EUROPEAN CENTRAL BANK

EUROSYSTEM

ECB-PUBLIC

MARKETS INFORMATION DISSEMINATION (MID)

Catalogue of services and integration guide

Table of Contents

1. Revision History

Date	Version	Description of changes	Author
28-Nov-14	1.0	Final version	MID team
June 2015	1.1	Update for inclusion of additional services	MID team
September 2015	1.2	Update for Eligible Assets	MID team
May 2016	1.3	Update for Press release on Monetary Policy Decisions and Press release on Monetary developments in the euro area	MID team
September 2016	1.4	Update for change in publication of euro foreign exchange reference rates	MID team
September 2016	1.5	Update for change of certificate	
August 2018	1.6	Updated for Monetary Financial Institutions (MFIs)	MID team
November 2018	1.7	Updated for Liquidity Management Publication	MID team
November 2018	1.8	Updated for TIPS	MID team

This document aims at providing an MID catalogue of services for external information consumers, describing the data that is disseminated, the format in which it is disseminated and the API necessary to retrieve the data. The content of this document is intended to be used by external consumers of structured information.

2. Introduction

ECB Market Information Dissemination (MID) is a new dissemination channel of ECB information to the public, addressing mainly automatic consumers, i.e. computer applications.

What is it and what does it do?

- A dissemination channel for automated consumption,
    - o privileging structured information.
    - o suitable for automatic processing.

- It offers increased reliability and security for the dissemination of structured information to external users.

What is it not?

- Not a replacement of ECB website services.
- Not a data warehouse.

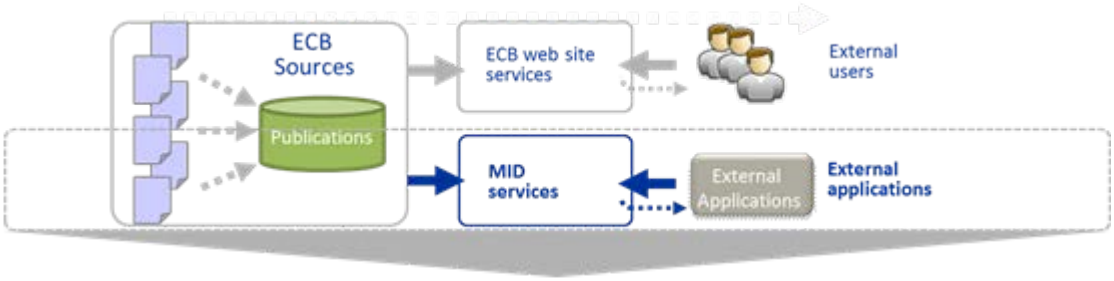

Figure 1 – The MID concept

MID services offer:

- Dissemination of structured information via a publicly available service.
- Content integrity.
- Source authenticity.

MID makes information available in the form of a “release”, which consists of a structured message published in a temporary area accessible to the public.

The ECB considers all information published via MID services of public domain, i.e. not restricted, not confidential.

3. Data content

The following section gives an overview of the data content MID offers.

3.1 Release types

The ECB uses the MID services to publish a wide range of information types, referenced as “release types”.

Currently, the ECB publishes information related to the following release types via MID:

Information origin	Release type	MID tag releaseType
ECB Market Operations	Tender operation announcement	TenderOperationAnnouncement
	Tender operation allotment	TenderOperationAllotment
	List of eligible marketable assets	EligibleAssetsList
	List of monetary financial institutions (MFIs)	MonetaryFinancialInstitutionsList
	List of monetary financial institutions including minimum reserve requirement features	MonetaryFinancialInstitutionsIncludingMRR
	Euro foreign exchange reference rates	EuroForeignExchangeReferenceRates
	Liquidity Management Publication	LiquidityManagementData
ECB Payment Systems	TARGET2 operational status message	TARGET2OperationalStatusMessage
	TARGET2 Securities operational status message	T2SOperationalStatusMessage
	TIPS operational status message	TIPSOperationalStatusMessage
ECB Communications	Press release on Monetary Policy Decisions	PressReleaseMonPolDecision
	Press release on Monetary developments in the euro area	PressReleaseM3

3.2 Release structure

A release consists of a structured message containing:

Field	Description	Example data
release type	Information type, referenced in MID as release types. Please refer to Annex 1 Table 1.	EuroForeignExchangeReferenceRates
release title	Up to 255 characters long and not necessarily unique	Euro Foreign Exchange Reference Data
release date/time	Date and time of release to the public. Format: YYYY-MM-DDTHH:MM:SS	2015-05-28T14:31:25
publication date/time	Date and time of publication to which the release refers to, i.e. reference date. It may be empty, however, mostly it will be the same as the release date/time. Format: YYYY-MM-DDTHH:MM:SS	2015-05-28T14:31:25
language	2-character ISO code indicating the language of the publication. Please refer to Annex 1 Table 2.	EN
thematic tags	They are descriptive statements used to classify the information contained in the message. In order to facilitate the usability of the query services, the set of thematic tags consists of unique identifiers within the same release type. Please refer to Annex 1, Table 3.	For a Liquidity management publication: HistoryDuringMP
content tags	Currently MID does not use these tags.	
release body	Depending on the release type the body will be either html, xml or some other format. Please refer to Annex 2 **.** .	

