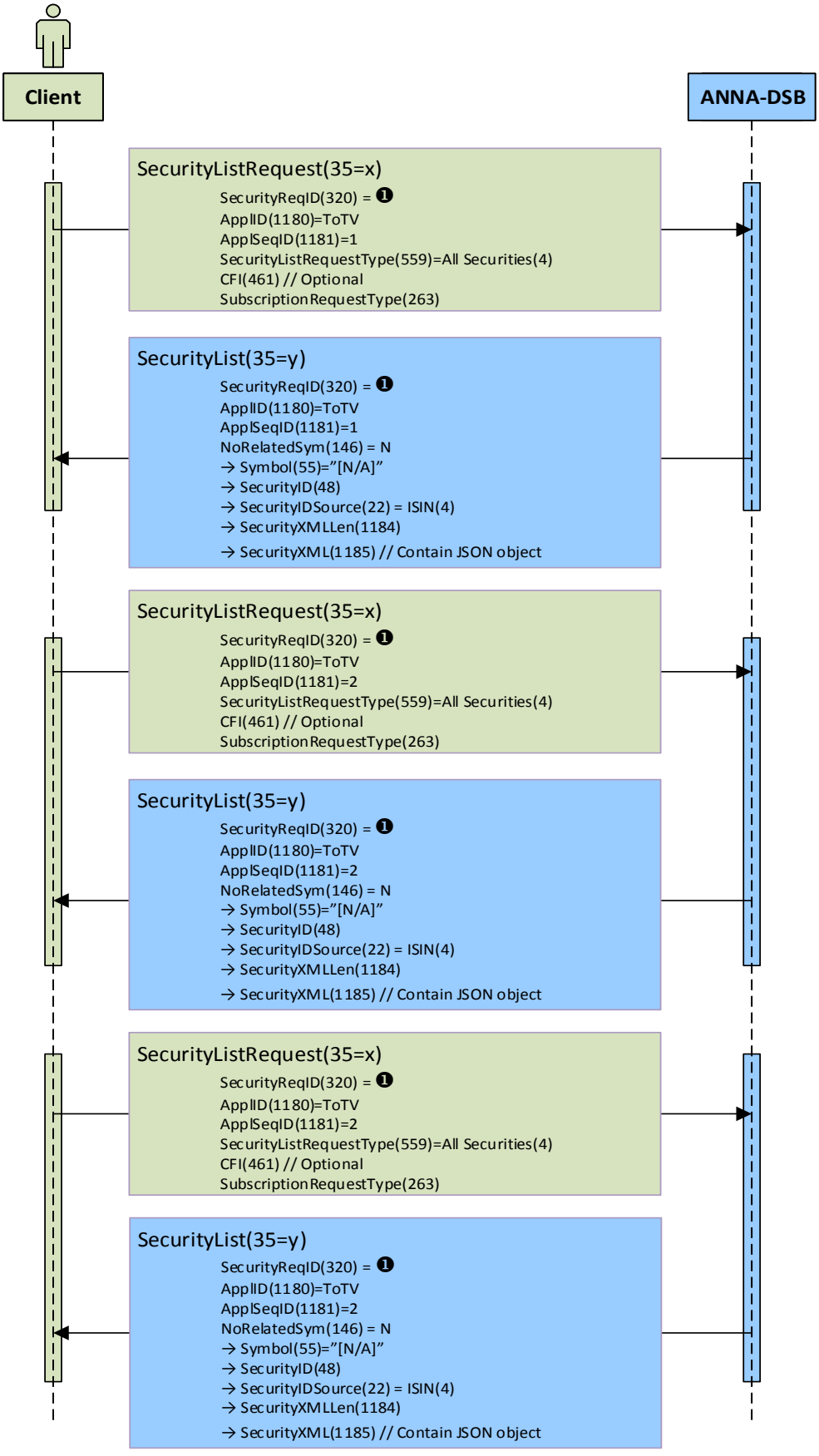

Diagram 8: Subscribe to ISIN Records

4.7.1 Expected Results

The following table contains possible attributes' values of the SecurityList (35=y) message:

Scenario	Security Request Result (560)	Expected user action
Valid Request	Valid request(0)	
Conditional attribute is missing **Invalid attributes' value on the Request**	Invalid Or Unsupported Request(1)	Correct the FIX message
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact Support

5 FIX Message Reference

5.1 Introduction

This section details the FIX Protocol messages that are used by DSB FIX interface.

