The Derivatives Service Bureau (DSB)

FIX Rules of Engagement

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Designation: Rules of Engagement

Proprietary Information

Contents

Preface

Change History

Date	Change	Version	Author	Revision Details
Earlier versions supressed				
08 August 2019	Modification / Amendment	4.01	Wernher Suratos/ Kurt Aquino	- Corrected typo on Section 2.2.3 from backword to backward - Updated sections 5.3, 5.4 and 5.5 to include asset class "**6 = Other**" under tag 1938
20 August 2019	Modification / Amendment	4.02	Wernher Suratos	-Added **IMPORTANT** note in Section 3 FIX Session Messages -Removed last statement in Section 3.1 Standard Header Fields -Updated the description column for SecurityListType in Section 5.4
19 March 2020	Modification / Amendment	4.03	Mark Bautista	-Updated the links for DSB UAT Product Definition.pdf
24 June 2020	Modification / Amendment	4.04	Mark Bautista	-Updated section 2.1 with Operation Hours -Added DSB Notification Subscription
15 March 2021	Additions	5.0 Draft	Yuval Cohen	Add UPI support
26 April 2021	Additions	5.01	Yuval Cohen	FIX UPICode tag 2981
13 December 2022	Additions	5.02	Yuval Cohen	Alternative Underlying Identifiers for UPI records
5 April 2023	Corrections	5.03	Yuval Cohen	Corrections and clarifications
28 May 2023	Modification / Amendment	5.04	Leslie Ropero	Updated Section 2.1 with new subscribe link
12 October 2023	Modification / Amendment	5.05	DSB	Updated sequence of FIX Tag 2891 of Section 7.5 SecurityList (35=y) Added 5.7 Subscribe to records migrations updates
11 January 2024	Additions	5.06	DSB	Added UPI FIX Message flows sample messages, Added ISIN Migration Sample messages
08 February 2024	Additions	5.07	DSB	Added encoding of non-ASCII characters to Unicode Escape Sequence in Subscribe to ISIN records, Subscribe to UPI records, Subscribe to record migration updates

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 UPI for financial products and/or 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 UPIs for financial products and/or ISINs for financial OTC derivatives instruments using the FIX Protocol. In addition, anyone with an interest in retrieving the DSB TOTV records using the FIX Protocol.

1.3 Scope

This document focuses on the use of the FIX Protocol to define and query for UPIs for financial products, ISINs for OTC derivative financial instruments and DSB TOTV records.

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 UPIs for financial products and/or 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 product or instrument supported by the DSB service.
In addition, the DSB FIX interface provides method to retrieve DSB TOTV record.

The interface is based on the FIX Protocol and once connected to DSB, the client can create a new UPI or ISIN, search for one (or more) UPIs or ISINs or subscribe to all UPIs and/or ISINs.

1.6 Activity Diagram Summary

The following three diagrams illustrates, the DSB FIX interface:

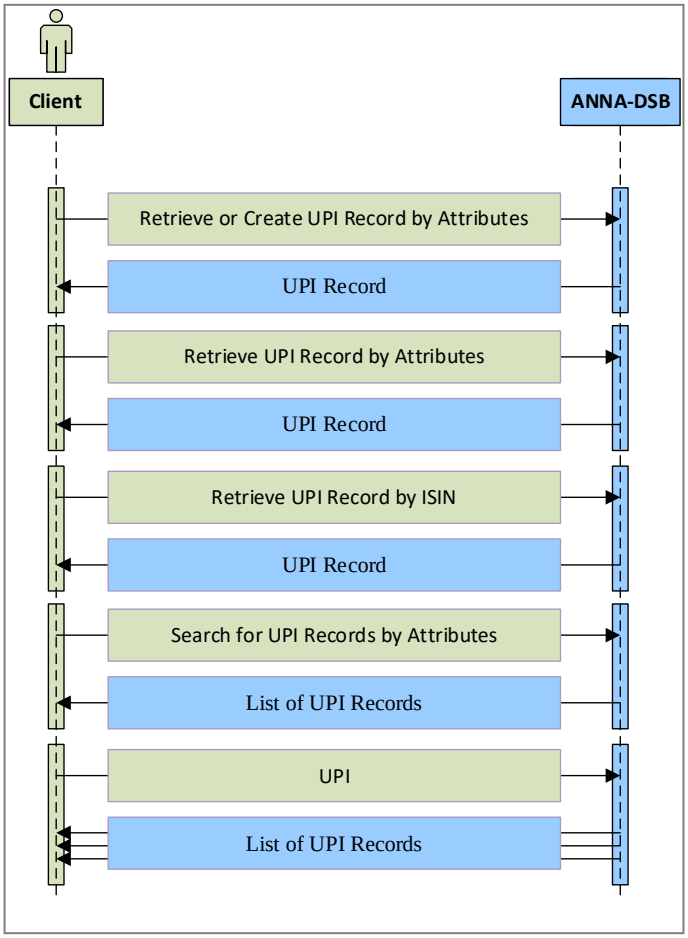

Diagram 1: UPI Activity Diagram

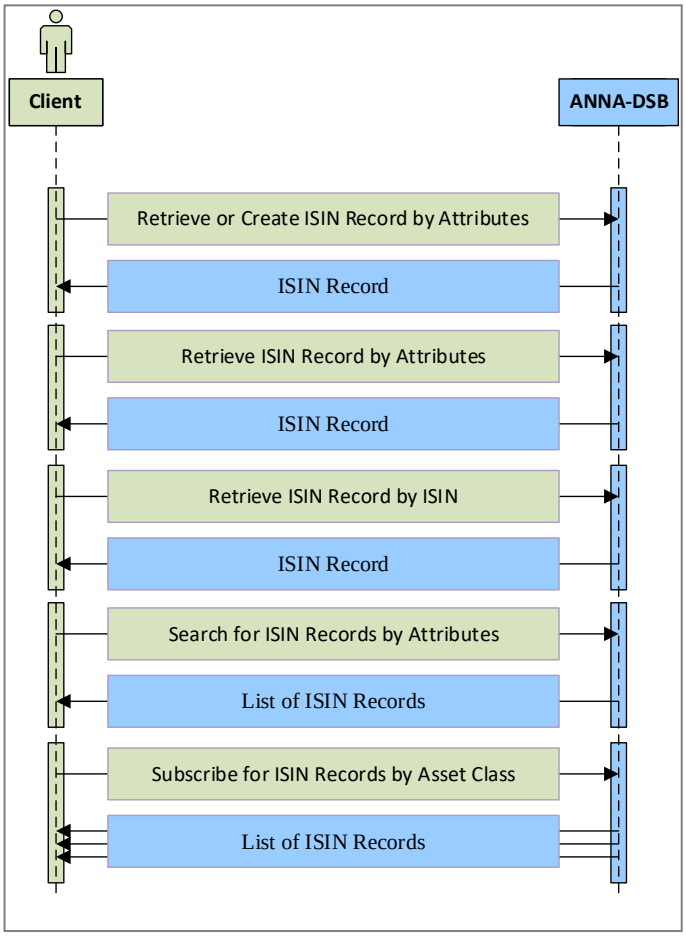

Diagram 2: ISIN Activity Diagram

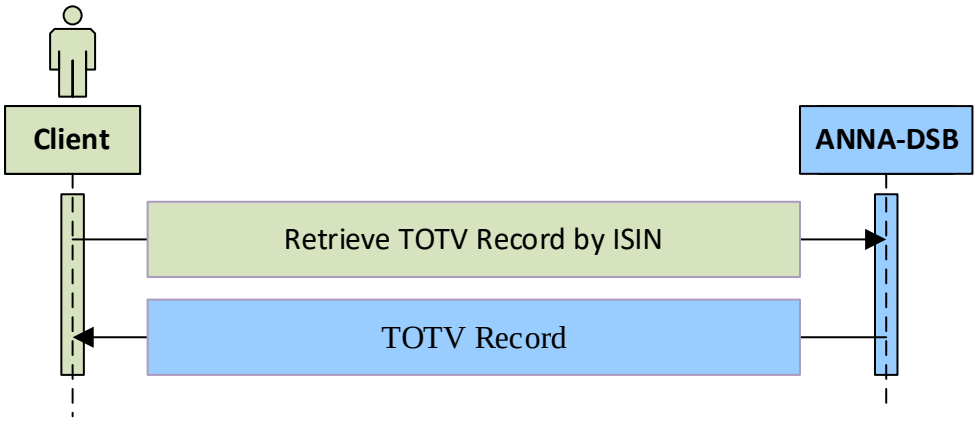

Diagram 3: UPI Activity Diagram

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.
- The DSB Web Service scheduled weekly maintenance periods can be found on the Operating Hours and Holidays page. This is subject to change due to releases which maybe required to be performed via early maintenance. Users are normally notified of any changes via a DSB

notification. During the maintenance hours, FIX API users will not be able to establish connectivity to the FIX API service.

- To stay up to date with the latest from the DSB, subscribe to receive DSB notifications at https://www.anna-dsb.com/dsb-notifications-and-updates/.

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 a UPI and/or 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 Request for a UPI schema name:** Request.Rate.Swap.Fixed_Fixed.UPI.json **Example of a request for an ISIN schema 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 UPI schema name:** Rate.Swap.Fixed_Fixed.UPI.V1.json **Example of an ISIN schema 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 = UPI or InstRefDataReporting (for ISIN)

The (Template) Version is added for backward 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 UPI or 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 request and supply its attributes as a valid *JSON request for a UPI or an ISIN 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 UPI or ISIN record* in FIX tag SecurityXML (1185)
6. To parse the *JSON 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

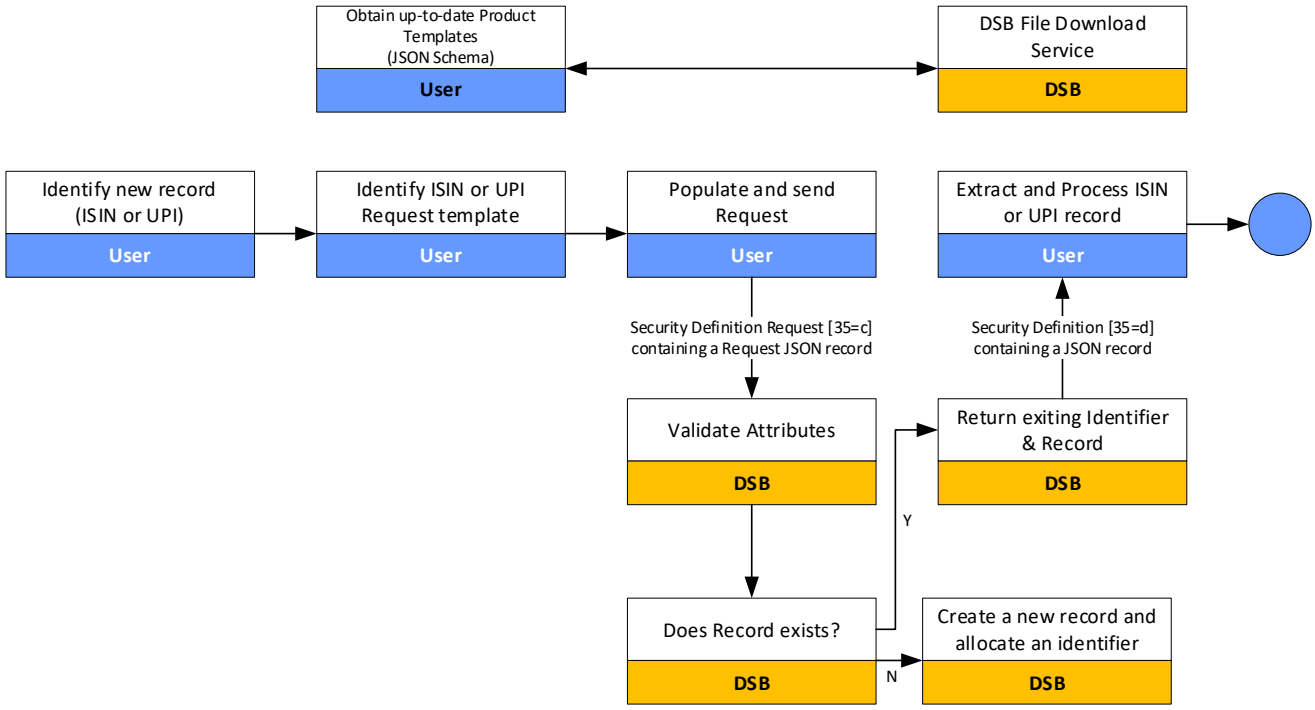

Diagram 4: Using JSON Schema

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 Use 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 Use 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.

TBD – for UPI restrictions.

3 FIX Session Messages

IMPORTANT: All FIX messages that contain FIX tags that are NOT defined in the DSB FIX specification will be rejected.

3.1 Standard Header Fields

The message header contains information necessary for routing of all FIX messages.

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 UPI FIX Message Flows

4.1 Introduction

This section looks at the messages that will be supported by DSB FIX interface to convey UPI records.

4.2 Retrieve or Create UPI Record by Attribute

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Request Security identity for the specifications provided(1) is used to create a UPI record for a financial instrument or return the existing record if the UPI record already exists. The financial instrument is defined by a *JSON instrument request* object provided in the SecurityXML(1185) within the body of the request.

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

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

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

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

Users that wish to send “alternative identifiers of UPI underlying” (e.g. Cusip, SEDOL or FIGI instead of ISIN), should gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.

Users that wish to retrieve “alternative identifiers of UPI underlying” alongside the UPI record (e.g. Cusip, SEDOL or FIGI instead of ISIN), should:

1. Gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.
2. Attach tag NoUnderlyings(711) = 1 followed by one of: of:
    - `UnderlyingSecurityIDSource(305)= CUSIP(1)`
    - `UnderlyingSecurityIDSource(305)= SEDOL(2)`
    - `UnderlyingSecurityIDSource(305)= RIC(5)`
    - `UnderlyingSecurityIDSource(305)= FIGI(S)`

    Users may only specify a single `UnderlyingSecurityIDSource` (during each call). If the call result with a UPI record that has an alternative underlying identifier(s), the return record will contain the UPI record alongside the alternative underlying identifier(s).