Field	Description	Example data
attachments	MID can publish several formats, such as *.docx; *.doc; *.pdf; *.xlsx; *.xls; *.zip; *.zipx; *.xml; *.html; *.csv; *.jpg; *.jpeg; *.gif; *.tif; *.bmp; *.png.	

4. Data format

4.1 Release message format

The release message (RSS) is structured as shown in the following example and accessible via URL http://mid.ecb.europa.eu/rss/mid.xml:

```
<?xml version="1.0" ?>
<escb:externalMessage xmlns:escb="http://escb.ecb.int/MarketInformationDissemination">
<escb:header>
   <escb:releaseType>Release type code</escb:releaseType>
   <escb:releaseTitle>Release title (free text)</escb:releaseTitle>
   <escb:releaseDateTime>YYYY-MM-DDTHH:MM:SS</escb:releaseDateTime>
   <escb:publicationDateTime>YYYY-MM-DDTHH:MM:SS</escb:publicationDateTime>
   <escb:attachment>
      <escb:fileName>Attachment file name</escb:fileName>
      <escb:linkFile>Attachment file URL</escb:linkFile>
      <escb:linkSignature>Digital signature for attachment</escb:linkSignature>
   </escb:attachment>
   <escb:attachment>
      <escb:fileName>Attachment file name</escb:fileName>
      <escb:linkFile>Attachment file URL</escb:linkFile>
      <escb:linkSignature>Digital signature for attachment</escb:linkSignature>
   </escb:attachment>
   <escb:thematicTags>Thematic tag code</escb:thematicTags>
   <escb:thematicTags>Thematic tag code</escb:thematicTags>
   <escb:thematicTags>Thematic tag code</escb:thematicTags>
   <escb:contentTags>
      <escb:key>Free text</escb:key>
      <escb:value>Free text</escb:value>
   </escb:contentTags>
   <escb:contentTags>
      <escb:key>Free text</escb:key>
      <escb:value>Free text</escb:value>
   </escb:contentTags>
   <escb:language>Language code</escb:language>
</escb:header>
<escb:body>
   <escb:content>XML_content</escb:content>
</escb:body>
<escb:footer>
   <escb:digest>Digital signature for attachment</escb:digest>
</escb:footer>
</escb:externalMessage>
```

The release message is divided in three parts:

1. **header**: contains the metadata as follows:
    - releaseType
    - releaseTitle
    - releaseDateTime
    - publicationDateTime

- attachment
  More than one attachment can be available. The attachment metadata is split in the following parts:
  i. *filename*: the name of the single attached file
  ii. *linkFile*: the link to the single attached file
  iii. *linkSignature*: the digital signature of the single attached file
- thematicTag
  More than one thematic tag can be included in a single release message.
- language

2. **body**: contains the content of the release.
   - content: the content of the release (XML/HTML format. See Annex 2:Release body format)
3. **footer**: contains security features associated to the release message
   - digest: the digital signature of the release (header and body).

4.2 Release body format

The exact format of the body of a release depends on the release type. Some release types already have a predefined information structure.

Please refer to Annex 2:Release body format for detailed information on all release formats currently published via MID.

4.3 Release footer format and usage of digital signature

The ECB uses the digital signature to validate the authenticity of the sender (the ECB) and to ensure the message was not altered after its creation.

A release message contains two different types of digital signature:

- **linkSignature**: the digital signature of the single attachment.
- **digest tag**: the digital signature of the release, meant as header and body of the release message.

4.3.1 Attachment digital signature verification

Each single attachment of a release is digitally signed using the following procedure:

The system creates a hash of the document. This represents a “digital fingerprint” of the release attachment and is used to create the digital signature. MID uses the MD5 standard to generate the hash and produce a 128-bit digest.

The hash is then digitally signed using Entrust Certificate and an implicit signature is generated containing both the signed data and the signature. This is a DER-encoded representation of the signed data object as specified in the PKCS #7 standard. The public part of the certificate used is added to the release attachment signature data.