5.2 SecurityDefinitionRequest (35=c)

The SecurityDefinitionRequest(35=c) message is used for the following:

- Request the attributes for a previously defined financial instrument as identified by its ISIN.
- Request (or create) the ISIN for an OTC derivative financial instrument as identified by its unique attributes

Name	Data Type	Tag	Rq	Description
<StandardHeader> component			Y	MsgType = c
SecurityReqID	String	320	Y	Identifies the request ID
SecurityRequestType	Int	321	Y	0 = Retrieve ISIN Record by ISIN 1 = Retrieve or Create ISIN Record by Attributes 4 = Retrieve ISIN Record by Attributes 6 = Retrieve ToTV Record by ISIN
<Instrument> component				
→|Symbol	String	55	Y	Use: "[N/A]"
→|SecurityID	String	48	N	Conditionally required if SecurityRequestType(321) = Request Security identity and specifications (0) or SecurityRequestType(321) = Product(6)
→|SecurityIDSource	String	22	N	Conditionally required if SecurityRequestType(321)=0 SecurityIDSource(22)=ISIN number(4)
→| < SecurityXM> component				
→|→|SecurityXMLLen	Int	1184	N	Conditionally required if SecurityRequestType(321)=1
→|→|SecurityXML	String	1185	N	Conditionally required if SecurityRequestType(321)=1
<StandardTrailer> component			Y	

5.3 SecurityDefinition (35=d)

The SecurityDefinition(35=d) message is used for the following:

- Return the attributes for a previously defined financial instrument as identified by its ISIN
- Return the ISIN for a financial instrument as identified by its unique attributes
- Report an error in SecurityDefinitionRequest (35=c) message (see below)

Name	Data Type	Tag	Rq	Description
<StandardHeader> component			Y	MsgType = d
SecurityReqID	String	320	Y	Identifies the request ID
SecurityRequestResult	String	560	Y	0 = Valid request 1 = Invalid or unsupported request 2 = No Instruments found that match selection criteria 3 = Not authorized to retrieve instrument data 4 = Instrument data temporarily unavailable
<Instrument> component				Conditionally required if SecurityRequestResult(560) = Valid request(0)
→|Symbol	String	55	Y	Use: "[N/A]"
→|SecurityID	String	48	Y	ISIN
→|SecurityIDSource	String	22	Y	SecurityIDSource(22)=ISIN number(4)
→|AssetClass	String	1938	N	Filter the request to products of a single asset class 1 = Interest rate 2 = Currency (Foreign Exchange) 3 = Credit 4 = Equity 5 = Commodity 6 = Other
→| <SecurityXM> component				
→|→|SecurityXMLLen	Int	1184	Y	Length of JSON record payload
→|→|SecurityXML	String	1185	Y	JSON record payload
Text	String	58	N	Free format text string that elaborates on an error
TransactTime	UTC Timestamp	60	Y	
<StandardTrailer> component			Y	

5.4 SecurityListRequest (35=x)

The SecurityListRequest(x) message is used to subscribe to a list of securities from the DSB FIX interface that match criteria provided on the request

Name	Data Type	Tag	Rq	Description
<StandardHeader> **component**			Y	MsgType = x
ApplID	String	1180	C	Conditionally required for ToTV records
ApplSeqNum	Int	1181	C	Conditionally required for ToTV records 1 = New subscription 2 = Next page (next ToTV records)
SecurityReqID	String	320	Y	Identifies the request ID
SecurityListRequestType	Int	559	Y	2= Product: Filter the request to products of a single asset class 4 = All Securities (that were created today, i.e. since midnight). When searching for Records, the SecurityListRequestType(559) must be All Securities(4)
SecurityListType	Int	1470	N	Deprecated. This field was used in previous version (3.01). Please use tags ApplID(1180) and ApplSeqNum(1181) instead.
<Instrument> **component**				
→**|Symbol**	String	55	N	Available for Subscription only. Conditionally required if AssetClass(1938) exists Use: "[N/A]"
→**|AssetClass**	int	1938	N	Available for Subscription of DSB ISIN records only. Filter the request to products of a single asset class 1 = Interest rate 2 = Currency (Foreign Exchange) 3 = Credit 4 = Equity 5 = Commodity
→**|CFI**	String	461	N	Available for Subscription of DSB ISIN records only. See appendix for list of possible values
SubscriptionRequestType	Char	263	Y	0 = Snapshot 1 = Snapshot + updates 2 = Unsubscribe When searching for ISIN Records, the SubscriptionRequestType(263) must be Snapshot(0)
ApplSeqNum	SeqNum	1181	C	Conditionally required for search. The first search start with ApplSeqNum(1181)=0
Text	String	58	C	Conditionally required for search. Search criteria
<StandardTrailer> **component**			Y	