The following diagram illustrates the workflow:

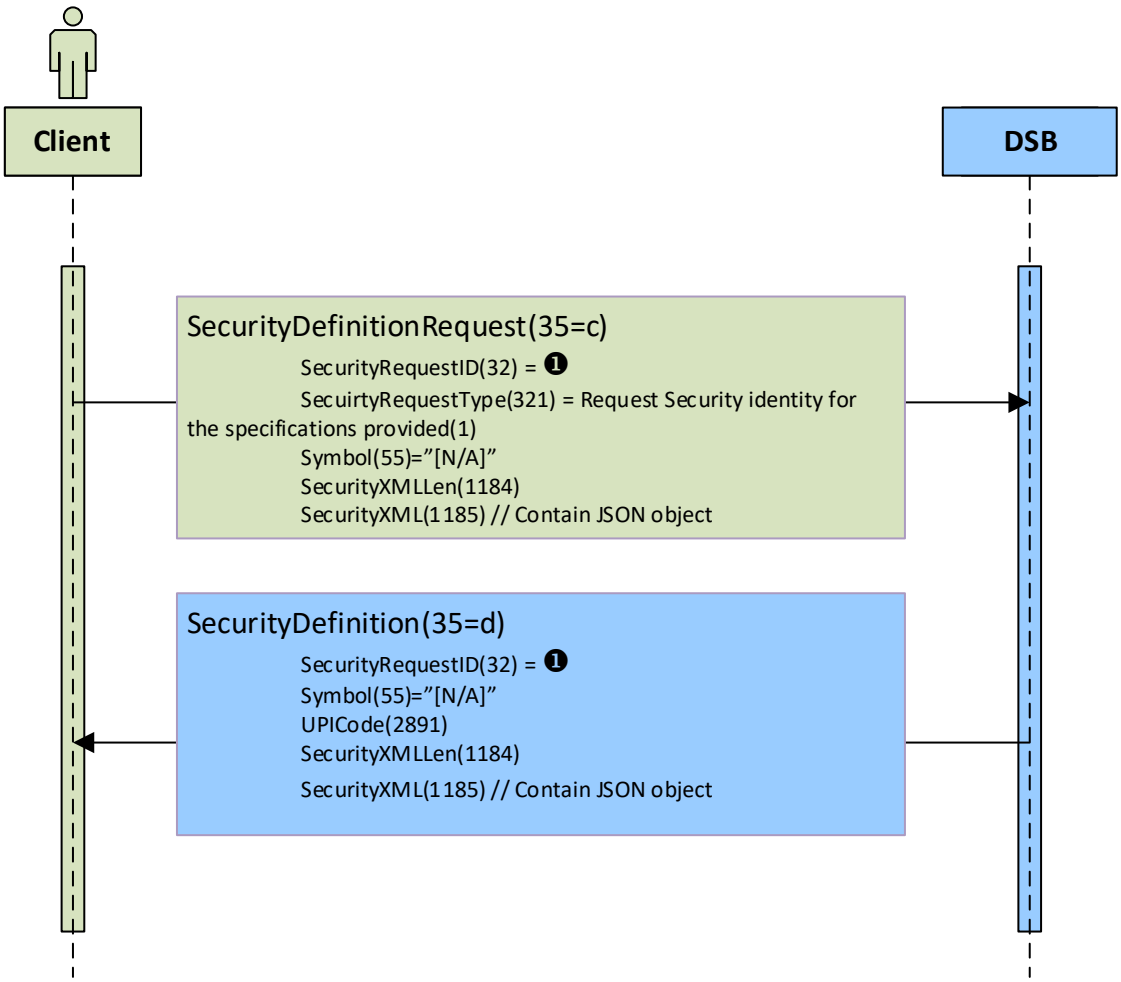

Diagram 5: Retrieve or Create UPI Record by Attribute

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: UPI 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** **Or too many UnderlyingSecurityIDSource**	Invalid Or Unsupported Request(1)	✓	Correct the FIX message or the payload
User is not permitted to create an UPI **Or retrieve the Alternative ID Source**	Not Authorized To Retrieve Instrument Data (3)	✓	Check tags: Username(553) and Password(554) on the Logon message. request permission for use of alternative ID source(s) via a Support Case in the DSB Client Onboarding Service Platform (COSP) Contact Support
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	✘	Contact Support

4.3 Retrieve UPI Record by Attributes

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Symbol(4) is used to return the existing record if the UPI 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 SecurityXML(1185) within the body of the request.

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

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

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

Users that wish to retrieve “alternative identifiers of UPI underlying” alongside the UPI record (e.g. Cusip, SEDOL or FIGI instead of ISIN), should:

3. Gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.
4. Attach tag NoUnderlyings(711) = 1 followed by one of: of:
    - `UnderlyingSecurityIDSource(305)= CUSIP(1)`
    - `UnderlyingSecurityIDSource(305)= SEDOL(2)`
    - `UnderlyingSecurityIDSource(305)= RIC(5)`
    - `UnderlyingSecurityIDSource(305)= FIGI(S)`

    Users may only specify a single `UnderlyingSecurityIDSource` (during each call).
    If the call result with a UPI record that has an alternative underlying identifier(s), the return record will contain the UPI record alongside the alternative underlying identifier(s).

The following diagram illustrates the workflow:

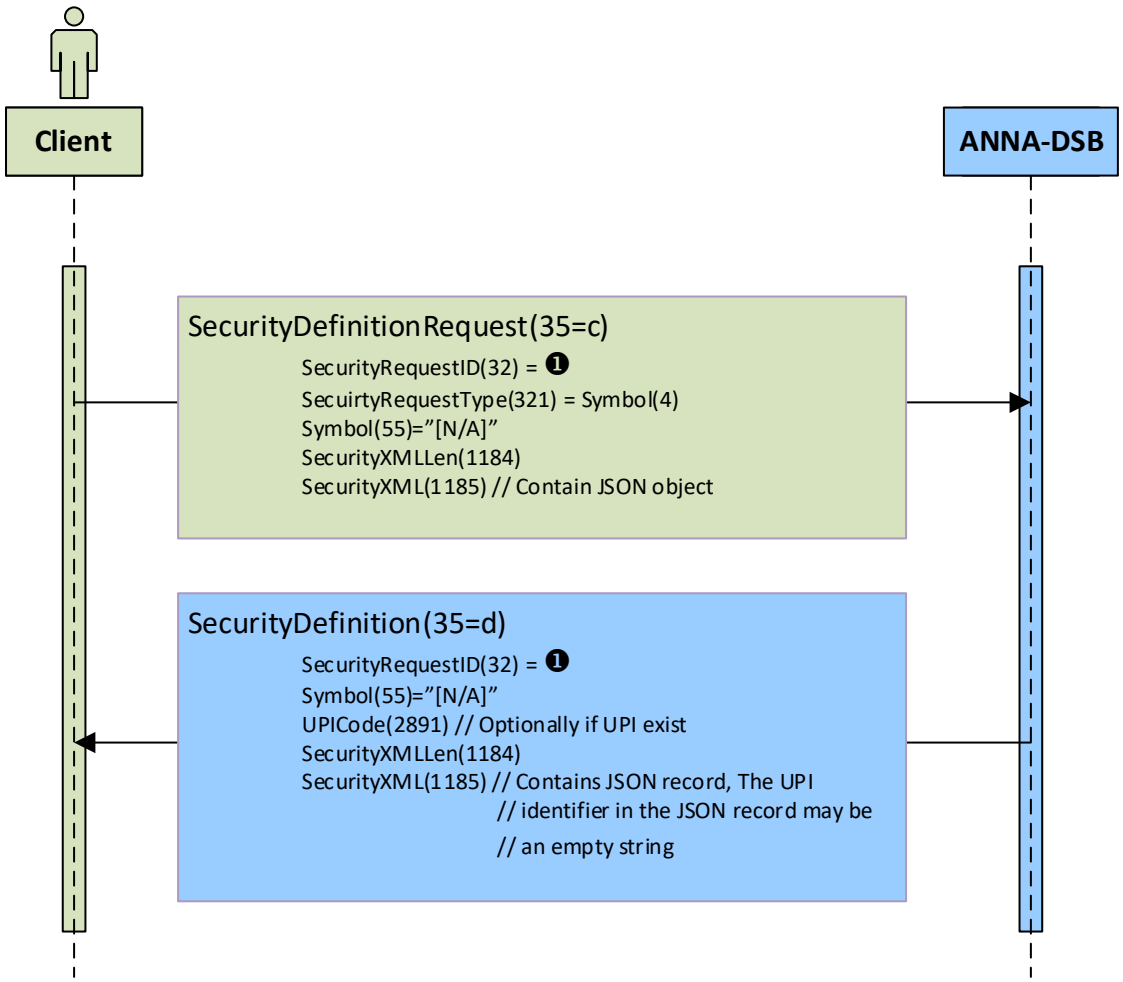

Diagram 6: Retrieve or Create UPI Record by Attributes

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 UPI identifier	Valid request(0)	✘	
Valid request: JSON payload is available in SecurityXML(1185) yet the UPI 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 UPI Or retrieve the Alternative ID Source	Not Authorized To Retrieve Instrument Data (3)	✓	Check tags: Username(553) and Password(554) on the Logon message. request permission for use of alternative ID source(s) via a Support Case in the DSB Client Onboarding Service Platform (COSP) Contact Support
System is unavailable Any other internal error	Instrument Data Temporarily Unavailable(4)	✘	Contact Support

4.4 Retrieve UPI Record by UPI

The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Request Security identity and specifications(0) is used to return the UPI Record for an existing UPI.
The SecurityDefinitionRequest(35=c) having SecurityRequestType(321)= Product(6) is used to return the UPI Record.
The UPI must be specified in UPICode(2891).

Users that wish to retrieve “alternative identifiers of UPI underlying” alongside the UPI record (e.g. Cusip, SEDOL or FIGI instead of ISIN), should:

5. Gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.
6. Attach tag NoUnderlyings(711) = 1 followed by one of: of:
    - `UnderlyingSecurityIDSource(305)= CUSIP(1)`
    - `UnderlyingSecurityIDSource(305)= SEDOL(2)`
    - `UnderlyingSecurityIDSource(305)= RIC(5)`
    - `UnderlyingSecurityIDSource(305)= FIGI(S)`

    Users may only specify a single `UnderlyingSecurityIDSource` (during each call).
    If the call result with a UPI record that has an alternative underlying identifier(s), the return record will contain the UPI record alongside the alternative underlying identifier(s).

The following diagram illustrates the workflow:

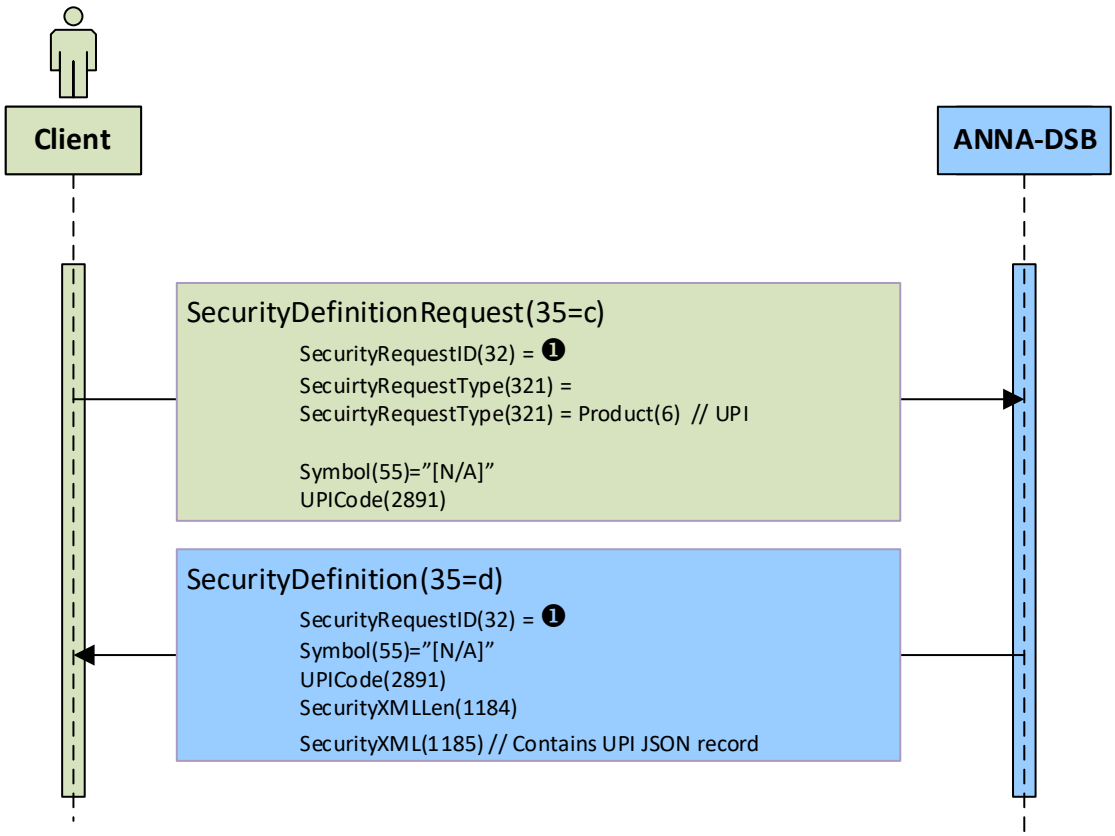

Diagram 7: Request the OTC product definition for an UPI

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
UPI and product definitions are available	Valid request(0)	✘
User is not permitted to retrieve an UPI Or retrieve the Alternative ID Source	Not Authorized To Retrieve Instrument Data (3)	✓
UPI does not exist	No Instruments Found(2)	✓

4.5 Search for UPI 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 UPI records, set SecurityListType(1470)=102
Note:

- To search for TOTV record, set SecurityListType(1470)=100 (supported for legacy backward compatibility reason)
- To search for ISIN records, set SecurityListType(1470)=101 (default value if not provided)
- To search for UPI records, set SecurityListType(1470)=102
- To search for ISIN and/or UPI records, set SecurityListType(1470)=103

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

- SecurityRequestResults(560)=Valid Request(0)
- TotNoRelatedSym(393): The total number of UPI records that matches the search criteria
- NoRelatedSym(146): The number of UPI 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

Users that wish to retrieve “alternative identifiers of UPI underlying” alongside the UPI record (e.g. Cusip, SEDOL or FIGI instead of ISIN), should:

7. Gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.
8. Attach tag NoUnderlyings(711) = 1 followed by one of: of:
    - `UnderlyingSecurityIDSource(305)= CUSIP(1)`
    - `UnderlyingSecurityIDSource(305)= SEDOL(2)`
    - `UnderlyingSecurityIDSource(305)= RIC(5)`
    - `UnderlyingSecurityIDSource(305)= FIGI(S)`

    Users may only specify a single `UnderlyingSecurityIDSource` (during each call). If the call result with a UPI record that has an alternative underlying identifier(s), the return record will contain the UPI record alongside the alternative underlying identifier(s).