To verify the validity of the digital signature the following procedure applies:

1. Read the attachment's content as a stream.
2. Generate a hash of the stream using MD5 standard.
3. Transform the byte array of the hash to 32 char HEX.
4. Verify the validity of the digital signature using the certificate received as part of the signature data. Entrust Certificate Authority is distributed across major software and hardware vendors. Because of this ubiquity, Entrust certificates are automatically trusted by popular applications including web browsers, e-mail clients, etc.
5. If the digital signature is valid, the content is extracted from the signature.
6. The content extracted from the signature is compared with the 32 char HEX extracted from the attachment.
7. If the two values are equal and the digital signature is valid (see point 4 above) the attachment is verified.

4.3.2 Release digital signature verification

MID digitally signs each release (without attachments) using the following procedure:

MID uses only the header and the body XML sections of the release message for this procedure and creates a hash of the section. This represents a "digital fingerprint" of the release data and is used to create the digital signature. MID uses the MD5 standard to generate the hash and produce a 128-bit digest.

The hash is digitally signed using Entrust Certificate and an implicit signature is generated containing both the signed data and the signature. This is a DER-encoded representation of the signed data object as specified in PKCS #7 standard. MID adds the public part of the certificate to the release signature data.

To verify the validity of the digital signature the following procedure applies:

1. The header and body XML sections of the release message are used to generate a separate XML file. The footer of the message contains only the digital signature.
2. The XML file containing only the header and body data is read as a stream.
3. A hash of the stream is generated using MD5 standard.
4. The byte array of the hash is transformed to 32 char HEX.
5. The digital signature is extracted from the footer and its validity verified using the certificate received as part of the signature data. Entrust Certificate Authority has been distributed to major software and hardware vendors. Because of this ubiquity, Entrust certificates are automatically trusted by popular applications including web browsers, e-mail clients, etc. If the digital signature is valid, the content is extracted from the signature.
6. The content extracted from the signature is compared with the 32 char HEX extracted from the XML file.
7. If the two values are equal and the digital signature is valid (see point 5 above) the XML message is verified.

5. API[1] to retrieve data

Consumers can access MID data via two channels: Rich Site Summary 2.0 (RSS) and web queries (SOAP).

5.1 RSS

RSS is the recommended channel for polling for new information and retrieval of new data published by the ECB. RSS services allow retrieval of the releases in two steps:

1. Subscription to RSS services.
   All information published on MID is collected in one feed, accessible via the following URL: http://mid.ecb.europa.eu/rss/mid.xml.
2. Query of list of available releases.
   The result is a list of releases, with release title and a link to the release.

Internet Explorer sample: sample-rss-ie-mid.xml [ref. DOC01 in Annex 4]
Generic output format:

```
<?xml version="1.0" encoding="utf-8"?>
<rss version="2.0">   <channel>
    <title>ECB - European Central Bank</title>
    <link>http://www.ecb.europa.eu</link>
    <description>text</description>
    <language>ISO-2 language code as in Annex 1 Table 2</language>
    <copyright>Copyright 2013, European Central Bank</copyright>
    <webMaster></webMaster>
    <lastBuildDate></lastBuildDate>
    <pubDate>YYYY/MM/DD hh:mm:ss</pubDate>
    <category domain="">Publications</category>
    <generator>Automatic</generator>
    <docs>http://blogs.law.harvard.edu/tech/rss/</docs>
    <item>
      <title>release title</title>
      <link>release link in MID</link>
      <pubDate>publication date EEE, dd MMM yyyy HH:mm:ss zzz</pubDate>
    </item>
  </channel>
</rss>
```

Each list is limited to the most recent ten entries[2].

For the subsequent retrieval of a single release, follow the corresponding link in the feed.

5.2 Web query

Web query is the recommended channel for searching, based on specific criteria, for releases published by ECB. As such it is not meant, nor recommended for high frequency polling. Access is limited to one request per second on web queries.

[1] Application Programming Interface

[2] The RSS file always contains ten entries. If more results are observed it is owed to the web browser caching results.

Web queries allow retrieval of the releases in two steps, the query of a list of available release and the query for a single release.