5.5 SecurityList (35=y)

The Security List message is used to return a list of securities that matches the criteria specified in a Security List Request or to report an error in the SecurityListRequest (35=x) message.

Name	Data Type	Tag	Rq	Description
<StandardHeader> **component**			Y	MsgType = y
ApplID	String	1180	C	Conditionally required for ToTV records If present, the value must be: ToTV
ApplSeqNum	Int	1181	C	Conditionally required for: **Subscribe to ToTV records** 1 = New subscription 2 = Next page (next ToTV records) **Search for DSB ISIN by Attributes** The value is the page number
SecurityReqID	String	320	Y	Identifies the request ID
SecurityListType	Int	1470	N	Deprecated. This field was used in previous version (3.01). Please use tags ApplID(1180) and ApplSeqNum(1181) instead.
SecurityReqType	String	1470	N	If SecurityListType(1470) is omitted from the message, then SecurityXML(1185) contains DSB-ISIN record(s). If SecurityListType(1470)=100 then the SecurityXML(1185) contains ToTV record(s) SecurityListType(1470) = 100 is a reserved value to indicate that the Security List contains ToTV records
TotNoRelatedSym	Int	393	N	Conditionally required if SecurityRequestResult = 0
SecurityRequestResult	Int	560	Y	0 = Valid request 1 = Invalid or unsupported request 2 = No Instruments found that match selection criteria 3 = Not authorized to retrieve instrument data 4 = Instrument data temporarily unavailable
TransactTime	UTC Timestamp	60	Y	
<SecListGrp> **component**				
→|**NoRelatedSym**	Int	146	N	Specifies the number of repeating symbols specified
→|→|<Instrument> **component**				Conditionally required if SecurityRequestResult = 0
→|→|**Symbol**	String	55	Y	Use: "[N/A]"
→|→|**SecurityID**	String	48	Y	ISIN
→|→|**SecurityIDSource**	String	22	Y	SecurityIDSource(22)=ISIN number(4)
→|→|**AssetClass**	String	1938	Y	Filter the request to products of a single asset class 1 = Interest rate 2 = Currency (Foreign Exchange) 3 = Credit 4 = Equity 5 = Commodity
→|→|→| **<SecurityXM> component**				
→|→|→|**SecurityXMLLen**	Int	1184	Y	Length of JSON record payload
→|→|→|**SecurityXML**	String	1185	Y	JSON record payload
<StandardTrailer> **component**			Y	

5.6 BusinessMessageReject (35=j)

The Business Message Reject message can reject an application-level message which fulfills session-level rules and cannot be rejected via any other means. Note if the message fails a session-level rule (e.g. body length is incorrect), a session-level Reject message will be issued.

Name	Data Type	Tag	Rq	Description
<StandardHeader> **component**			Y	MsgType = j
RefSeqNum	SeqNum	45	Y	MsgSeqNum of rejected message
RefMsgType	String	372	Y	The MsgType of the FIX message being referenced c = SecurityListRequest
BusinessRejectRefID	String	379	N	The value of the business-level "ID" field on the message being referenced. Required unless the corresponding ID field (see list above) was not specified.
BusinessRejectReason	Int	380	Y	Code to identify reason for a Business Message Reject message. 8 = Throttle Limit Exceeded
<StandardTrailer> **component**			Y	

6 FIX Message Samples

6.1 Introduction

This section contains FIX message samples.