The following diagram illustrates the workflow:

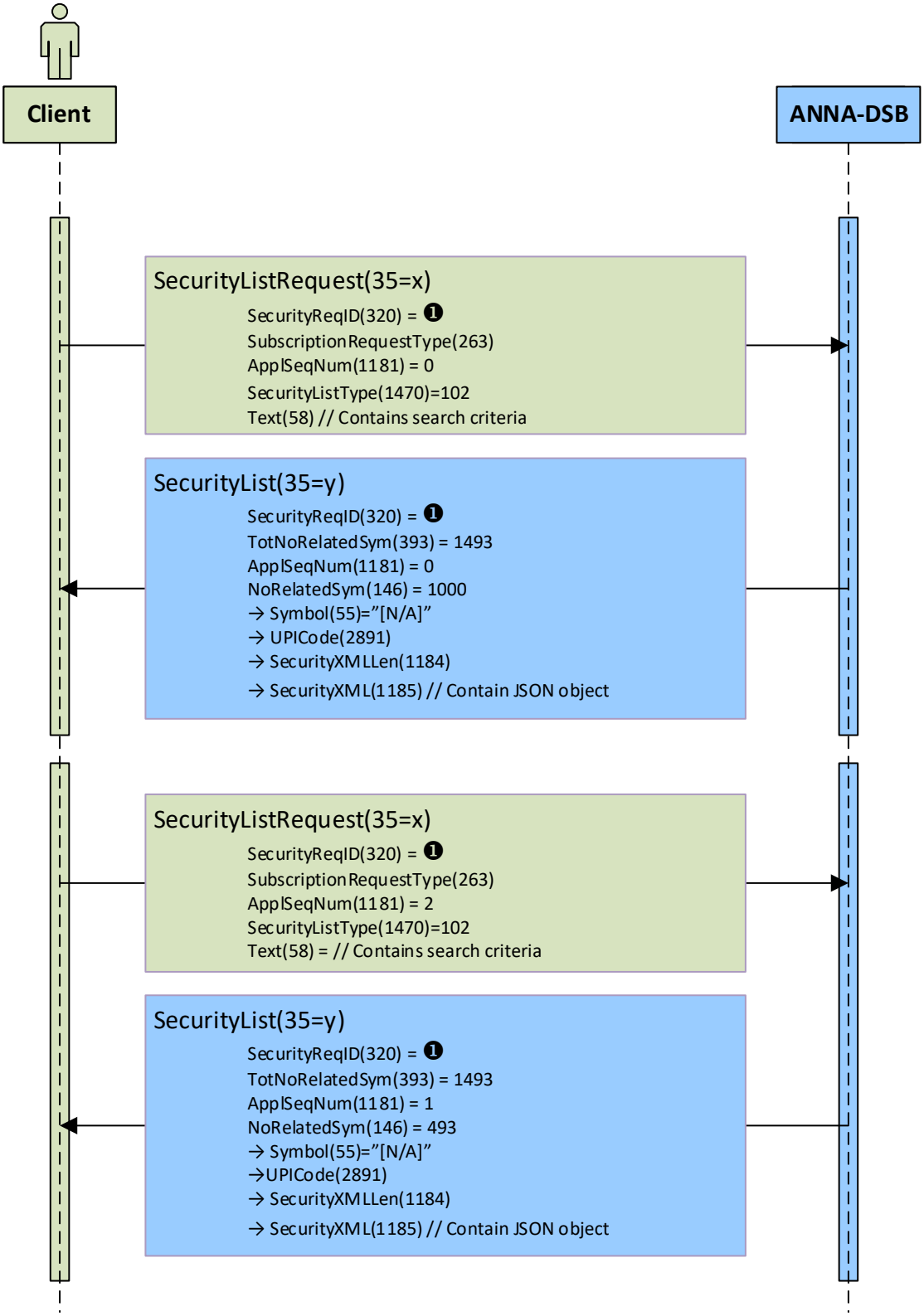

Diagram 8: Search for Records by Attributes

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
No instruments found that match selection criteria	No instruments found that match selection criteria(2)	
User is not permitted to retrieve an UPI Or retrieve the Alternative ID Source	Not authorized to retrieve instrument data(3)	request permission for use of UPI and/or alternative ID source(s) via a Support Case in the DSB Client Onboarding Service Platform (COSP)
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact Support

4.6 Subscribe to UPI 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 to UPI records, set SecurityListType(1470)=102
Note:

- To subscribe to ISIN records, set SecurityListType(1470)=101 (default value if not provided)
- To subscribe to ISIN and UPI records, set SecurityListType(1470)=103

Clients may filter the request to retrieve UPI 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 or updated in previous days can be downloaded through the file download service and will not be provided through this workflow.

Users that wish to retrieve “alternative identifiers of UPI underlying” alongside the UPI record (e.g. Cusip, SEDOL or FIGI instead of ISIN), should:

9. Gain permission for that through the DSB onboarding system. By default, the use of these identifiers is forbidden.
10. Attach tag NoUnderlyings(711) = 1 followed by one of: of:
    - `UnderlyingSecurityIDSource(305)= CUSIP(1)`
    - `UnderlyingSecurityIDSource(305)= SEDOL(2)`
    - `UnderlyingSecurityIDSource(305)= RIC(5)`
    - `UnderlyingSecurityIDSource(305)= FIGI(S)`

    Users may only specify a single `UnderlyingSecurityIDSource` (during each call).
    This `UnderlyingSecurityIDSource` must be unique for all subscriptions.
    If the call result with a UPI record that has an alternative underlying identifier(s), the return record will contain the UPI record alongside the alternative underlying identifier(s).

4.6.1 Non-ASCII characters

Note: When handling non-ASCII characters, e.g. Chinese or Latin symbols, within a record in the Subscription functionality, the FIX Server will *convert* to ASCII using **Unicode Escape Sequences**. The format of **Unicode Escape Sequence** is a backslash (\) followed by a small 'u', followed by the four-digit hexadecimal code for the character (i.e., \u12FE).

It's important to note that ASCII characters will not be converted during this process. The FIX Client can decide whether to decode the sequence back to non-ASCII characters.

For example:

If the original text is

"UnderlierName": "**国家电网有限公司**"

It will be converted by FIX Server to

"UnderlierName": "**\u56FD\u5BB6\u7535\u7F51\u6709\u9650\u516C\u53F8**"

The following diagram illustrates the workflow:

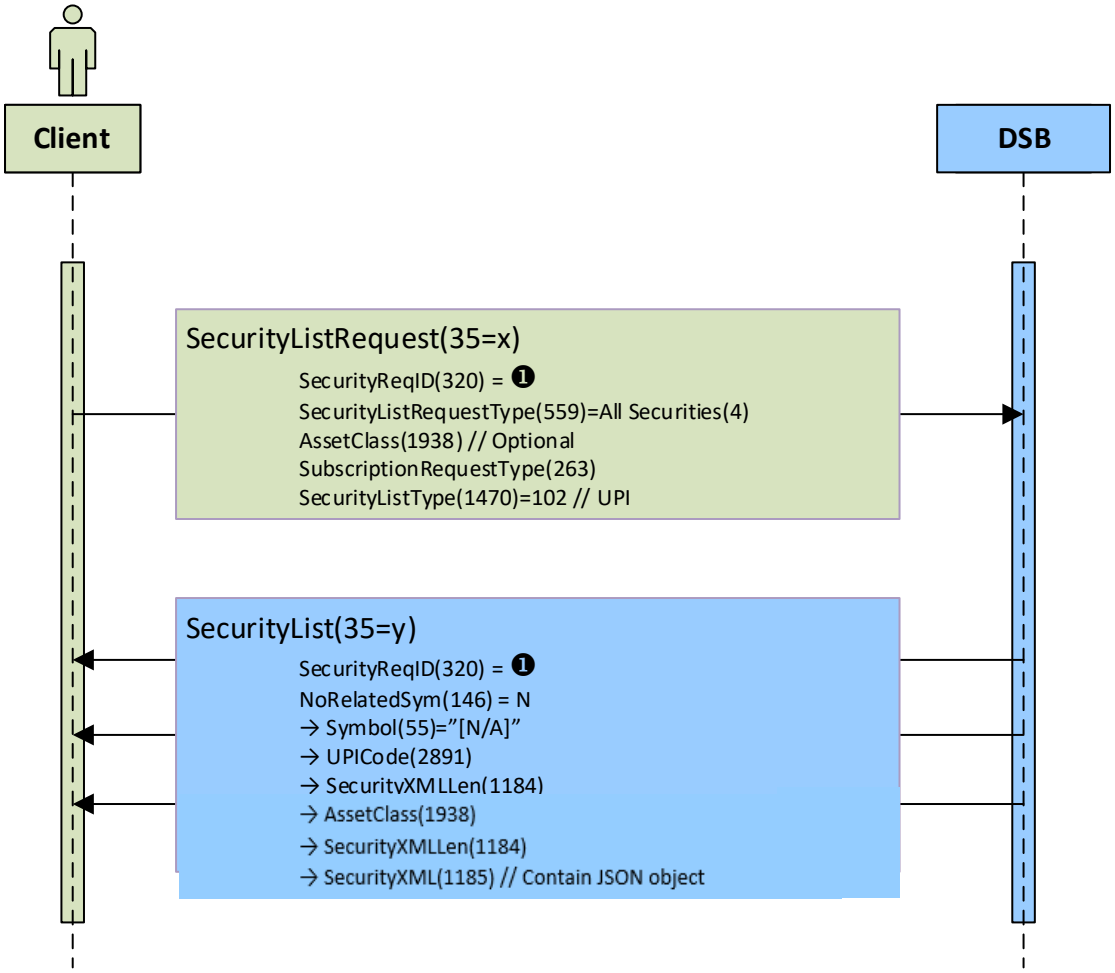

Diagram 9: Subscribe to UPI Records

4.6.2 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
User is not permitted to retrieve an UPI **Or retrieve the Alternative ID Source**	Not authorized to retrieve instrument data(3)	request permission for use of UPI and/or alternative ID source(s) via a Support Case in the DSB Client Onboarding Service Platform (COSP)
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact support

5 ISIN FIX Message Flows

5.1 Introduction

This section looks at the messages that will be supported by DSB FIX interface to convey ISIN and/or UPI records.

5.2 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 SecurityXML(1185) within the body of the request.

The input SecurityDefinitionRequest(35=c) must contain a 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:

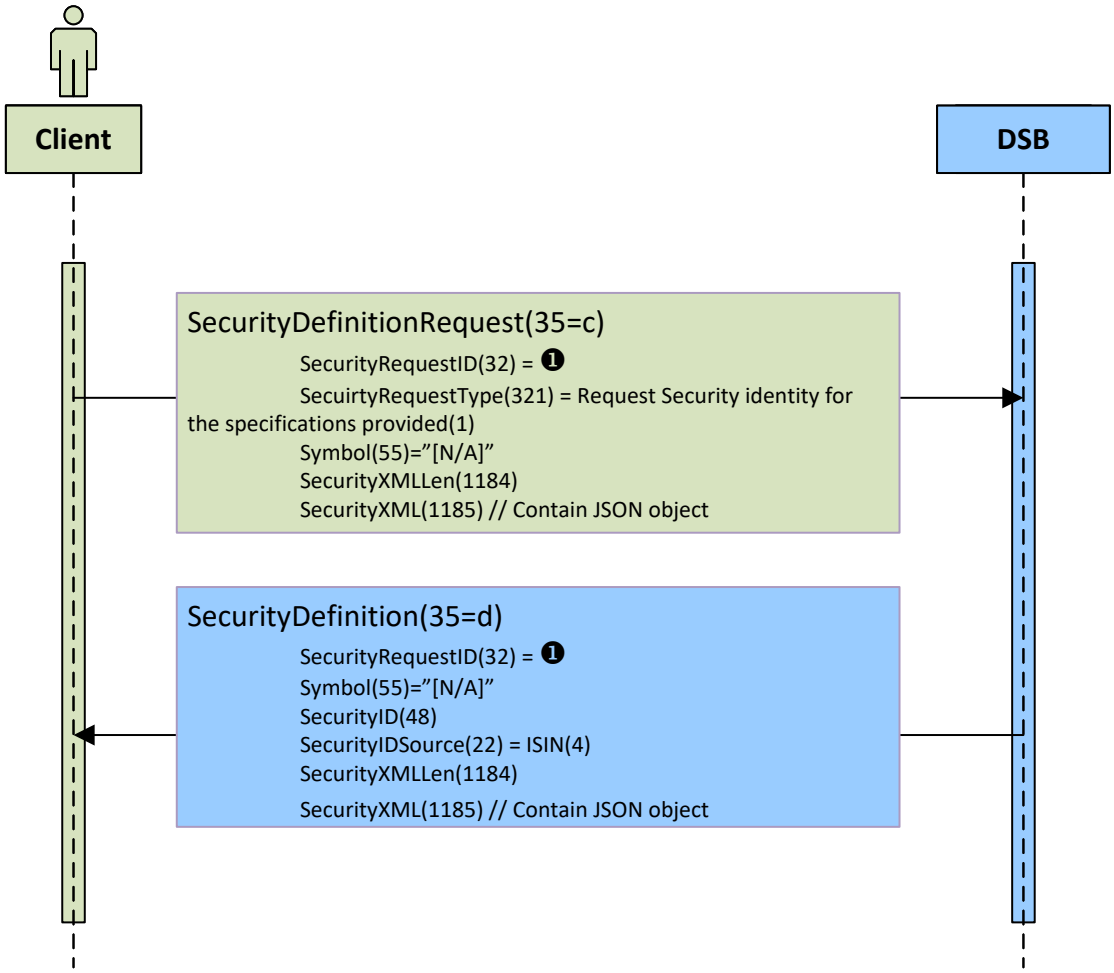

Diagram 10: Retrieve or Create ISIN Record by Attribute

5.2.1 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

5.3 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 SecurityXML(1185) within the body of the request.

The input SecurityDefinitionRequest(35=c) must contain a 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:

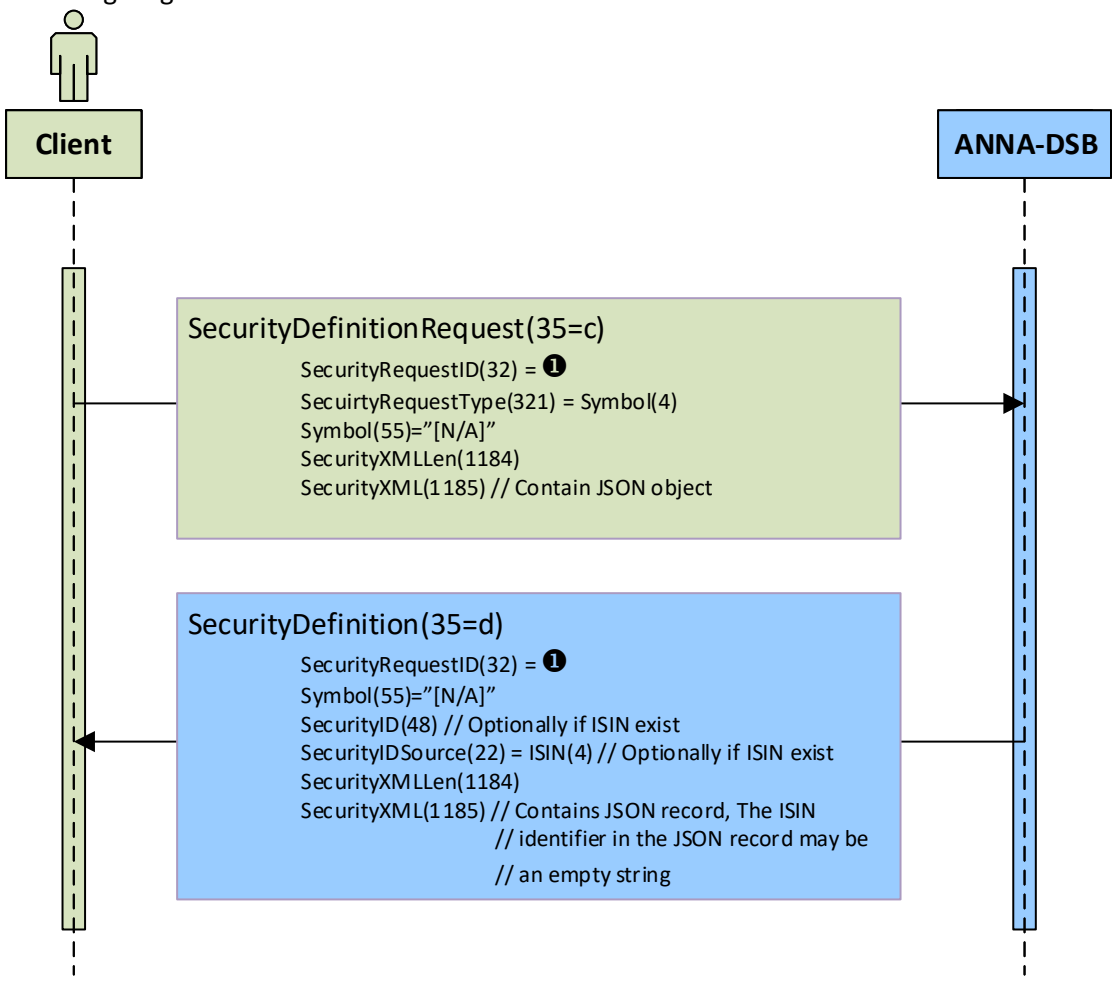

Diagram 11: Retrieve or Create ISIN Record by Attributes

5.3.1 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

5.4 Retrieve ISIN 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 ISIN is specified in SecurityID(tag 48). The SecurityIDSource(22) is set to ISIN(4).