5.2.1 Query of list of available releases

It is possible to query MID for a list of releases by filtering on the metadata, in order to obtain a list of matching releases. The list can be retrieved using the following file:

- searchReleases.wsdl [ref. DOC02 in Annex 4]

The search is based on Soap with the following structure:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:sear="searchReleases">
   <soapenv:Header/>
   <soapenv:Body>
      <sear:searchReleases>
         <!-- Optional -->
         <releaseType>See codes in Annex 1, Table 1</releaseType>
         <!-- Optional -->
         <releaseTitle>Exact title of the release</releaseTitle>
         <!-- Optional -->
         <startReleaseDate>DD/MM/YYYY</startReleaseDate>
         <!-- Optional -->
         <endReleaseDate>DD/MM/YYYY</endReleaseDate>
         <!-- Optional -->
         <startPublicationDate>DD/MM/YYYY</startPublicationDate>
         <!-- Optional -->
         <endPublicationDate>DD/MM/YYYY</endPublicationDate>
         <!-- Optional -->
         <language>ISO-2 language code as in Annex 1,  Table 2</language>
         <!-- Optional: zero or more repetitions:-->
         <tags>Thematic tag code as in Annex 1, Table 3</tags>
         <!-- Optional: zero, one or two repetitions -->
         <sortBy>[releaseType | releaseTitle | releaseDate | publicationDate | language]</sortBy>
         <!-- Optional -->
         <sortFlag>[ASC | DESC]</sortFlag>
      </sear:searchReleases>
   </soapenv:Body>
</soapenv:Envelope>
---
Sample file: search_all_criteria_request.xml [ref. DOC03 in Annex 4]
```

The search options can be a combination of the below parameters. They are case sensitive and interpreted in AND mode.

- release type: Type of release with type code as detailed in Annex 1, Table 1 – Release type codes

  E.g.: <releaseType>EuroForeignExchangeReferenceRates</releaseType>

- release title: Title of the release.
  E.g.: <releaseTitle>Euro foreign exchange reference rates</releaseTitle>

- startReleaseDate: Date from which to start the search for releases. Format: DD/MM/YYYY.
  E.g.: startReleaseDate>02/05/2015</startReleaseDate>
- endReleaseDate: Date until which to search the releases. Format: DD/MM/YYYY.
  E.g.: <endReleaseDate>01/09/2014</endreleaseDate
- startPublicationDate: Date of publication from which to search the releases. Format: DD/MM/YYYY.
  E.g.: <startPublicationDate>01/07/2014</startPublicationDate
- endPublicationDate: Date of publication until which to search the releases. Format DD/MM/YYYY.
  E.g.: <endPublicationDate>01/09/2014</endPublicationDate
- language: Language of release in 2-character ISO code as detailed in Annex , 1Table 2.
  E.g.: <language>EN</language>
- tags: The tags associated to the release, with thematic tag code as in Annex 1, Table 3.
  E.g.: <tags>RT</tags>
  <tags>USD</tags>

Please note that the system will consider multiple tags within the same search criterion as connected in OR mode.

It is not possible to search in the content of the body of the release, neither in the content of attachments, and neither in the content of content based tags.

It is, however, possible to order the search results according to specific metadata:

a. by Release type
   <sortBy>releaseType</sortBy>
b. by release title
   <sortBy>releaseTitle</sortBy>
c. by Release date
   <sortBy>releaseDate</sortBy>
d. by Publication date
   <sortBy>publicationDate</sortBy>
e. by Language
   <sortBy>language</sortBy>

In addition, the results can be sorted either ascending

<sortFlag>ASC</sortFlag>

or descending

<sortFlag>DESC</sortFlag>.

The result of the search is a list of matching releases, in XML format, and is not complemented by a digital signature.

Each release in the list is described by a link to the release and its metadata.

Sample query result: search_all_criteria_response.xml [see DOC04 in Annex 4]

Generic output format:

```
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ser-root:searchReleasesResponse xmlns:ser-root="searchReleases">
      <results>
        <releaseType>Type of release</releaseType>
        <releaseTitle>Title of release</releaseTitle>
        <releaseDate>DD/MM/YYYY hh:mm:ss</releaseDate>
        <publicationDate>DD/MM/YYYY hh:mm:ss</publicationDate>
        <language>ISO-2 language code as in Annex 1,  Table 2</language>
        <linkToPublication>Link to MID release</linkToPublication>
      </results>
      <resultsCount>Number of results in integer format</resultsCount>
      <errorOutput xsi:nil="true"/>
    </ser-root:searchReleasesResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

In case the syntax described above is not correct, if e.g.*releaseDate* is not provided in the correct format, MID will return the below error message.

```
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instar
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ser-root:searchReleasesResponse xmlns:ser-root="searchReleases">
      <results xsi:nil="true"/>
      <resultsCount xsi:nil="true"/>
      <errorOutput>Syntax not allowed!</errorOutput>
    </ser-root:searchReleasesResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

5.2.2 Retrieval of a single release

For the retrieval of a single release only, follow the correspondent link included in the previous query (see in bold below).