The table below provides explanation of the samples content:

Field	Content / Highlighted	Comment
FIX delimiter	^	ascii 0x001
SenderCompID(49) ⇔ **TargetCompID(56)**	Client ⇔ DSB	Client Comp ID Configured for each client The DSB comp ID
SenderSubID(49) ⇔ **TargetSubID(57)**	Subclient ⇔ Demo	Client Sub Comp Configured for each client ⇔ The DSB Sub Comp ID is configured for each environment (i.e.: Demo / UAT / Prod / Prod2)
Username(553)	USERNAME	Configuration send by DSB
Password(554)	PASSWORD	Configuration send by DSB
SecurityXML(1185)	{"Header": {"AssetClass": "Rates","InstrumentType": "Forward","UseCase": "FRA_Index","Level": "InstRefDataReporting"},"Attributes":{"NotionalCurrency": "KPW","ExpiryDate": "2023-12-10", "ReferenceRate": "USD-OIS-3:00-BGCANTOR","ReferenceRateTermValue": 53895821"ReferenceRateTermUnit": "MNTH"}}}	Request Product payload is highlighted in yellow
SecurityXML(1185)	{"Header": {"AssetClass": "Rates", "InstrumentType": "Forward", "UseCase": "FRA_Index", "Level": "InstRefDataReporting"},"Attributes": {"NotionalCurrency": "KPW", "ExpiryDate": "2023-12-10", "ReferenceRate": "USD-OIS-3:00-BGCANTOR", "ReferenceRateTermValue": 53895821, "ReferenceRateTermUnit": "MNTH"},"ISIN": {"ISIN": "EZV1KQNKGMR0", "Status": "New"},"TemplateVersion":1,"Derived":{"ISOFirstLegReferenceRate": "OIS-3:00-BGCANTOR","CommoditiesDerivativesIndicator": "FALSE","UnderlyingAssetType": "Interest Rate Index", "ReturnorPayoutTrigger": "Forward price of underlying instrument", "IssuerorOperatoroftheTradingVenueIdentifier": "NA", "DeliveryType": "PHYS","PriceMultiplier": 1, "FullName": "Rates Forward FRA_Index USD-OIS-3:00-BGCANTOR 53895821 MNTH 20231210", "ShortName":	Record Payload is highlighted in yellow

	"NA/Fwd Pr Int Rt Idx KPW 20231210", "ClassificationType": "JRIXFP"}}	
	{"ToTV-record":{"Header":{"ISIN":"EZ8JND56HJK5","LastModifiedDate":"2017-10-22","LastCompletedProcessingDate":"2017-10-30","CFI-Category":"S","CFI-Group":"R"},"DSB-ISIN":{"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Fixed_Float","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"USD","ExpiryDate":"2048-03-21","ReferenceRate":"USD-LIBOR-BBA","ReferenceRateTermValue":3,"ReferenceRateTermUnit":"MNTH","NotionalSchedule":"Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ8JND56HJK5","Status":"New","StatusReason":"","LastUpdateDateTime":"2017-10-22T14:00:40"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"LIBO","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Fixed - Floating","SingleorMultiCurrency":"Single Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap Fixed_Float USD-LIBOR-BBA 3 MNTH 20480321","ShortName":"NA/Swap Fxd Flt USD 20480321","ClassificationType":"SRCCSP"}},"Derived":{"ToTV": false,"uToTV": false}}}	ToTV record is highlighted in light blue

6.2 Logon message

The following is a sample of a Logon message (35=A)

```
8=FIXT.1.1^9=149^35=A^34=1^49=Client^50=Subclient^52=20170105-
06:26:05.345^56=DSB^57=Demo^98=0^108=30^553=USER^554=PASSWORD^1137=9^10=068
```

6.3 Heartbeat message

The following is a sample of a Heartbeat message (35=0)

```
8=FIXT.1.1^9=78^35=0^34=39^49=DSB^50=Demo^52=20170105-
07:00:21.260^56=Client^57=Subclient^10=082
```