The following diagram illustrates the workflow:

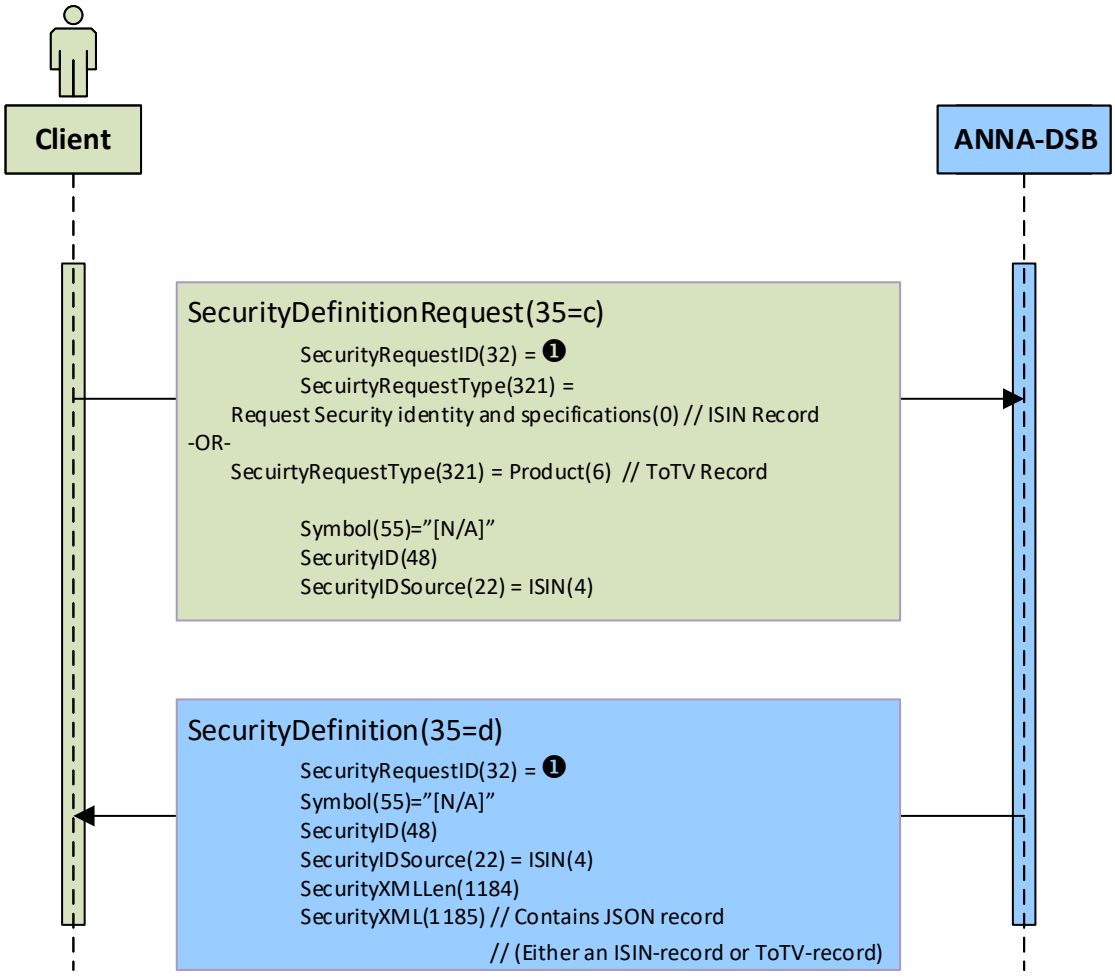

Diagram 12: Request the OTC product definition for an ISIN

5.4.1 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)	✓

5.5 Search for ISIN 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.

Note:

- To search for TOTV record, set SecurityListType(1470)=100 (supported for legacy backward compatibility reason)
- To search for ISIN records, set SecurityListType(1470)=101 (default value if not provided)
- To search for UPI records, set SecurityListType(1470)=102
- To search for ISIN and/or UPI records, set SecurityListType(1470)=103

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:

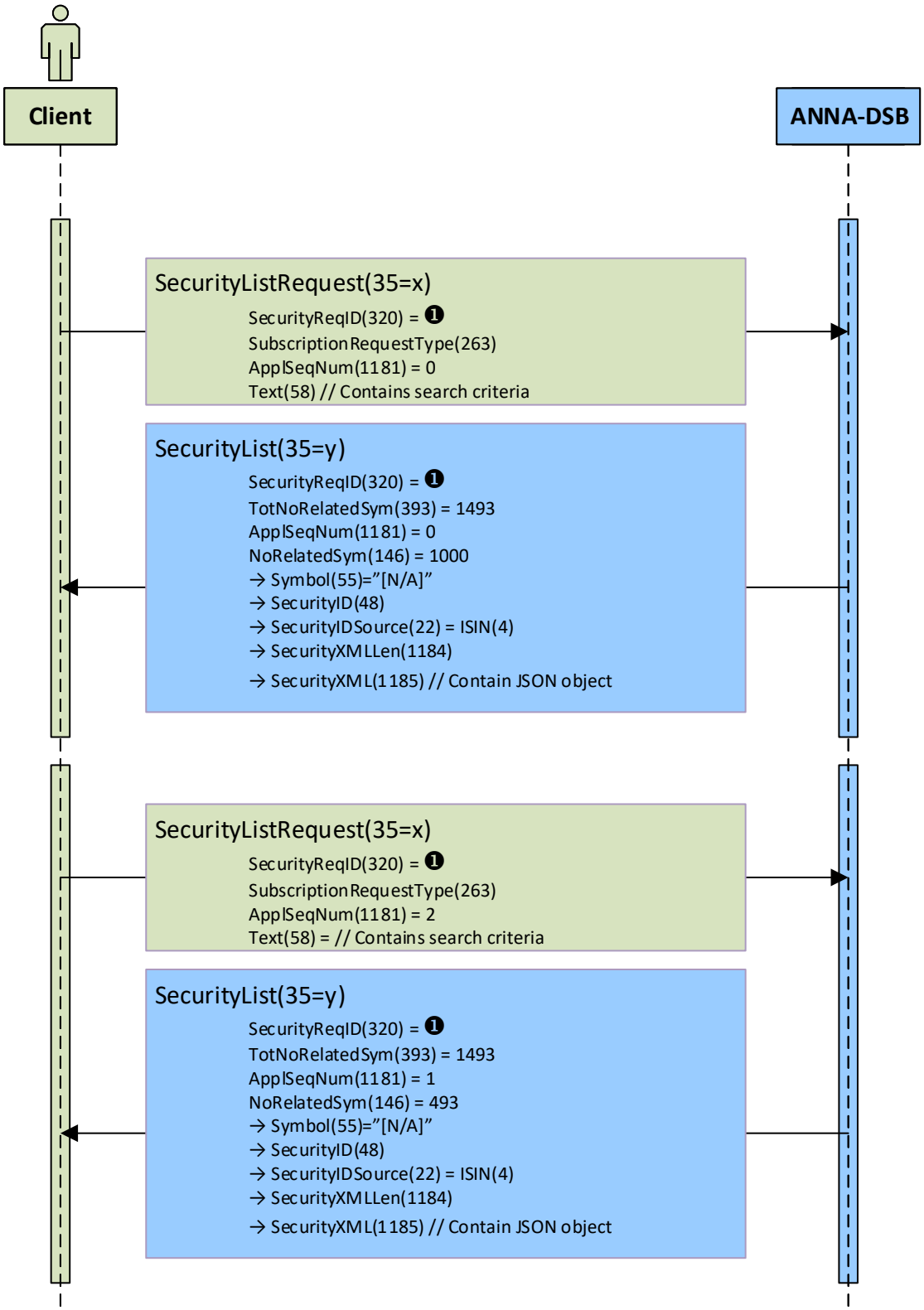

Diagram 13: Search for Records by Attributes

5.5.1 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
No instruments found that match selection criteria	No instruments found that match selection criteria(2)	
System is unavailable **Any other internal error**	Instrument Data Temporarily Unavailable(4)	Contact Support

5.6 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.

To subscribe to ISIN records, set SecurityListType(1470)=101 (default value if not provided)
To subscribe to ISIN and UPI records, set SecurityListType(1470)=103
To subscribe to UPI (only) records, set SecurityListType(1470)=102
Further values of SecurityListType(1470) are available in Subscribe to records migration updates section.

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.

5.6.1 Non-ASCII Characters

Note: When handling non-ASCII characters, e.g. Chinese or Latin symbols, within a record in the Subscription functionality, the FIX Server will *convert* to ASCII using **Unicode Escape Sequences**. The format of **Unicode Escape Sequence** is a backslash (\) followed by a small 'u', followed by the four-digit hexadecimal code for the character (i.e., \u12FE).

It's important to note that ASCII characters will not be converted during this process. The FIX Client can decide whether to decode the sequence back to non-ASCII characters.

For example:

If the original text is

"UnderlierName": "**国家电网有限公司**"

It will be converted by FIX Server to

"UnderlierName": "**\u56FD\u5BB6\u7535\u7F51\u6709\u9650\u516C\u53F8**"

The following diagram illustrates the workflow:

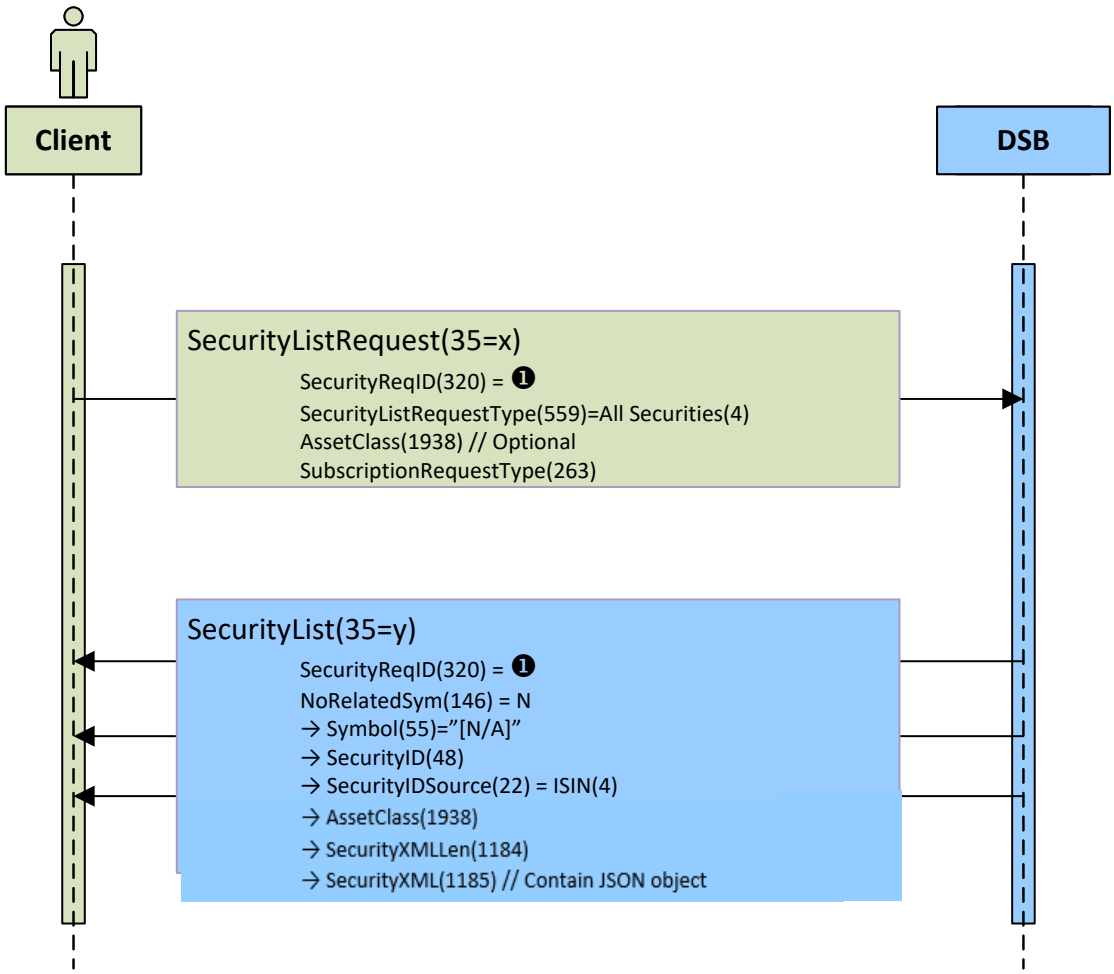

Diagram 14: Subscribe to ISIN Records

5.6.2 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

5.7 Subscribe to records migration updates

5.7.1 What are records migration updates?

New requirements for DSB introduced a need to migrate (/update) existing records.

The current requirements are:

1. Adding CFI-2019 to existing ISIN records [CFI-2019 migration]
2. Adding UPI parent codes to existing ISIN records [UPI migration]

These are referred to as migration of records (to a new form). The DSB allows FIX users to subscribe to receive updates during migration.