```
…
<results>
  <releaseType>TARGET2OperationalStatusMessage</releaseType>
  <releaseTitle>19:00 New Business Day</releaseTitle>
  <releaseDate>14/10/2013 19:00:00</releaseDate>
  <language>EN</language>
  <tags>OK</tags>
 <linkToPublication>http://mid.ecb.europa.eu/rel/f101bf92363f11e3a5f581afc6a1596a.xml</linkT
ication>
</results>
…
```

5.3 Retrieve full and updated data lists

MID provides the *latest files* for the following data lists as static content:

- Eligible Assets data dictionary
- Eligible Assets (EAs):
  - ✓ Full dataset (daily)
  - ✓ Changes from the previous reported day
- Monetary Financial Institutions (MFIs):
  - ✓ Full dataset (daily)
  - ✓ Changes from the previous reported day
- Monetary Financial Institutions including Minimum Reserve Requirement features (MFI MRR)[3]:
  - ✓ Full dataset (monthly – last working day of the month)
  - ✓ Changes from the previous reported month

This provides the possibility to retrieve the most recent full dataset and update files in XML compressed format (.gz). To access these data lists, the following URLs apply:

- Eligible Assets data dictionary:
  - o http://mid.ecb.europa.eu/app/ea/ea_dictionary.xml.gz
- Eligible Assets (EAs) – Daily**:**
  - o Full dataset: http://mid.ecb.europa.eu/app/ea/ea.xml.gz
  - o Update dataset: http://mid.ecb.europa.eu/app/ea/ea_update.xml.gz
- Monetary Financial Institutions (MFIs) – Daily**:**
  - o Full dataset: http://mid.ecb.europa.eu/app/mfi/mfi.xml.gz
  - o Update dataset: http://mid.ecb.europa.eu/app/mfi/mfi_update.xml.gz

[3] Also referred to as Monetary Policy Eligible Counterparties (MPEC).

- Monetary Financial Institutions including Minimum Reserve Requirement features (MFI MRR) – Last working day of the month**:**
    - Full dataset: http://mid.ecb.europa.eu/app/mfi_mrr/mfi_incl_mrr.xml.gz
    - Update dataset: http://mid.ecb.europa.eu/app/mfi_mrr/mfi_incl_mrr_update.xml.gz

MID provides the possibility to access the most recent datasets in this way, but keeps no historical data.

5.4 Retrieve subsets of the full data lists via content-based queries

MID provides the possibility of retrieving only a subset of the *latest data* for the following data lists by using a content-based query:

- Eligible Assets data dictionary
- Eligible Assets (EAs): Full dataset (daily)
- Monetary Financial Institutions (MFIs): Full dataset (daily)
- Monetary Financial Institutions including Minimum Reserve Requirement features (MFI MRR): Full dataset (monthly – last working day of the month)

5.4.1 Eligible Assets Data Dictionary

The below query applies to retrieve the data dictionary:

- searchEaDictionary.wsdl [ref. DOC05 in Annex 4]
- Sample file: ea_dict_request.xml [ref. DOC06 in Annex 4]

The search is based on Soap with the following structure:

```
<soapenv:Envelope
    xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:get="getDictionary">
    <soapenv:Header />
    <soapenv:Body>
        <get:searchDictionary>
            <compressed>boolean</compressed>
        </get:searchDictionary>
    </soapenv:Body>
</soapenv:Envelope>
```

The search option is case sensitive.

Compression is a Boolean variable specifying whether or not the result should be returned encoded or uncompressed. E.g.:

Encoded:	<compressed>true</compressed>
Uncompressed:	<compressed>false</compressed>

The result of the search is the complete dictionary in xml format and base64 encoded.

If the file was requested compressed, it will be first compressed using Gzip.

MID will return the result of the search in the following format:

```
<SOAP-ENV:Envelope
        xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <SOAP-ENV:Header/>
        <SOAP-ENV:Body>
                <ser-root:searchDictionaryResponse xmlns:ser-root="getDictionary">
                        <dictionary>H4sIAAAAAAAAAOVdW3PbOJZ+71+B6pd2quw46e7pmenK
                        9hRIQhQs3kKCduQ3WkJsTiTSQ5HpeH7vvuQPbE1t9cMekL7IFx3Ttkj0
                        Mk+WJUr4AByc850LgHf/+LJckM+yWKV59l/fv3395vt//Pbdu3k6K+Lj
                        47TtC3iWrlSzNvDrPM0t+TLNUfbhSH236sPkMPp3lc/mbaf34br9+dfX2/O
                        bJw6RIk5OFfLc/v/P1d/vIb7dr9+3mdo9lkX=</dictionary>
                </ser-root:searchDictionaryResponse>
        </SOAP-ENV:Body>
```

The data within <dictionary></dictionary> shall be handled in the following way:

If the data was requested uncompressed, perform a base64 decoding and save the file to your desired location in .xml or .csv format, depending on the file format specified in the search criteria.

If the data was requested compressed, perform a base64 decoding and then save the file to your desired location in in .xml.gz or .csv.gz format, depending on the file format specified in the search criteria.

The elements found in the dictionary can later on be used for the EAs full dataset content based query.

An example of the type of information contained in this file is available in https://mfi-assets.ecb.int/resultEa/abbreviations. The XML file that MID provides will contain similar information. The keys (sub-element “code”) in the file are those used by the Eligible Assets query to filter data from the full dataset (see section 5.4.2).

E.g.:

In the dictionary, a variable coupon definition is presented as follows:

```
<assetCouponDefinition>
        <code>CD2</code>
```

<definition>**Variable**</definition>

</assetCouponDefinition>

In the query searching for Eligible Assets we would use the code **CD2** if we wanted to select data items with coupon definition of variable type, i.e.

<Coupon_Def>**CD2**</Coupon_Def>

5.4.2 Eligible Assets (EAs) full dataset

For the retrieval of a subset of the eligible assets data through MID, the below query applies:

- queryEa.wsdl [ref. DOC07 in Annex 4]
- Sample file: ea_search_all_criteria.xml [ref. DOC08 in Annex 4]

The search is based on Soap with the following structure:

```
<soapenv:Envelope
        xmlns:soapenv=”http://schemas.xmlsoap.org/soap/envelope/“ xmlns:quer="queryEa">
        <soapenv:Header/>
        <soapenv:Body>
                <quer:searchEA>
                        <!--Optional-->
                        <ISIN_Code>string</ISIN_Code>
                        <!--Optional-->
                        <Other_Reg_Nr>string</Other_Reg_Nr>
                        <!--Optional-->
                        <Liquidity_Class>string</Liquidity_Class>
                        <!--Optional-->
                        <Haircut_Category>string</Haircut_Category>
                        <!--Zero or more repetitions-->
                        <Asset_Type>string</Asset_Type>
                        <!--Zero or more repetitions-->
                        <Ref_Market>string</Ref_Market>
                        <!--Zero or more repetitions-->
                        <Denomination>string</Denomination>
                        <!--Optional-->
                        <Issuance_Date_From>DD/MM/YYYY</Issuance_Date_From>
                        <!--Optional-->
                        <Issuance_Date_To>DD/MM/YYYY</Issuance_Date_To>
                        <!--Optional-->
                        <Maturity_Date_From>DD/MM/YYYY</Maturity_Date_From>
                        <!--Optional-->
                        <Maturity_Date_To>DD/MM/YYYY</Maturity_Date_To>
                        <!--Zero or more repetitions-->
                        <Country_Location>string</Country_Location>
                        <!--Optional-->
                        <Issuer_Name>string</Issuer_Name>
                        <!--Optional-->
                        <Other_Issuer_Name>string</Other_Issuer_Name>
                        <!--Zero or more repetitions-->
                        <Issuer_Residence>string</Issuer_Residence>
                        <!--Zero or more repetitions-->
                        <Issuer_Group>string</Issuer_Group>
                        <!--Optional-->
                        <Guarantor_Name>string</Guarantor_Name>
                        <!--Optional-->
                        <Other_Guarantor_Name>string</Other_Guarantor_Name>
                        <!--Zero or more repetitions-->
                        <Guarantor_Residence>string</Guarantor_Residence>
                        <!--Zero or more repetitions-->
                        <Guarantor_Group>string</Guarantor_Group>
                        <!--Zero or more repetitions-->
```