6.4 Security Definition Request message having a product payload

The following is a sample of a SecurityDefinitionRequest message (35=c) having a product payload

```
8=FIXT.1.1^A9=514^A35=c^A34=154^A49=client3^A50=subclient3^A52=20170803-
08:49:18.759^A56=DSB^A57=TEST^A55=[N/A]^A320=DREQ2^A321=1^A1184=397^A1185={"Header":
{"AssetClass": "Rates","InstrumentType": "Forward","UseCase":"FRA_Index","Level":
"InstRefDataReporting"},"Attributes": {"NotionalCurrency": "KPW","ExpiryDate":
"2023-12-10","ReferenceRate": "USD-OIS-3:00-BGCANTOR","ReferenceRateTermValue":
53895821,"ReferenceRateTermUnit": "MNTH"}}^A10=157^A
```

6.5 Security Definition Request message having an ISIN

The following is a sample of a SecurityDefinitionRequest message (35=c) having an ISIN. This Security Definition Request expects ISIN record in the Security Definition result.

```
8=FIXT.1.1^9=120^35=c^34=14^49=Client3^50=Subclient^52=20170216-
11:22:41.745^56=DSB^57=Demo^22=4^48=EZ0000000037^320=DREQ1^321=0^10=089
```

6.6 Security Definition Request message having an ISIN requesting for ToTV record

The following is a sample of a SecurityDefinitionRequest message (35=c) having an ISIN. This Security Definition Request expects ISIN record in the Security Definition result.

```
8=FIXT.1.1^9=120^35=c^34=14^49=Client3^50=Subclient^52=20170216-
11:22:41.745^56=DSB^57=Demo^22=4^48= EZ8JND56HJK5^320=DREQ1^321=6^10=089
```

6.7 Security Definition message – With ISIN

The following is a sample of a SecurityDefinition message (35=d); This example message contains an ISIN record.

```
8=FIXT.1.1^A9=972^A35=d^A34=153^A49=DSB^A50=TEST^A52=20170803-
08:49:19.274^A56=client3^A57=subclient3^A22=4^A48=EZV1KQNKGMR0^A55=[N/A]^A60=201708
03-
08:49:19.274^A320=DREQ2^A560=0^A1184=802^A1185={"Header":{"AssetClass":"Rates","Ins
trumentType":"Forward","UseCase":"FRA_Index","Level":"InstRefDataReporting"},"Attri
butes":{"NotionalCurrency":"KPW","ExpiryDate":"2023-12-10","ReferenceRate":"USD-
OIS-3:00-
BGCANTOR","ReferenceRateTermValue":53895821,"ReferenceRateTermUnit":"MNTH"},"ISIN":
{"ISIN":"EZV1KQNKGMR0","Status":"New"},"TemplateVersion":1,"Derived":{"ISOReference
Rate":"OIS-3:00-
BGCANTOR","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Interest
Rate Index","ReturnorPayoutTrigger":"Forward price of underlying
instrument","IssuerorOperatoroftheTradingVenueIdentifier":"NA","DeliveryType":"PHYS
","PriceMultiplier":1,"FullName":"Rates Forward FRA_Index USD-OIS-3:00-BGCANTOR
53895821 MNTH 20231210","ShortName":"NA/Fwd Pr Int Rt Idx KPW
20231210","ClassificationType":"JRIXFP"}}^A1938=1^A10=107^A
```

6.8 Security Definition message – Without ISIN identifier

The following is a sample of a SecurityDefinition message (35=d) as a response to 'Retrieve ISIN record" where the ISIN identifier does not exist; This message contains an ISIN-Record that was provided in the Security Definition Request message.

```
8=FIXT.1.1^A9=824^A35=d^A34=20^A49=DSB^A50=UAT^A52=20170703-
09:30:50.181^A56=client1^A57=subclient1^A22=4^A48=EZ5LG22JHN89^A55=[N/A]^A60=201707
03-
09:30:50.181^A320=DREQ4^A560=0^A1184=656^A1185={"Header":{"AssetClass":"Foreign_Exc
hange","InstrumentType":"Option","UseCase":"NDO","Level":"InstRefDataReporting"},"A
ttributes":{"NotionalCurrency":"EUR","ExpiryDate":"2022-03-
30","OptionType":"CALL","ExerciseStyle":"AMER","ValuationMethod":"Digital
(Binary)","OtherLegNotionalCurrency":"AMD","SettlementCurrency":"JPY"},"ISIN":{"ISI
N":"EZ5LG22JHN89","Status":"New"},"TemplateVersion":1,"Derived":{"Issuer":"NA","Com
moditiesDerivativesIndicator":"FALSE","LongName":"Foreign Exchange Option NDO
EURUSD 20170331","FISN":"NA/O NDO Call EUR USD
20170331","DeliveryType":"CASH","FxType":"FXMJ","CFI":"HFTBDC","UnderlyingAssetType
":"Spot","PriceMultiplier":1}}^A1938=2^A10=231^
```