5.7.2 Record migration detail

During migration:

- The Identifier code (ISIN or UPI) does not change
- The /Header component and the /Attribute component of the records do not change and none of their content (existing attributes) change
- The attribute TemplateVersion changes. After migration the value is always a string that contains <Major>M<Minor> for example `"TemplateVersion":"2M1"` means major version = 2, minor version = 1
- The attribute LastUpdateDateTime is always updated (to the migration time)
- Records having Status attribute value 'New' before the migration, will have Status 'Updated' after their migration.
- The attribute StatusReason changes

During the CFI-2019 migration of ISIN records:

- A new attribute ISIN/Parents/CFI-2019 will be added to the record

During UPI migration of ISIN records:

- A new attribute ISIN/Parents/UPI will be added to the record

5.7.3 Non-ASCII characters

Note: When handling non-ASCII characters, e.g. Chinese or Latin symbols, within a record in the Subscription functionality, the FIX Server will *convert* to ASCII using **Unicode Escape Sequences**. The format of **Unicode Escape Sequence** is a backslash (\) followed by a small 'u', followed by the four-digit hexadecimal code for the character (i.e., \u12FE).

It's important to note that ASCII characters will not be converted during this process. The FIX Client can decide whether to decode the sequence back to non-ASCII characters.

For example:

If the original text is

"UnderlierName": "**国家电网有限公司**"

It will be converted by FIX Server to

"UnderlierName": "**\u56FD\u5BB6\u7535\u7F51\u6709\u9650\u516C\u53F8**"

5.7.4 Example of record migration:

Pre-migration form

```
{
        "TemplateVersion": 1,
        "Header": {
                "AssetClass": "Rates",
                "InstrumentType": "Option",
                "UseCase": "Swaption",
                "Level": "InstRefDataReporting"
        },
        "ISIN": {
                "ISIN": "EZR6Y9TZWWJ6",
                "Status": "New",
                "StatusReason": "",
                "LastUpdateDateTime": "2021-09-28T08:44:11"
        },
        "Derived": {
                "FullName": "Rates Option Swaption Call EZ196JCS3B25
USD 20250117",
                "ClassificationType": "HRCAVC",
                "CommodityDerivativeIndicator": "FALSE",
                "IssuerorOperatoroftheTradingVenueIdentifier": "NA",
                "ShortName": "NA/O Call Epn Fxd Flt USD 20250117"
        },
        "Attributes": {
                "NotionalCurrency": "USD",
                "ExpiryDate": "2025-01-17",
                "UnderlyingAssetType": "Fixed - Floating",
                "UnderlyingInstrumentISIN": "EZ196JCS3B25",
                "OptionType": "CALL",
                "OptionExerciseStyle": "EURO",
                "ValuationMethodorTrigger": "Vanilla",
                "DeliveryType": "CASH",
                "PriceMultiplier": 1
        }
}
```

```
{
        "TemplateVersion": 1M1,
        "Header": {
                "AssetClass": "Rates",
                "InstrumentType": "Option",
                "UseCase": "Swaption",
                "Level": "InstRefDataReporting"
        },
        "ISIN": {
                "ISIN": "EZR6Y9TZWWJ6",
                "Status": "Updated",
                "StatusReason": "Updated with UPI",
                "LastUpdateDateTime": "2021-10-03T11:54:42",
                "Parents":{
                        "UPI":"QZR2HQXJVVQ5"
                }
        },
        "Derived": {
                "FullName": "Rates Option Swaption Call EZ196JCS3B25 USD
20250117",
                "ClassificationType": "HRCAVC",
                "CommodityDerivativeIndicator": "FALSE",
                "IssuerorOperatoroftheTradingVenueIdentifier": "NA",
                "ShortName": "NA/O Call Epn Fxd Flt USD 20250117"
        },
        "Attributes": {
                "NotionalCurrency": "USD",
                "ExpiryDate": "2025-01-17",
                "UnderlyingAssetType": "Fixed - Floating",
                "UnderlyingInstrumentISIN": "EZ196JCS3B25",
                "OptionType": "CALL",
                "OptionExerciseStyle": "EURO",
                "ValuationMethodorTrigger": "Vanilla",
                "DeliveryType": "CASH",
                "PriceMultiplier": 1
        }
```

5.7.5 Operational consideration to subscribe to records migration updates

Migrations are expected to occur during operational hours and may take several days. The DSB technical support team controls the pace at which records are migrated and may pause the migration.

Due to the large number of updates, (i.e., almost all existing ISIN records will be updated) a separated (dedicated) subscription is required.
FIX clients that subscribe to records migration updates must ensure that they are not acting as 'slow consumers' and can process at least 250 updates per second for a complete week.

5.7.6 How to subscribe to records migration in FIX?

The SecurityListRequest(35=x) is used to subscribe to migration 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 to ISIN records migration, set SecurityListType(1470)=105
- To subscribe to UPI records migration, set SecurityListType(1470)=106
- To subscribe to ALL records migration, set SecurityListType(1470)=107

Further information about subscription to records updates is available in Subscribe to ISIN Records

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.

Further information as well as a diagram and expected results for this workflow is available in the Subscribe to ISIN Records and Subscribe to UPI Records sections.

6 TOTV FIX Message Flows

6.1 Introduction

This section looks at the messages that will be supported by DSB FIX interface to convey ISIN and/or UPI records.

6.2 Retrieve 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:

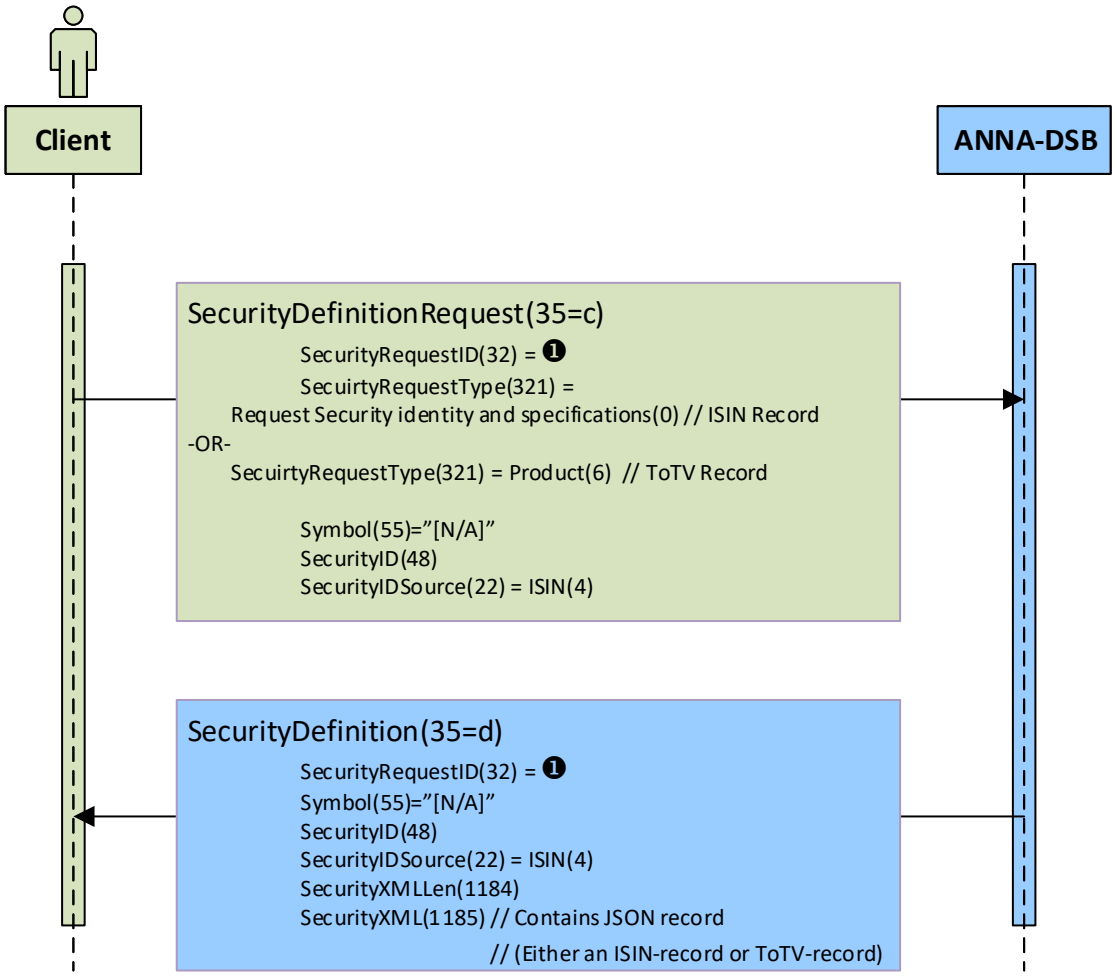

Diagram 15: Request the OTC product definition for an ISIN

7 FIX Message Reference

7.1 Introduction

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

7.2 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 or UPI Record by Attributes 4 = Retrieve ISIN or UPI Record by Attributes 6 = Retrieve ToTV Record by ISIN – or – UPI record by UPI
<Instrument> component				
→|Symbol	String	55	Y	Use: “[N/A]”
→|SecurityID	String	48	C	Required when requesting record by ISIN: either for an ISIN record or a ToTV record.
→|SecurityIDSource	String	22	C	Required when requesting record ISIN: either for an ISIN record or a ToTV record
→|UPICode	String	2891	C	Required when requesting a UPI record
→| < SecurityXM> component				
→|→|SecurityXMLLen	Int	1184	N	Conditionally required if SecurityRequestType(321)=1 SecurityXMLLen(1184) should precede SecurityXML(1185)
→|→|SecurityXML	String	1185	N	Conditionally required if SecurityRequestType(321)=1
<UndInstrmtGrp> component				
→|NoUnderlyings	Int	711	N	If exists, must be 1
→|→|<UnderlyingInstrument> component				
→|→|→|UnderlyingSecurityIDSource	Char	305	N	Specify the alternative underlying identifier to be return 1 = CUSIP 2 = SEDOL 5 = RIC S = FIGI
<StandardTrailer> component			Y	

7.3 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	C	Conditionally required when the message contains an ISIN or TOTV record
→|SecurityIDSource	String	22	C	SecurityIDSource(22)=ISIN number(4) Conditionally required when the message contains an ISIN or TOTV record
→|UPICode	String	2891	C	Conditionally required when the message contains a UPI record
→| <SecurityXML> component				
→|→|SecurityXMLLen	Int	1184	Y	Length of JSON record payload SecurityXMLLen(1184) should precede SecurityXML(1185)
→|→|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	

7.4 SecurityListRequest (35=x)

The SecurityListRequest(x) message is used to:

- subscribe to a list of UPI and/or ISIN records that were created or updated since last midnight GMT
- Search for UPI and/or ISIN by attributes (provide match criteria)

Name	Data Type	Tag	Rq	Description
<StandardHeader> **component**			Y	MsgType = x
SecurityReqID	String	320	Y	Identifies the request ID
SecurityListRequestType	Int	559	Y	2= Product: Filter subscription 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	Search or subscribe to: 101 = ISIN records, (default value if not set) 102 = UPI records 103 = ISIN and/or UPI records 100 = TOTV record (supported for legacy backward compatibility reason)
<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 UPI and/or ISIN records. 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
SubscriptionRequestType	Char	263	Y	0 = Snapshot 1 = Snapshot + updates 2 = Unsubscribe When searching for ISIN Records, the SubscriptionRequestType(263) must be Snapshot(0)
<UndInstrmtGrp> component				
→|**NoUnderlyings**	Int	711	N	If exists, must be 1
→|→|**<UnderlyingInstrument> component**				
→|→|→|**UnderlyingSecurityIDSource**	Char	305	N	Specify the alternative underlying identifier to be return 1 = CUSIP 2 = SEDOL 5 = RIC S = FIGI
ApplSeqNum	SeqNum	1181	C	Conditionally required for search. The first search start with ApplSeqNum(1181)=0
Text	String	58	C	Conditionally required when searching by attributes.

				Contains the search criteria.
<StandardTrailer> **component**			Y	

7.5 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
ApplSeqNum	SeqNum	1181	C	Conditionally required for search.
SecurityReqID	String	320	Y	Identifies the request ID
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	
TotNoRelatedSym	Int	393	N	Conditionally required if SecurityRequestResult = 0
<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	C	ISIN Conditionally required for an ISIN or TOTV record
→|→|**SecurityIDSource**	String	22	C	SecurityIDSource(22)=ISIN number(4) Conditionally required for an ISIN or TOTV record
→|→|→| **<SecurityXM> component**				
→|→|→|**SecurityXMLLen**	Int	1184	Y	Length of JSON record payload SecurityXMLLen(1184) should precede SecurityXML(1185)
→|→|→|**SecurityXML**	String	1185	Y	JSON record payload
→|→|**UPICode**	String	2891	C	UPI Conditionally required for a UPI record
<StandardTrailer> **component**			Y	

7.6 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	

8 FIX Message Samples

8.1 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 green

	"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

8.2 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
```

8.3 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
```

8.4 Business Message Reject message

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

```
8=FIXT.1.1^9=140^35=j^34=2^49=client^A50=subclient^52=20170802-
09:39:02.467^A56=DSB^A57=Demo^45=13^372=j^379=DREQ12^380=8^10=059
```

8.5 FIX Message Flows

8.5.1 UPI

8.5.1.1 Retrieve or Create UPI Record by Attributes

A sample SecurityDefinitionRequest message (35=c) below that has a product payload will retrieve or create a UPI Record.

```
8=FIXT.1.1^9=463^35=c^34=4^43=N^49=client48^50=subclient48^52=202305
31-16:05:40.539^56=DSB^57=DEV^122=20230531-
16:05:40.539^55=[N/A]^320=DREQ11^321=1^1184=315^1185={
       "Header": {
              "AssetClass": "Equity",
              "InstrumentType": "Swap",
              "UseCase":
"Price_Return_Basic_Performance_Single_Name",
              "Level": "UPI"
       },
       "Attributes": {
              "UnderlierIDSource": "ISIN",
              "UnderlierID": "NO0010902141",
              "ReturnorPayoutTrigger": "Price",
              "DeliveryType": "CASH"
       }
}^10=138^
```

```
8=FIXT.1.1^9=730^35=d^34=4^49=DSB^50=DEV^52=20230531-
16:05:41.072^56=client48^57=subclient48^55=[N/A]^60=20230531-
16:05:41.072^320=DREQ11^560=0^1184=563^1185={"TemplateVersion":"1","
Header":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pr
ice_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier
":{"UPI":"QZHF1QTH0QFW","Status":"New","StatusReason":"","LastUpdate
DateTime":"2023-05-
31T16:05:40"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"1,781% VASAKRONAN AB (publ)
20/30","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"NO0010902141","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^1938=4^2891=QZHF1QTH0QFW^10=074^
```