6.9 Security Definition message – With ToTV record

The following is a sample of a SecurityDefinition message (35=d); This example message contains an ToTV record.

```
8=FIXT.1.1^A9=972^A35=d^A34=153^A49=DSB^A50=TEST^A52=20171103-
08:49:19.274^A56=client3^A57=subclient3^A22=4^A48=EZ8JND56HJK5^A55=[N/A]^A60=201711
03-08:49:19.274^A320=DREQ2^A560=0^A1184=1032^A1185={"ToTV-
record":{"Header":{"ISIN":"EZ8JND56HJK5","LastModifiedDate":"2017-10-
22","LastCompletedProcessingDate":"2017-10-30","CFI-Category":"S","CFI-
Group":"R"},"DSB-ISIN":
{"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Fixed_Float","Le
vel":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"USD","ExpiryDate":"2
048-03-21","ReferenceRate":"USD-LIBOR-
BBA","ReferenceRateTermValue":3,"ReferenceRateTermUnit":"MNTH","NotionalSchedule":"
Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ8JND56HJK5",
"Status":"New","StatusReason":"","LastUpdateDateTime":"2017-10-
22T14:00:40"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"LIBO","CommodityDe
rivativeIndicator":"FALSE","UnderlyingAssetType":"Fixed -
Floating","SingleorMultiCurrency":"Single
Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap
Fixed_Float USD-LIBOR-BBA 3 MNTH 20480321","ShortName":"NA/Swap Fxd Flt USD
20480321","ClassificationType":"SRCCSP"}},"Derived":{"ToTV": false,"uToTV":
false}}}^A10=107^A
```

6.10 Security List Request message - Subscription

The following is a sample of a SecurityListRequest message (35=x). The request is for a snapshot of FX instruments; This Security List Request expects ISIN record in the Security Definition result.

```
8=FIXT.1.1^9=104^35=x^34=3^49=Client^50=Subclient^52=20170202-
12:04:07.548^56=DSB^57=Demo^263=0^320=LREQ1^559=2^1938=2^10=134
```

6.11 Security List Request message - Search

The following is a sample of a SecurityListRequest message (35=x). The request is for a snapshot of FX instruments; This Security List Request expects ISIN record in the Security Definition result.

8=FIXT.1.1^9=460^35=c^34=13^49=mockUserFix50SP2^50=mockSubUserFix50SP2^52=20170802-09:39:02.460^56=mockServerCompID^57=mockServerSubID^55=[N/A]^320=DREQ12^321=1^1184=30^11185={"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Fixed_Float","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate":"2017-07-29","ReferenceRate":"AED-EBOR-Reuters","ReferenceRateTermValue":1,"ReferenceRateTermUnit":"DAYS","NotionalSchedule":"Constant"}}^10=034

6.12 Security List message

The following is a sample of a SecurityList message (35=y); This example message contains ISIN records.

8=FIXT.1.19=7667935=y34=649=DSB50=UAT52=20170829-12:50:10.10556=client357=subclient360=20170829-12:50:10.100320=LREQ1393=68560=0146=6855=[N/A]48=EZ73R8G46QN322=41938=11184=10841185={"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Cross_Currency_Basis","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"KPW","ExpiryDate":"1971-03-08","ReferenceRate":"AUD-BBR-AUBBSW","ReferenceRateTermValue":35,"ReferenceRateTermUnit":"WEEK","OtherNotionalCurrency":"USD","OtherLegReferenceRate":"AED-EBOR-Reuters","OtherLegReferenceRateTermValue":35,"OtherLegReferenceRateTermUnit":"WEEK","NotionalSchedule":"Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ73R8G46QN3","Status":"Expired","StatusReason":"","LastUpdateDateTime":"2017-08-29T12:45:00"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"BBR-AUBBSW","ISOOtherLegReferenceRate":"EBOR-Reuters","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Basis Swap (Float - Float)","SingleorMultiCurrency":"Cross Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap Cross_Currency_Basis KPWUSD AUD-BBR-AUBBSW 35 WEEK AED-EBOR-Reuters 35 WEEK 19710308","ShortName":"NA/Swap Flt Flt KPW USD 19710308","ClassificationType":"SRACCP"}}55=[N/A]48=EZ4LTWL2PVS122=41938=11184=10841185={"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Cross_Currency_Basis","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"ILS","ExpiryDate":"1971-04-14","ReferenceRate":"AUD-BBR-AUBBSW","ReferenceRateTermValue":35,"ReferenceRateTermUnit":"WEEK","OtherNotionalCurrency":"USD","OtherLegReferenceRate":"AED-EBOR-Reuters","OtherLegReferenceRateTermValue":35,"OtherLegReferenceRateTermUnit":"WEEK","NotionalSchedule":"Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ4LTWL2PVS1","Status":"Expired","StatusReason":"","LastUpdateDateTime":"2017-08-29T12:45:05"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"BBR-AUBBSW","ISOOtherLegReferenceRate":"EBOR-Reuters","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Basis Swap (Float - Float)","SingleorMultiCurrency":"Cross Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap Cross_Currency_Basis ILSUSD AUD-BBR-AUBBSW 35 WEEK AED-EBOR-Reuters 35 WEEK 19710414","ShortName":"NA/Swap Flt Flt ILS USD 19710414","ClassificationType":"SRACCP"}}55=[N/A]48=EZ1GKBMBKFY822=41938=11184=10841185={"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Cross_Currency_Basis","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"ISK","ExpiryDate":"1971-06-17","ReferenceRate":"AUD-BBR-AUBBSW","ReferenceRateTermValue":35,"ReferenceRateTermUnit":"WEEK","OtherNotionalCurrency":"USD","OtherLegReferenceRate":"AED-EBOR-Reuters","OtherLegReferenceRateTermValue":35,"OtherLegReferenceRateTermUnit":"WEEK","NotionalSchedule":"Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ1GKBMBKFY8","Status":"Expired","StatusReason":"","LastUpdateDateTime":"2017-08-29T12:45:10"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"BBR-AUBBSW","ISOOtherLegReferenceRate":"EBOR-Reuters","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Basis Swap (Float - Float)","SingleorMultiCurrency":"Cross Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap Cross_Currency_Basis ISKUSD AUD-BBR-AUBBSW 35 WEEK AED-EBOR-Reuters 35 WEEK 19710617","ShortName":"NA/Swap Flt Flt ISK USD 19710617","ClassificationType":"SRACCP"}}55=[N/A]48=EZ71VYPWJ36622=41938=11184=1084

1185={"Header":{"AssetClass":"Rates","InstrumentType":"Swap","UseCase":"Cross_Currency_Basis","Level":"InstRefDataReporting"},"Attributes":{"NotionalCurrency":"KPW","ExpiryDate":"1971-05-06","ReferenceRate":"AUD-BBR-AUBBSW","ReferenceRateTermValue":35,"ReferenceRateTermUnit":"WEEK","OtherNotionalCurrency":"USD","OtherLegReferenceRate":"AED-EBOR-Reuters","OtherLegReferenceRateTermValue":35,"OtherLegReferenceRateTermUnit":"WEEK","NotionalSchedule":"Constant","DeliveryType":"PHYS","PriceMultiplier":1},"ISIN":{"ISIN":"EZ71VYPWJ366","Status":"Expired","StatusReason":"","LastUpdateDateTime":"2017-08-29T12:45:15"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"BBR-AUBBSW","ISOOtherLegReferenceRate":"EBOR-Reuters","CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Basis Swap (Float - Float)","SingleorMultiCurrency":"Cross Currency","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullName":"Rates Swap Cross_Currency_Basis KPWUSD AUD-BBR-AUBBSW 35 WEEK AED-EBOR-Reuters 35 WEEK 19710506","ShortName":"NA/Swap Flt Flt KPW USD 19710506","ClassificationType":"SRACCP"}}55=[N/A]48=EZ1JXLX237Y922=41938=11184=1084
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6.13 Business Message Reject message