8.5.1.2 Retrieve or Create UPI Record by Attributes with Alternate Underlying ID

A sample SecurityDefinitionRequest message (35=c) below that has a product payload, NoUnderlyings(711) and UnderlyingSecurityIDSource(305) will retrieve or create a UPI Record.

```
8=FIXT.1.1^9=474^35=c^34=2^43=N^49=client48^50=subclient48^52=202305
31-15:57:21.618^56=DSB^57=DEV^122=20230531-
15:57:21.618^55=[N/A]^320=DREQ1^321=1^1184=315^1185={
       "Header": {
              "AssetClass": "Equity",
              "InstrumentType": "Swap",
              "UseCase":
"Price_Return_Basic_Performance_Single_Name",
              "Level": "UPI"
       },
       "Attributes": {
              "UnderlierIDSource": "ISIN",
              "UnderlierID": "CA80389ZEF86",
              "ReturnorPayoutTrigger": "Price",
              "DeliveryType": "CASH"
       }
}^711=1^305=S^10=228^
```

```
8=FIXT.1.1^9=893^35=d^34=2^49=DSB^50=DEV^52=20230531-
15:57:23.304^56=client48^57=subclient48^55=[N/A]^60=20230531-
15:57:23.304^320=DREQ1^560=0^1184=727^1185={"TemplateVersion":"1","H
eader":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pri
ce_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier"
:{"UPI":"QZ9F31DMSWB7","Status":"New","StatusReason":"","LastUpdateD
ateTime":"2023-05-
31T15:57:22"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"PROVINCE OF SASKATCHEWAN
GENERIC INT  12/01/2034","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlyingRecord":[{"UnderlierID":"
CA80389ZEF86","UnderlierIDSource":"ISIN","ReturnUnderlierIDSource":"
FIGI","ReturnUnderlierID":["BBG00874FKF9"]}]},"Attributes":{"Underly
ingInstrumentISIN":"CA80389ZEF86","ReturnorPayoutTrigger":"Price","D
eliveryType":"CASH"}}^1938=4^2891=QZ9F31DMSWB7^10=008^
```


8.5.1.3 Retrieve UPI Record by Attributes

A sample SecurityDefinitionRequest message (35=c) below that has a product payload and SecurityRequestType(321)= Symbol(4).


```
8=FIXT.1.1^9=463^35=c^34=15^43=N^49=client48^50=subclient48^52=20230
602-09:34:40.644^56=DSB^57=DEV^122=20230602-
09:34:40.644^55=[N/A]^320=DREQ6^321=4^1184=315^1185={
      "Header": {
            "AssetClass": "Equity",
            "InstrumentType": "Swap",
            "UseCase":
"Price_Return_Basic_Performance_Single_Name",
            "Level": "UPI"
      },
      "Attributes": {
            "UnderlierIDSource": "ISIN",
            "UnderlierID": "NO0010902141",
            "ReturnorPayoutTrigger": "Price",
            "DeliveryType": "CASH"
      }
}^10=147^
```



```
8=FIXT.1.1^9=730^35=d^34=15^49=DSB^50=DEV^52=20230602-
09:34:41.585^56=client48^57=subclient48^55=[N/A]^60=20230602-
09:34:41.585^320=DREQ6^560=0^1184=563^1185={"TemplateVersion":"1","H
eader":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pri
ce_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier"
:{"UPI":"QZHF1QTH0QFW","Status":"New","StatusReason":"","LastUpdateD
ateTime":"2023-05-
31T16:05:40"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"1,781% VASAKRONAN AB (publ)
20/30","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"NO0010902141","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^1938=4^2891=QZHF1QTH0QFW^10=104^
```


8.5.1.4 Retrieve UPI Record by Attributes with Alternate Underlying ID

A sample SecurityDefinitionRequest message (35=c) below that has a product payload, NoUnderlyings(711), UnderlyingSecurityIDSource(305) and SecurityRequestType(321)= Symbol(4).

```
8=FIXT.1.1^9=474^35=c^34=7^43=N^49=client48^50=subclient48^52=202306
02-09:32:02.570^56=DSB^57=DEV^122=20230602-
09:32:02.570^55=[N/A]^320=DREQ2^321=4^1184=315^1185={
       "Header": {
              "AssetClass": "Equity",
              "InstrumentType": "Swap",
              "UseCase":
"Price_Return_Basic_Performance_Single_Name",
              "Level": "UPI"
       },
       "Attributes": {
              "UnderlierIDSource": "ISIN",
              "UnderlierID": "CA80389ZEF86",
              "ReturnorPayoutTrigger": "Price",
              "DeliveryType": "CASH"
       }
}^711=1^305=S^10=219^
```

```
8=FIXT.1.1^9=893^35=d^34=7^49=DSB^50=DEV^52=20230602-
09:32:02.756^56=client48^57=subclient48^55=[N/A]^60=20230602-
09:32:02.756^320=DREQ2^560=0^1184=727^1185={"TemplateVersion":"1","H
eader":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pri
ce_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier"
:{"UPI":"QZ9F31DMSWB7","Status":"New","StatusReason":"","LastUpdateD
ateTime":"2023-05-
31T15:57:22"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"PROVINCE OF SASKATCHEWAN
GENERIC INT  12/01/2034","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlyingRecord":[{"UnderlierID":"
CA80389ZEF86","UnderlierIDSource":"ISIN","ReturnUnderlierIDSource":"
FIGI","ReturnUnderlierID":["BBG00874FKF9"]}]},"Attributes":{"Underly
ingInstrumentISIN":"CA80389ZEF86","ReturnorPayoutTrigger":"Price","D
eliveryType":"CASH"}}^1938=4^2891=QZ9F31DMSWB7^10=020^
```

8.5.1.5 Retrieve UPI Record by UPI

A sample SecurityDefinitionRequest message (35=c) below retrieves the record of the UPI provided in the SecurityID(48) tag.

```
8=FIXT.1.1^9=151^35=c^34=6^43=N^49=client48^50=subclient48^52=202305
31-16:10:19.025^56=DSB^57=DEV^122=20230531-
16:10:19.025^55=[N/A]^320=DREQ19^321=0^2891=QZHF1QTH0QFW^10=167^
```

```
8=FIXT.1.1^9=730^35=d^34=6^49=DSB^50=DEV^52=20230531-
16:10:18.936^56=client48^57=subclient48^55=[N/A]^60=20230531-
16:10:18.936^320=DREQ19^560=0^1184=563^1185={"TemplateVersion":"1","
Header":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pr
ice_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier
":{"UPI":"QZHF1QTH0QFW","Status":"New","StatusReason":"","LastUpdate
DateTime":"2023-05-
31T16:05:40"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"1,781% VASAKRONAN AB (publ)
20/30","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"NO0010902141","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^1938=4^2891=QZHF1QTH0QFW^10=102^
```

8.5.1.6 Retrieve UPI Record by UPI with Alternate Underlying ID

A sample SecurityDefinitionRequest message (35=c) below retrieves the record of the UPI provided in the SecurityID(48) tag with NoUnderlyings(711) and UnderlyingSecurityIDSource(305).

```
8=FIXT.1.1^9=163^35=c^34=12^43=N^49=client48^50=subclient48^52=20230
531-16:01:07.643^56=DSB^57=DEV^122=20230531-
16:01:07.643^55=[N/A]^320=DREQ6^321=0^2891=QZ9F31DMSWB7^711=1^305=S^
10=167^
```

```
8=FIXT.1.1^9=894^35=d^34=12^49=DSB^50=DEV^52=20230531-
16:01:07.704^56=client48^57=subclient48^55=[N/A]^60=20230531-
16:01:07.704^320=DREQ6^560=0^1184=727^1185={"TemplateVersion":"1","H
eader":{"AssetClass":"Equity","InstrumentType":"Swap","UseCase":"Pri
ce_Return_Basic_Performance_Single_Name","Level":"UPI"},"Identifier"
:{"UPI":"QZ9F31DMSWB7","Status":"New","StatusReason":"","LastUpdateD
ateTime":"2023-05-
31T15:57:22"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"PROVINCE OF SASKATCHEWAN
GENERIC INT  12/01/2034","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlyingRecord":[{"UnderlierID":"
CA80389ZEF86","UnderlierIDSource":"ISIN","ReturnUnderlierIDSource":"
FIGI","ReturnUnderlierID":["BBG00874FKF9"]}]},"Attributes":{"Underly
ingInstrumentISIN":"CA80389ZEF86","ReturnorPayoutTrigger":"Price","D
eliveryType":"CASH"}}^1938=4^2891=QZ9F31DMSWB7^10=055^
```

8.5.1.7 Search for UPI Records by Attributes

A sample SecurityListRequest message (35=x) below searches for records that match the supplied criteria which is provided in the Text(58) tag.

```
8=FIXT.1.1^9=163^35=x^34=59^43=N^49=client48^50=subclient48^52=20230
531-16:32:59.844^56=DSB^57=DEV^122=20230531-
16:32:59.844^58=QZHF1QTH0QFW^263=0^320=DREQ35^559=4^1181=0^1470=102^
10=130^
```

```
8=FIXT.1.1^9=789^35=y^34=59^49=DSB^50=DEV^52=20230531-
16:32:59.951^56=client48^57=subclient48^58=/Header/Level:UPI &&
(QZHF1QTH0QFW)^60=20230531-
16:32:59.951^320=DREQ35^393=1^560=0^1181=0^146=1^55=[N/A]^1938=4^118
4=563^1185={"TemplateVersion":"1","Header":{"AssetClass":"Equity","I
nstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Sing
le_Name","Level":"UPI"},"Identifier":{"UPI":"QZHF1QTH0QFW","Status":
"New","StatusReason":"","LastUpdateDateTime":"2023-05-
31T16:05:40"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"1,781% VASAKRONAN AB (publ)
20/30","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"NO0010902141","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^2891=QZHF1QTH0QFW^10=224^
```

8.5.1.8 Search for UPI Records by Attributes with Alternate Underlying ID

A sample SecurityListRequest message (35=x) below searches for records that match the supplied criteria which is provided in the Text(58) tag and NoUnderlyings(711) and UnderlyingSecurityIDSource(305) are present.

```
8=FIXT.1.1^9=175^35=x^34=49^43=N^49=client48^50=subclient48^52=20230
531-16:29:34.194^56=DSB^57=DEV^122=20230531-
```

```
16:29:34.194^58=QZ9F31DMSWB7^263=0^320=DREQ29^559=4^1181=0^1470=102^
711=1^305=S^10=127^
```

```
8=FIXT.1.1^9=953^35=y^34=49^49=DSB^50=DEV^52=20230531-
16:29:34.502^56=client48^57=subclient48^58=/Header/Level:UPI &&
(QZ9F31DMSWB7)^60=20230531-
16:29:34.502^320=DREQ29^393=1^560=0^1181=0^146=1^55=[N/A]^1938=4^118
4=727^1185={"TemplateVersion":"1","Header":{"AssetClass":"Equity","I
nstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Sing
le_Name","Level":"UPI"},"Identifier":{"UPI":"QZ9F31DMSWB7","Status":
"New","StatusReason":"","LastUpdateDateTime":"2023-05-
31T15:57:22"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"PROVINCE OF SASKATCHEWAN
GENERIC INT  12/01/2034","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlyingRecord":[{"UnderlierID":"
CA80389ZEF86","UnderlierIDSource":"ISIN","ReturnUnderlierIDSource":"
FIGI","ReturnUnderlierID":["BBG00874FKF9"]}]},"Attributes":{"Underly
ingInstrumentISIN":"CA80389ZEF86","ReturnorPayoutTrigger":"Price","D
eliveryType":"CASH"}}^2891=QZ9F31DMSWB7^10=117^
```

8.5.1.9 Subscribe to UPI Records

A sample SecurityListRequest message (35=x) below is a snapshot of FX instruments.

```
8=FIXT.1.1^9=140^35=x^34=29^43=N^49=client48^50=subclient48^52=20230
606-02:34:56.516^56=DSB^57=DEV^122=20230606-
02:34:56.516^263=0^320=DREQ11^559=4^1470=102^10=013^
```

```
8=FIXT.1.1^9=2519^35=y^34=27^49=DSB^50=DEV^52=20230606-
02:34:58.329^56=client48^57=subclient48^60=20230606-
02:34:58.319^320=DREQ11^393=4^560=0^146=4^55=[N/A]^1938=4^1184=548^1
185={"TemplateVersion":"1","Header":{"AssetClass":"Equity","Instrume
ntType":"Swap","UseCase":"Price_Return_Basic_Performance_Single_Name
","Level":"UPI"},"Identifier":{"UPI":"QZLX44B1MFH3","Status":"New","
StatusReason":"","LastUpdateDateTime":"2023-06-
06T02:27:20"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"No name
obtainable","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"XS1962148794","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^2891=QZLX44B1MFH3^55=[N/A]^1938=4^1184=548^1185={"TemplateV
ersion":"1","Header":{"AssetClass":"Equity","InstrumentType":"Swap",
"UseCase":"Price_Return_Basic_Performance_Single_Name","Level":"UPI"
},"Identifier":{"UPI":"QZTQ1W9CS6ZG","Status":"New","StatusReason":"
","LastUpdateDateTime":"2023-06-
06T02:29:33"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"No name
obtainable","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"US40435UN597","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^2891=QZTQ1W9CS6ZG^55=[N/A]^1938=4^1184=548^1185={"TemplateV
ersion":"1","Header":{"AssetClass":"Equity","InstrumentType":"Swap",
"UseCase":"Price_Return_Basic_Performance_Single_Name","Level":"UPI"
},"Identifier":{"UPI":"QZ4BZ9C4FP0C","Status":"New","StatusReason":"
","LastUpdateDateTime":"2023-06-
06T02:31:08"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"No name
obtainable","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"TW0006108004","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^2891=QZ4BZ9C4FP0C^55=[N/A]^1938=4^1184=548^1185={"TemplateV
ersion":"1","Header":{"AssetClass":"Equity","InstrumentType":"Swap",
"UseCase":"Price_Return_Basic_Performance_Single_Name","Level":"UPI"
```

```
},"Identifier":{"UPI":"QZR43VNBC12W","Status":"New","StatusReason":"
","LastUpdateDateTime":"2023-06-
06T02:34:54"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"No name
obtainable","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash"},"Attributes":{"UnderlyingInstrument
ISIN":"AU000TWEKOA2","ReturnorPayoutTrigger":"Price","DeliveryType":
"CASH"}}^2891=QZR43VNBC12W^10=186^
```


8.5.1.10 Subscribe to UPI Records with Alternate Underlying ID

A sample SecurityListRequest message (35=x) with NoUnderlyings(711) and UnderlyingSecurityIDSource(305) below is a snapshot of FX instruments.


```
8=FIXT.1.1^9=150^35=x^34=9^43=N^49=client48^50=subclient48^52=202306
06-02:27:28.808^56=DSB^57=DEV^122=20230606-
02:27:28.808^263=0^320=DREQ2^559=4^1470=102^711=1^305=S^10=231^
```



```
8=FIXT.1.1^9=875^35=y^34=9^49=DSB^50=DEV^52=20230606-
02:27:30.760^56=client48^57=subclient48^60=20230606-
02:27:30.760^320=DREQ2^393=1^560=0^146=1^55=[N/A]^1938=4^1184=697^11
85={"TemplateVersion":"1","Header":{"AssetClass":"Equity","Instrumen
tType":"Swap","UseCase":"Price_Return_Basic_Performance_Single_Name"
,"Level":"UPI"},"Identifier":{"UPI":"QZLX44B1MFH3","Status":"New","S
tatusReason":"","LastUpdateDateTime":"2023-06-
06T02:27:20"},"Derived":{"ClassificationType":"SESPXC","ShortName":"
NA/Swaps Sgle Stk Pr","UnderlierName":"No name
obtainable","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlyingRecord":[{"UnderlierID":"
XS1962148794","UnderlierIDSource":"ISIN","ReturnUnderlierIDSource":"
FIGI","ReturnUnderlierID":["BBG00PB8XLN6"]}]},"Attributes":{"Underly
ingInstrumentISIN":"XS1962148794","ReturnorPayoutTrigger":"Price","D
eliveryType":"CASH"}}^2891=QZLX44B1MFH3^10=194^
```


8.5.2 ISIN

8.5.2.1 Retrieve or Create ISIN Record by Attribute

A sample SecurityDefinitionRequest message (35=c) below that has a product payload will retrieve or create an ISIN Record.


```
8=FIXT.1.1^A9=587^A35=c^A34=57^A49=client^A50=subclient^A52=20180910-
17:42:16.221^A56=DSB^A57=Demo^A55=[N/A]^A320=DREQ1^A321=1^A1184=472^A1
185={
    "Header": {
        "AssetClass": "Rates",
        "InstrumentType": "Forward",
        "UseCase": "FRA_Index",
        "Level": "InstRefDataReporting"
    },
    "Attributes": {
        "NotionalCurrency": "EUR",
        "ExpiryDate": "2046-11-17",
        "ReferenceRate": "GBP-Semi-Annual Swap Rate",
        "ReferenceRateTermValue": 1,
        "ReferenceRateTermUnit": "YEAR",
        "DeliveryType": "CASH",
        "PriceMultiplier": 83953499.95787859
    }
}^A10=055^A
```

```
8=FIXT.1.1^A9=1030^A35=d^A34=57^A49=DSB^A50=Demo^A52=20180910-
17:42:15.262^A56=client^A57=subclient^A22=4^A48=EZ510PZP73C3^A55=[N/A]
^A60=20180910-
17:42:15.262^A320=DREQ1^A560=0^A1184=862^A1185={"Header":{"AssetClass"
:"Rates","InstrumentType":"Forward","UseCase":"FRA_Index","Level":"Ins
tRefDataReporting"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate
":"2046-11-17","ReferenceRate":"GBP-Semi-Annual Swap
Rate","ReferenceRateTermValue":1,"ReferenceRateTermUnit":"YEAR","Deliv
eryType":"CASH","PriceMultiplier":8.395349995787859E7},"ISIN":{"ISIN":
"EZ510PZP73C3","Status":"New","StatusReason":"","LastUpdateDateTime":"
2018-02-
17T05:01:31"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"SWAP"
,"CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Interes
t Rate Index","ReturnorPayoutTrigger":"Forward price of underlying
instrument","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullNa
me":"Rates Forward FRA_Index GBP-Semi-Annual Swap Rate 1 YEAR
20461117","ShortName":"NA/Fwd Pr Int Rt Idx EUR
20461117","ClassificationType":"JRIXFC"}}^A1938=1^A10=149^A
```


8.5.2.2 Retrieve ISIN Record by Attribute

A sample SecurityDefinitionRequest message (35=c) below that has a product payload and SecurityRequestType(321)= Symbol(4).


```
8=FIXT.1.1^A9=587^A35=c^A34=72^A49=client^A50=subclient^A52=20180910-
17:49:33.965^A56=DSB^A57=Demo^A55=[N/A]^A320=DREQ2^A321=4^A1184=472^A1
185={
    "Header": {
        "AssetClass": "Rates",
        "InstrumentType": "Forward",
        "UseCase": "FRA_Index",
        "Level": "InstRefDataReporting"
    },
    "Attributes": {
        "NotionalCurrency": "EUR",
        "ExpiryDate": "2046-11-17",
        "ReferenceRate": "GBP-Semi-Annual Swap Rate",
        "ReferenceRateTermValue": 1,
        "ReferenceRateTermUnit": "YEAR",
        "DeliveryType": "CASH",
        "PriceMultiplier": 83953499.95787859
    }
}^A10=077^A
```



```
8=FIXT.1.1^A9=1030^A35=d^A34=72^A49=DSB^A57=Demo^A52=20180910-
17:49:33.008^A56=client^A57=subclient^A22=4^A48=EZ510PZP73C3^A55=[N/A]
^A60=20180910-
17:49:33.007^A320=DREQ2^A560=0^A1184=862^A1185={"Header":{"AssetClass"
:"Rates","InstrumentType":"Forward","UseCase":"FRA_Index","Level":"Ins
tRefDataReporting"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate
":"2046-11-17","ReferenceRate":"GBP-Semi-Annual Swap
Rate","ReferenceRateTermValue":1,"ReferenceRateTermUnit":"YEAR","Deliv
eryType":"CASH","PriceMultiplier":8.395349995787859E7},"ISIN":{"ISIN":
"EZ510PZP73C3","Status":"New","StatusReason":"","LastUpdateDateTime":"
2018-02-
17T05:01:31"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"SWAP"
,"CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Interes
t Rate Index","ReturnorPayoutTrigger":"Forward price of underlying
instrument","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullNa
me":"Rates Forward FRA_Index GBP-Semi-Annual Swap Rate 1 YEAR
20461117","ShortName":"NA/Fwd Pr Int Rt Idx EUR
20461117","ClassificationType":"JRIXFC"}}^A1938=1^A10=156^A
```

8.5.2.3 Retrieve ISIN Record by ISIN

A sample SecurityDefinitionRequest message (35=c) below retrieves the record of the ISIN provided in the SecurityID(48) tag.

```
8=FIXT.1.1^A9=112^A35=c^A34=98^A49=client^A50=subclient^A52=20180910-
18:02:19.994^A56=DSB^A57=Demo^A22=4^A48=EZ510PZP73C3^A320=DREQ3^A321=0
^A10=080^A
```

```
8=FIXT.1.1^A9=1030^A35=d^A34=98^A49=DSB^A50=Demo^A52=20180910-
18:02:19.044^A56=client^A57=subclient^A22=4^A48=EZ510PZP73C3^A55=[N/A]
^A60=20180910-
18:02:19.044^A320=DREQ3^A560=0^A1184=862^A1185={"Header":{"AssetClass"
:"Rates","InstrumentType":"Forward","UseCase":"FRA_Index","Level":"Ins
tRefDataReporting"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate
":"2046-11-17","ReferenceRate":"GBP-Semi-Annual Swap
Rate","ReferenceRateTermValue":1,"ReferenceRateTermUnit":"YEAR","Deliv
eryType":"CASH","PriceMultiplier":8.395349995787859E7},"ISIN":{"ISIN":
"EZ510PZP73C3","Status":"New","StatusReason":"","LastUpdateDateTime":"
2018-02-
17T05:01:31"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"SWAP"
,"CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Interes
t Rate Index","ReturnorPayoutTrigger":"Forward price of underlying
instrument","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullNa
me":"Rates Forward FRA_Index GBP-Semi-Annual Swap Rate 1 YEAR
20461117","ShortName":"NA/Fwd Pr Int Rt Idx EUR
20461117","ClassificationType":"JRIXFC"}}^A1938=1^A10=154^A
```

8.5.2.4 Retrieve ToTV Record by ISIN

A sample SecurityDefinitionRequest message (35=c) having SecurityRequestType(321)= Product(6) below returns the ToTV Record of an ISIN.

```
8=FIXT.1.1^A9=113^A35=c^A34=120^A49=client^A50=subclient^A52=20180910-
18:12:46.886^A56=DSB^A57=Demo^A22=4^A48=EZ3S2X27N2L1^A320=DREQ5^A321=6
^A10=130^A
```

```
8=FIXT.1.1^A9=1178^A35=d^A34=120^A49=DSB^A50=Demo^A52=20180910-
18:12:45.926^A56=client^A57=subclient^A22=4^A48=EZ3S2X27N2L1^A55=[N/A]
^A60=20180910-18:12:45.926^A320=DREQ5^A560=0^A1184=1008^A1185={"ToTV-
record":{"Header":{"ISIN":"EZ3S2X27N2L1","LastCompletedProcessingDate"
:"2018-09-10","LastModifiedDate":"2018-09-09","CFI-Category":"S","CFI-
Group":"T"},"DSB-
ISIN":{"TemplateVersion":1,"Header":{"AssetClass":"Commodities","Instr
umentType":"Swap","UseCase":"Swap","Level":"InstRefDataReporting"},"IS
IN":{"ISIN":"EZ3S2X27N2L1","Status":"New","StatusReason":"","LastUpdat
eDateTime":"2018-09-09T22:40:52"},"Derived":{"FullName":"Commodities
Swap MCEX USD
20190830","ClassificationType":"STQCXC","CommodityDerivativeIndicator"
:"TRUE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName"
:"NA/Swap MCEX USD 20190830","UnderlyingAssetType":"Multi
Commodity"},"Attributes":{"NotionalCurrency":"USD","ExpiryDate":"2019-
08-30","ReturnorPayoutTrigger":"Contract for Difference
(CFD)","DeliveryType":"CASH","BaseProduct":"MCEX","SubProduct":"","Add
itionalSubProduct":"","TransactionType":"SWAP","FinalPriceType":"OTHR"
,"ReferenceRate":"OTHER","PriceMultiplier":1}},"Derived":{"ToTV":false
,"uToTV":false}}}^A1938=5^A10=011^A
```

8.5.2.5 Search for ISIN Records by Attributes

A sample SecurityListRequest message (35=x) below searches for records that match the supplied criteria which is provided in the Text(58) tag.

```
8=FIXT.1.1^A9=121^A35=x^A34=141^A49=client^A50=subclient^A52=20180910-
18:23:10.563^A56=DSB^A57=Demo^A58=EZ510PZP73C3^A263=0^A320=LREQ6^A559=
4^A1181=0^A10=005^A
```

```
8=FIXT.1.1^A9=1066^A35=y^A34=141^A49=DSB^A50=Demo^A52=20180910-
18:23:09.643^A56=client^A57=subclient^A58=EZ510PZP73C3^A60=20180910-
18:23:09.643^A320=LREQ6^A393=1^A560=0^A1181=0^A146=1^A55=[N/A]^A48=EZ5
10PZP73C3^A22=4^A1938=1^A1184=862^A1185={"Header":{"AssetClass":"Rates
","InstrumentType":"Forward","UseCase":"FRA_Index","Level":"InstRefDat
aReporting"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate":"2046
-11-17","ReferenceRate":"GBP-Semi-Annual Swap
Rate","ReferenceRateTermValue":1,"ReferenceRateTermUnit":"YEAR","Deliv
eryType":"CASH","PriceMultiplier":8.395349995787859E7},"ISIN":{"ISIN":
"EZ510PZP73C3","Status":"New","StatusReason":"","LastUpdateDateTime":"
2018-02-
17T05:01:31"},"TemplateVersion":1,"Derived":{"ISOReferenceRate":"SWAP"
,"CommodityDerivativeIndicator":"FALSE","UnderlyingAssetType":"Interes
t Rate Index","ReturnorPayoutTrigger":"Forward price of underlying
instrument","IssuerorOperatoroftheTradingVenueIdentifier":"NA","FullNa
me":"Rates Forward FRA_Index GBP-Semi-Annual Swap Rate 1 YEAR
20461117","ShortName":"NA/Fwd Pr Int Rt Idx EUR
20461117","ClassificationType":"JRIXFC"}}^A10=001^A
```

8.5.2.6 Search for ToTV Records by Attributes

A sample SecurityListRequest message (35=x) below searches for ToTV record that matches the supplied criteria which is provided in the Text(58) tag.

```
8=FIXT.1.1^A9=130^A35=x^A34=149^A49=client^A50=subclient^A52=20180910-
18:27:03.244^A56=DSB^A57=Demo^A58=EZ3S2X27N2L1^A263=0^A320=LREQ7^A559=
4^A1181=0^A1470=100^A10=177^A
```

```
8=FIXT.1.1^A9=1213^A35=y^A34=149^A49=DSB^A50=Demo^A52=20180910-
18:27:02.520^A56=client^A57=subclient^A58=EZ3S2X27N2L1^A60=20180910-
18:27:02.520^A320=LREQ7^A393=1^A560=0^A1181=0^A146=1^A55=[N/A]^A48=EZ3
S2X27N2L1^A22=4^A1938=5^A1184=1008^A1185={"ToTV-
record":{"Header":{"ISIN":"EZ3S2X27N2L1","LastCompletedProcessingDate"
:"2018-09-10","LastModifiedDate":"2018-09-09","CFI-Category":"S","CFI-
Group":"T"},"DSB-
ISIN":{"TemplateVersion":1,"Header":{"AssetClass":"Commodities","Instr
umentType":"Swap","UseCase":"Swap","Level":"InstRefDataReporting"},"IS
IN":{"ISIN":"EZ3S2X27N2L1","Status":"New","StatusReason":"","LastUpdat
eDateTime":"2018-09-09T22:40:52"},"Derived":{"FullName":"Commodities
Swap MCEX USD
20190830","ClassificationType":"STQCXC","CommodityDerivativeIndicator"
:"TRUE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName"
:"NA/Swap MCEX USD 20190830","UnderlyingAssetType":"Multi
Commodity"},"Attributes":{"NotionalCurrency":"USD","ExpiryDate":"2019-
08-30","ReturnorPayoutTrigger":"Contract for Difference
(CFD)","DeliveryType":"CASH","BaseProduct":"MCEX","SubProduct":"","Add
itionalSubProduct":"","TransactionType":"SWAP","FinalPriceType":"OTHR"
,"ReferenceRate":"OTHER","PriceMultiplier":1}},"Derived":{"ToTV":false
,"uToTV":false}}}^A10=038^A
```

8.5.2.7 Subscribe to ISIN Records

A sample SecurityListRequest message (35=x) below is a snapshot of FX instruments.

```
8=FIXT.1.1^A9=114^A35=x^A34=156^A49=client^A50=subclient^A52=20180910-
18:30:09.860^A56=DSB^A57=Demo^A263=0^A320=LREQ8^A559=2^A1470=100^A1938
=2^A10=000^A
```