The following is a sample of a BusinessMessageReject (35=j)

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Appendix: CFI groups Categories and Groups

CFI Category	CFI Group	CFI letters
Equities	Common/ordinary shares	ES
Equities	Preferred/preference shares	EP
Equities	Common/ordinary convertible shares	EC
Equities	Preferred/preference convertible shares	EF
Equities	Limited partnership units	EL
Equities	Depositary receipts on equities	ED
Equities	Structured instruments	EY
Equities	Others (miscellaneous)	EM
Collective investment vehicles	Standard (vanilla) investment funds/mutual funds	CI
Collective investment vehicles	Hedge funds	CH
Collective investment vehicles	Real estate investment trusts (REIT)	CB
Collective investment vehicles	Exchange traded funds (ETF)	CE
Collective investment vehicles	Pension funds	CS
Collective investment vehicles	Funds of funds	CF
Collective investment vehicles	Private equity funds	CP
Collective investment vehicles	Others (miscellaneous)	CM
Debt instruments	Bonds	DB
Debt instruments	Convertible bonds	DC
Debt instruments	Bonds with warrants attached	DW
Debt instruments	Medium-term notes	DT
Debt instruments	Money market instruments	DY
Debt instruments	Structured instruments (capital protection)	DS
Debt instruments	Structured instruments (without capital protection)	DE
Debt instruments	Mortgage-backed securities	DG
Debt instruments	Asset-backed securities	DA
Debt instruments	Municipal bonds	DN
Debt instruments	Depositary receipts on debt instruments	DD
Debt instruments	Others (miscellaneous)	DM
Entitlement (rights)	Allotment (bonus) rights	RA
Entitlement (rights)	Subscription rights	RS
Entitlement (rights)	Purchase rights	RP
Entitlement (rights)	Warrants	RW
Entitlement (rights)	Mini-future certificates, constant leverage certificates	RF
Entitlement (rights)	Depositary receipts on entitlements	RD
Entitlement (rights)	Others (miscellaneous)	RM
Listed options	Call options	OC
Listed options	Put options	OP
Listed options	Others (miscellaneous)	OM
Futures	Financial futures	FF
Futures	Commodities futures	FC
Swaps	Rates	SR

Swaps	Commodities	ST
Swaps	Equity	SE
Swaps	Credit	SC
Swaps	Foreign exchange	SF
Swaps	Others (miscellaneous)	SM
Non-listed and complex listed options	Rates	HR
Non-listed and complex listed options	Commodities	HT
Non-listed and complex listed options	Equity	HE
Non-listed and complex listed options	Credit	HC
Non-listed and complex listed options	Foreign exchange	HF
Non-listed and complex listed options	Others (miscellaneous)	HM
Spot	Foreign Exchange	IF
Spot	Commodities	IT
Forwards	Rates	JR
Forwards	Commodities	JT
Forwards	Equity	JE
Forwards	Credit	JC
Forwards	Foreign exchange	JF
Forwards	Others (miscellaneous)	JM
Strategies	Rates	KR
Strategies	Commodities	KT
Strategies	Equity	KE
Strategies	Credit	KC
Strategies	Foreign exchange	KF
Strategies	Mixed assets	KY
Strategies	Others (miscellaneous)	KM
Financing	Loan-lease	LL
Financing	Repurchase agreements	LR
Financing	Securities lending	LS
Referential instruments	Currencies	TC
Referential instruments	Commodities	TT
Referential instruments	Interest rates	TR
Referential instruments	Indices	TI
Referential instruments	Baskets	TB
Referential instruments	Stock dividends	TD
Referential instruments	Others (miscellaneous)	TM
Others (miscellaneous)	Combined instruments	MC
Others (miscellaneous)	Other assets (miscellaneous)	MM

About Derivatives Service Bureau (DSB)

The Association of National Numbering Agencies ("ANNA"), is founding the Derivatives Service Bureau (DSB), for the issuance and maintenance of International Securities Identification Numbers (ISINs) for OTC Derivatives. The DSB will rely on an automated platform capable of allocating ISINs in near real-time.