8=FIXT.1.1^A9=565719^A**35=y**^A34=156^A49=DSB^A50=Demo^A52=20180910-
18:30:10.617^A56=client^A57=subclient^A60=20180910-
18:30:10.610^A320=LREQ8^A393=690^A560=0^A146=690^A55=[N/A]^A48=EZ6K3RK
YX333^A22=4^A1938=2^A1184=750^A1185={"TemplateVersion":1,"Header":{"As
setClass":"Foreign_Exchange","InstrumentType":"
Swap","UseCase":"FX_Swap","Level":"InstRefDataReporting"},"ISIN":{"ISI
N":"EZ6K3RKYX333","Status":"Expired","StatusReason":"","LastUpdateDate
Time":"2018-
09-10T00:15:05"},"Derived":{"FullName":"Foreign_Exchange Swap MXN USD
20180909","ClassificationType":"SFCXXP","CommodityDerivativeIndicator"
:"FALSE","Is
suerorOperatoroftheTradingVenueIdentifier":"NA","ShortName":"NA/Swaps
MXN USD 20180909","FXType":"FXCR","UnderlyingAssetType":"Forward-
Forward Swap","No
tionalCurrency":"MXN","ExpiryDate":"2018-09-
09","OtherNotionalCurrency":"USD"},"Attributes":{"InstrumentISINNearLe
g":"EZ8TLSKXJZZ3","InstrumentISINFarLe
g":"EZ98WDYKFYY0","DeliveryType":"PHYS","PriceMultiplier":1}}^A55=[N/A
]^A48=EZPLQNJS5LC9^A22=4^A1938=2^A1184=750^A1185={"TemplateVersion":1,
"Header":{"A
ssetClass":"Foreign_Exchange","InstrumentType":"Swap","UseCase":"FX_Sw
ap","Level":"InstRefDataReporting"},"ISIN":{"ISIN":"EZPLQNJS5LC9","Sta
tus":"Expire
d","StatusReason":"","LastUpdateDateTime":"2018-09-
10T00:15:05"},"Derived":{"FullName":"Foreign_Exchange Swap MXN USD
20180909","ClassificationType":"SF
CXXP","CommodityDerivativeIndicator":"FALSE","IssuerorOperatoroftheTra
dingVenueIdentifier":"NA","ShortName":"NA/Swaps MXN USD
20180909","FXType":"FXCR",
"UnderlyingAssetType":"Forward-Forward
Swap","NotionalCurrency":"MXN","ExpiryDate":"2018-09-
09","OtherNotionalCurrency":"USD"},"Attributes":{"Instrument
ISINNearLeg":"EZ65WCMK2VZ0","InstrumentISINFarLeg":"EZ98WDYKFYY0","Del
iveryType":"PHYS","PriceMultiplier":1}}^A55=[N/A]^A48=EZ8TQCCQK094^A22
=4^A1938=2^A
1184=750^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Foreign_Ex
change","InstrumentType":"Swap","UseCase":"FX_Swap","Level":"InstRefDa
taReporting"
},"ISIN":{"ISIN":"EZ8TQCCQK094","Status":"Expired","StatusReason":"","
LastUpdateDateTime":"2018-09-
10T00:15:05"},"Derived":{"FullName":"Foreign_Exchange
 Swap EUR SEK
20180909","ClassificationType":"SFCXXP","CommodityDerivativeIndicator"
:"FALSE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortNa
me":"NA/Swaps EUR SEK
20180909","FXType":"FXMJ","UnderlyingAssetType":"Forward-Forward
Swap","NotionalCurrency":"EUR","ExpiryDate":"2018-09-09","OtherNo
tionalCurrency":"SEK"},"Attributes":{"InstrumentISINNearLeg":"EZ1D4CZ0
QHG0","InstrumentISINFarLeg":"EZ8NB2SWT9K9","DeliveryType":"PHYS","Pri
ceMultiplier
":1}}^A55=[N/A]^A48=EZ8KQ61VT2N9^A22=4^A1938=2^A1184=750^A1185={"Templ
ateVersion":1,"Header":{"AssetClass":"Foreign_Exchange","InstrumentTyp
e":"Swap","U
seCase":"FX_Swap","Level":"InstRefDataReporting"},"ISIN":{"ISIN":"EZ8K
Q61VT2N9","Status":"Expired","StatusReason":"","LastUpdateDateTime":"2
018-09-10T00
:15:05"},"Derived":{"FullName":"Foreign_Exchange Swap EUR SEK
20180909","ClassificationType":"SFCXXP","CommodityDerivativeIndicator"
:"FALSE","IssuerorOp
eratoroftheTradingVenueIdentifier":"NA","ShortName":"NA/Swaps EUR SEK
20180909","FXType":"FXMJ","UnderlyingAssetType":"Forward-Forward
Swap","NotionalCu
rrency":"EUR","ExpiryDate":"2018-09-
09","OtherNotionalCurrency":"SEK"},"Attributes":{"InstrumentISINNearLe
g":"EZ27VVPS2ZS0","InstrumentISINFarLeg":"EZ8N

B2SWT9K9","DeliveryType":"PHYS","PriceMultiplier":1}}

<Truncated>

^A55=[N/A]^A48=EZNHRSBH29C2^A22=4^A1938=2^A1184=753^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Foreign_Exchange","InstrumentType":"Forward","UseCase":"NDF","Level":"InstRefDataReporting"},"ISIN":{"ISIN":"EZNHRSBH29C2","Status":"New","StatusReason":"","LastUpdateDateTime":"2018-09-10T18:19:25"},"Derived":{"FullName":"Foreign_Exchange Forward NDF CHF INR
20191113","ClassificationType":"JFTXFC","CommodityDerivativeIndicator":"FALSE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName":"NA/Fwd NDF CHF INR
20191113","FXType":"FXCR","UnderlyingAssetType":"Spot","ReturnorPayoutTrigger":"Forward price of underlying
instrument"},"Attributes":{"NotionalCurrency":"CHF","ExpiryDate":"2019-11-
13","OtherNotionalCurrency":"INR","SettlementCurrency":"CHF","DeliveryType":"CASH","PriceMultiplier":1}}^A55=[N/A]^A48=EZ8YPGP0ZDR5^A22=4^A1938=2^A1184=767^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Foreign_Exchange","InstrumentType":"Option","UseCase":"Target_Option","Level":"InstRefDataReporting"},"ISIN":{"ISIN":"EZ8YPGP0ZDR5","Status":"New","StatusReason":"","LastUpdateDateTime":"2018-09-
10T10:12:15"},"Derived":{"FullName":"Foreign_Exchange Option
Target_Option BRL USD
20181107","ClassificationType":"HFMDMP","CommodityDerivativeIndicator":"FALSE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName":"NA/O Targ Put BRL USD
20181107","FXType":"FXCR","UnderlyingAssetType":"Other","ValuationMethodorTrigger":"Other"},"Attributes":{"NotionalCurrency":"BRL","ExpiryDate":"2018-11-
07","OptionType":"PUTO","OptionExerciseStyle":"EURO","OtherNotionalCurrency":"USD","DeliveryType":"PHYS","PriceMultiplier":1}}^A55=[N/A]^A48=EZDJQ7DZ29D3^A22=4^A1938=2^A1184=767^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Foreign_Exchange","InstrumentType":"Option","UseCase":"Target_Option","Level":"InstRefDataReporting"},"ISIN":{"ISIN":"EZDJQ7DZ29D3","Status":"New","StatusReason":"","LastUpdateDateTime":"2018-09-10T10:47:12"},"Derived":{"FullName":"Foreign_Exchange Option
Target_Option BRL CHF
20181107","ClassificationType":"HFMDMP","CommodityDerivativeIndicator":"FALSE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName":"NA/O Targ Put BRL CHF
20181107","FXType":"FXCR","UnderlyingAssetType":"Other","ValuationMethodorTrigger":"Other"},"Attributes":{"NotionalCurrency":"BRL","ExpiryDate":"2018-11-
07","OptionType":"PUTO","OptionExerciseStyle":"EURO","OtherNotionalCurrency":"CHF","DeliveryType":"PHYS","PriceMultiplier":1}}^A10=177^A

8.5.2.8 ISIN Migration

We have a script (sync_isin_migration_records_efs.sh) running every day at 5 minutes past midnight that generates EOD File Download files by copying and zipping ISIN records to EFS. This script also removes any duplicate ISINs and handles any previously copied empty ISIN records files.

EFS File Download path:

- <environment>.anna-dsb.com/file-download/Records/OTC-Products/Delta/ISIN-Migration/<YYYY>/<YYYYMMDD>

Sample in sin-pf-orpn environment:

```
ubuntu@sin-pf-orpn-01-shared-web-01:/efs/file-download/Records/OTC-Products/Delta/ISIN-migration/2023/20230626$ ls -lrt
total 20
drwxrwxr-x 2 syncisin syncisin 6144 Jun 27 00:05 Commodities
drwxrwxr-x 2 syncisin syncisin 6144 Jun 27 00:05 Credit
drwxrwxr-x 2 syncisin syncisin 6144 Jun 27 00:05 Foreign_Exchange
drwxrwxr-x 2 syncisin syncisin 6144 Jun 27 00:05 Equity
drwxrwxr-x 2 syncisin syncisin 6144 Jun 27 00:05 Rates
```

Each asset class contains both .records and .zip version of ISINs:

```
ubuntu@sin-pf-orpn-01-shared-web-01:/efs/file-download/Records/OTC-Products/Delta/ISIN-migration/2023/20230626/Rates$ ls -lrt
total 3204
-rwxrwxr-x 1 syncisin syncisin 3143978 Jun 27 00:05 Rates-20230626.records
-rw-rw-r-- 1 syncisin syncisin  134498 Jun 27 00:05 Rates-20230626.zip
```

Sample template within **.records**


```
{"TemplateVersion":1,"Header":{"AssetClass":"Rates","InstrumentType":"
Option","UseCase":"Swaption","Level":"InstRefDataReporting"},"ISIN":{"
ISIN":"EZVYCZKH0230","Status":"Expired","StatusReason":"","LastUpdateD
ateTime":"2023-06-26T00:15:26"},"Derived":{"FullName":"Rates Option
Swaption Put EZ7R33M8V2M1 EUR
20230625","ClassificationType":"HRCDVC","CommodityDerivativeIndicator"
:"FALSE","IssuerorOperatoroftheTradingVenueIdentifier":"NA","ShortName
":"NA/O P Epn Fxd Flt EUR
20230625"},"Attributes":{"NotionalCurrency":"EUR","ExpiryDate":"2023-
06-25","UnderlyingAssetType":"Fixed -
Floating","UnderlyingInstrumentISIN":"EZ7R33M8V2M1","OptionType":"PUTO
","OptionExerciseStyle":"EURO","ValuationMethodorTrigger":"Vanilla","D
eliveryType":"CASH","PriceMultiplier":1}}
```


A sample SecurityListRequest message (35=x) below for subscribing into ISIN Migration(1470=105).


```
8=FIXT.1.19=14835=x34=543=N49=FIX50USER105250=SUBFIX50USER105252=20230
703-03:34:13.87656=DSB57=DEV122=20230703-
03:34:13.876263=0320=DREQ1559=41470=10510=035
```


Response


```
8=FIXT.1.1^A9=599701^A35=y^A34=2^A49=DSB^A50=DEV^A52=20230412-
08:27:13.045^A56=FIX50USER1052^A57=SUBFIX50USER1052^A60=20230412-
08:27:11.704^A320=22^A393=1000^A560=0^A146=1000^A55=[N/A]^A1938=4^A118
4=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","Inst
rumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Single_Na
me","Level":"UPI"},"Identifier":{"UPI":"QZ1ZFX55D0GR","Status":"New","
StatusReason":"","LastUpdateDateTime":"2023-04-
12T02:20:30"},"Derived":{"ClassificationType":"SESTXC","ShortName":"NA
/Swaps Sgle Stk Tot Rtn","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlierName":"US1445999A70"},"Attri
butes":{"UnderlyingInstrumentISIN":"US1445999A70","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZ1ZFX55D0GR^A55=[N/A]^A1938=4^A
1184=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","I
nstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Single
_Name","Level":"UPI"},"Identifier":{"UPI":"QZ0HPF5DJ0TG","Status":"New
","StatusReason":"","LastUpdateDateTime":"2023-04-
12T02:21:13"},"Derived":{"ClassificationType":"SESTXC","ShortName":"NA
/Swaps Sgle Stk Tot Rtn","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlierName":"SG1W39939069"},"Attri
butes":{"UnderlyingInstrumentISIN":"SG1W39939069","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZ0HPF5DJ0TG^A55=[N/A]^A1938=4^A
1184=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","I
nstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Single
_Name","Level":"UPI"},"Identifier":{"UPI":"QZ96WQ8PV0VH","Status":"New
```

","StatusReason":"","LastUpdateDateTime":"2023-04-
12T02:23:13"},"Derived":{"ClassificationType":"SESTXC","ShortName":"NA
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Stock","CFIDeliveryType":"Cash","UnderlierName":"PK0100401014"},"Attri
butes":{"UnderlyingInstrumentISIN":"PK0100401014","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZ96WQ8PV0VH^A55=[N/A]^A1938=4^A
1184=540^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","I
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_Name","Level":"UPI"},"Identifier":{"UPI":"QZ88835KH240","Status":"New
","StatusReason":"","LastUpdateDateTime":"2023-04-
12T02:25:40"},"Derived":{"ClassificationType":"SESPXC","ShortName":"NA
/Swaps Sgle Stk Pr","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlierName":"US42226A1079"},"Attri
butes":{"UnderlyingInstrumentISIN":"US42226A1079","ReturnorPayoutTrigg
er":"Price","DeliveryType":"CASH"}}^A2891=QZ88835KH240^A55=[N/A]^A1938
=4^A1184=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity
","InstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Si
ngle_Name","Level":"UPI"},"Identifier":{"UPI":"QZL6KZ8RCP78","Status":
"New","StatusReason":"","LastUpdateDateTime":"2023-04-
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Stock","CFIDeliveryType":"Cash","UnderlierName":"US68232V4059"},"Attri
butes":{"UnderlyingInstrumentISIN":"US68232V4059","ReturnorPayoutTrigg
er":"Total Return","DeliveryType":"CASH"}}
<Truncated>

^A55=[N/A]^A1938=4^A1184=552^A1185={"TemplateVersion":1,"Header":{"Ass
etClass":"Equity","InstrumentType":"Swap","UseCase":"Price_Return_Basi
c_Performance_Single_Name","Level":"UPI"},"Identifier":{"UPI":"QZDFSKN
XBRDB","Status":"New","StatusReason":"","LastUpdateDateTime":"2023-04-
12T04:42:02"},"Derived":{"ClassificationType":"SESTXC","ShortName":"NA
/Swaps Sgle Stk Tot Rtn","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlierName":"CA64438R8012"},"Attri
butes":{"UnderlyingInstrumentISIN":"CA64438R8012","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZDFSKNXBRDB^A55=[N/A]^A1938=4^A
1184=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","I
nstrumentType":"Swap","UseCase":"Price_Return_Basic_Performance_Single
_Name","Level":"UPI"},"Identifier":{"UPI":"QZBM085PDFVM","Status":"New
","StatusReason":"","LastUpdateDateTime":"2023-04-
12T04:42:02"},"Derived":{"ClassificationType":"SESTXC","ShortName":"NA
/Swaps Sgle Stk Tot Rtn","UnderlyingAssetType":"Single
Stock","CFIDeliveryType":"Cash","UnderlierName":"CA5432311044"},"Attri
butes":{"UnderlyingInstrumentISIN":"CA5432311044","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZBM085PDFVM^A55=[N/A]^A1938=4^A
1184=552^A1185={"TemplateVersion":1,"Header":{"AssetClass":"Equity","I
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Stock","CFIDeliveryType":"Cash","UnderlierName":"CA82934H1010"},"Attri
butes":{"UnderlyingInstrumentISIN":"CA82934H1010","ReturnorPayoutTrigg
er":"Total
Return","DeliveryType":"CASH"}}^A2891=QZW7PBM29NRL^A10=136^A

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.