```
                        <Coupon_Def>string</Coupon_Def>
                        <!--Optional-->
                        <Valuation_Haircut_From>string</Valuation_Haircut_From>
                        <!--Optional-->
                        <Valuation_Haircut_To>string</Valuation_Haircut_To>
                        <!--Optional-->
                        <Non_Own_Use_Haircut>?</Non_Own_Use_Haircut>
                        <!--Optional-->
                        <Own_Use_Haircut>?</Own_Use_Haircut>
                        <!--Optional-->
                        <Sort_by_first>string</Sort_by_first>
                        <!--Optional-->
                        <Sort_by_second>string</Sort_by_second>
                        <outputFileType>string</outputFileType>
                        <outputFileCompression>string</outputFileCompression>
                    </quer:searchEA>
            </soapenv:Body>
</soapenv:Envelope>
```

Please note that the search option is case sensitive for all fields.

- ISIN Code: a string containing the ISIN Code of the searched record e.g.:
  <ISIN_Code>DE000LB0AMH3</ISIN_Code>
- Other registration number: a string containing the other registration number of the searched record e.g.:
  <Other_Reg_Nr>34352224</Other_Reg_Nr>
- Liquidity Class: this field is no longer in use and the content instead published to the field ‘Haircut Cetgory’.
  <Liquidity_Class>?</Liquidity_Class>
- Haircut Category: a string containing the haircut category of the searched record, e.g.
  <Haircut_Category>L1</Haircut_Category>
- Asset type code: a string containing the asset type code (which can be found in the EA dictionary) of the searched record e.g.:
  <Asset_Type>AT01</Asset_Type>
- Ref_Market: a string containing the Reference Market Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Ref_Market>RMDE09</Ref_Market>
- Denomination: a string containing the Denomination Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Denomination>EUR</Denomination>
- Issuance_Date_From: a string containing the issuance date from which the records should be searched. It should have the format DD/MM/YYYY e.g.:
  <9Issuance_Date_From>20/03/2010</Issuance_Date_From>
- Issuance_Date_To: a string containing the issuance date up to which the records should be searched. It should have the format DD/MM/YYYY e.g.:
  <Issuance_Date_To>20/07/2010</Issuance_Date_To>
- Maturity_Date_From: a string containing the maturity date from which the records should be searched. It should have the format DD/MM/YYYY e.g.:

<Maturity_Date_From>23/03/2015</Maturity_Date_From>

- Maturity_Date_To: a string containing the maturity date up to which the records should be searched. It should have the format DD/MM/YYYY e.g.:
  <Maturity_Date_To>23/03/2030</Maturity_Date_To>
- Issuer_CSD: a string containing the Issuer CSD Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Issuer_CSD>CLDE01</Issuer_CSD>
- Issuer_Name: a string containing the issuer name of the searched record e.g.:
  <Issuer_Name>Landesbank Baden-Württemberg</Issuer_Name>
- Other_Issuer_Name: a string containing the other issuer name of the searched record e.g.:
  <Other_Issuer_Name>Landesbank Baden-Württemberg</Other_Issuer_Name>
- Issuer_Residence: a string containing the issuer residence Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Issuer_Residence>IRDE</Issuer_Residence>
- Issuer_Group: a string containing the issuer group Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Issuer_Group>IG4</Issuer_Group>
- Guarantor_Name: a string containing the guarantor name of the searched record e.g.:
  <Guarantor_Name>Baden-Württemberg, Land</Guarantor_Name>
- Other_Guarantor_Name: a string containing the other guarantor name of the searched record e.g.:
  <Other_Guarantor_Name>Baden-Württemberg, Land</Other_Guarantor_Name>
- Guarantor_Residence: a string containing the guarantor residence code (which can be found in the EA dictionary) of the searched record e.g.:
  <Guarantor_Residence>GRDE</Guarantor_Residence>
- Guarantor_Group: a string containing the guarantor group code (which can be found in the EA dictionary) of the searched record e.g.:
  <Guarantor_Group>String</Guarantor_Group>
- Coupon_Def: a string containing the coupon definition Code (which can be found in the EA dictionary) of the searched record e.g.:
  <Coupon_Def>CD4</Coupon_Def>
- Valuation_Haircut_From – a double containing the minimum valuation haircut of the searched record e.g.:
  <Valuation_Haircut_From>12</Valuation_Haircut_From>
- Valuation_Haircut_To – a double containing the maximum valuation haircut of the searched record e.g.:
  <Valuation_Haircut_To>13</Valuation_Haircut_To>
- Non_Own_Use_Haircut: this field shows the haircut value of the asset in case it is not own use.
  <Non_Own_Use_Haircut>2.5</Non_Own_Use_Haircut>

- Own_Use_Haircut : this field is initially blank, but will be populated at a later point in time.
  <Own_Use_Haircut>?</Own_Use_Haircut>
- Sort_by_first: a string containing the element which is used as first sort criteria, and
- Sort_by_second: a string containing the element which is used as second sort criteria. Possible sorting options are:
  Asset_Type | ISIN_Code | Other_Reg_Nr | Liquidity Class | Ref_Market | Denomination | Country_Location | Issuer_Name | Guarantor_Name | Coupon_Def
  E.g. <Sort_by_first>Asset_Type</Sort_by_first>
  <Sort_by_second>ISIN_Code</Sort_by_second>
- outputFileType: a string containing the desired format of the output file (xml or csv). E.g.
  <outputFileType>xml</outputFileType>
  or
  <outputFileType>csv</outputFileType>
- outputFileCompression: a boolean specifying if the result should be returned encoded or uncompressed (true and false, respectively). E.g.:
  <outputFileCompression>true</outputFileCompression>
  or
  <outputFileCompression>false</outputFileCompression>

The result of the search is the subset of the EA full dataset corresponding to the search criteria in xml or csv format and base64 encoded. If the file was requested compressed, it will be first compressed using Gzip.

The result of the search will be returned in the following format:

```
<SOAP-ENV:Envelope
        xmlns:SOAP-ENV=”http://schemas.xmlsoap.org/soap/envelope/”
        xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <SOAP-ENV:Header/>
        <SOAP-ENV:Body>
                <ser-root:searchEAResponse xmlns:ser-root="queryEa">
        <ea>PD94bWwgdmVyc2lvbj0iMS4wIiA/Pgo8ZXh0ZXJuYWxBc3NldHM+
Cgk8ZXh0ZXJuYWxBc3NldD4K
CQk8aWQ+CgkJCTxpc2luQ29kZT5ERTAwMExCMEFNSDM8L2lzaW5Db2RlPgo
JCQk8b3RoZXJSZWdO +CgkJPHZhbHVhdGlvbkhh
aXJjdXQ+MTIuNTwvdmFsdWF0aW9uSGFpcmN1dD4KCQk8Y3JkT3JFcXVpdmF
sZW50Pk48L2NyZE9y
RXF1aXZhbGVudD4KCQk8Y291cG9uUmF0ZT4zLjc1PC9jb3Vwb25SYXRlPgoJC
Txpc3N1ZXJPdGhl
ck5hbWU+TGFuZGVzYmFuayBCYWRlbi1Xw7xydHRlbWJlcmc8L2lzc3Vlck90aG
VyTmFtZT4KCTwv
ZXh0ZXJuYWxBc3NldD4KPC9leHRlcm5hbEFzc2V0cz4=</ea>
                        <errorOutput xsi:nil="true"/>
                </ser-root:searchEAResponse>
        </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

The data within *<ea></ea>* shall be handled in the following way:

If the data was requested uncompressed, perform a base64 decoding and save the file to your desired location in .xml or .csv format, depending on the file format specified in the search criteria.

If the data was requested compressed, perform a base64 decoding and then save the file to your desired location in in .xml.gz or .csv.gz format, depending on the file format specified in the search criteria.

5.4.3 Monetary Financial Institutions including Minimum Reserve Requirement features (MFI MRR) full dataset

A subset of the MFI_MRR data can be retrieved via the following query:

- queryMfiMrr.wsdl [ref. DOC09 in Annex 4]
- Sample file: mfi_mrr_search_all_criteria.xml [ref. DOC10 in Annex 4]

The search is based on Soap with the following structure:

```
<soapenv:Envelope
        xmlns:soapenv=”http://schemas.xmlsoap.org/soap/envelope/”
        xmlns:quer="queryMfiMrr">
        <soapenv:Header/>
        <soapenv:Body>
                <quer:searchMFIMRR>
                        <!--Optional-->
                        <RIAD_Code>string</RIAD_Code>
                        <!--Optional-->
                        <Name>string</Name>
                        <!--Zero or more repetitions-->
                        <Country_of_Registration>string</Country_of_Registration>
                        <!--Optional-->
                        <BIC>string</BIC>
                        <!--Optional-->
                        <Postal>string</Postal>
                        <!--Optional-->
                        <City>string</City>
                        <!--Zero or more repetitions-->
                        <Category>string</Category>
                        <!--Zero or more repetitions-->
                        <Head_Country_of_Registration>string</Head_Country_of_Registration>
                        <!--Optional-->
                        <Head_RIAD_Code>string</Head_RIAD_Code>
                        <!--Optional-->
                        <Reserve>string</Reserve>
                        <!--Optional-->
                        <Exempt>string</Exempt>
                        <!--Optional-->
                        <Sort_by_first>string</Sort_by_first>
                        <!--Optional-->
                        <Sort_by_second>string</Sort_by_second>
                        <outputFileType>string<outputFileType>
                        <outputFileCompression>string</outputFileCompression>
                </quer:searchMFIMRR>
        </soapenv:Body>
</soapenv:Envelope>
```

The search option is case sensitive. Possible fields to search on are listed below:

- RIAD_Code: a string containing the RIAD Code of the searched record e.g.:
  <RIAD_Code>DE05867</RIAD_Code>
- Name: a string containing the name of the searched record e.g.:
  <Name>GE</Name>
- Country_of_Registration: a string containing the country of registration of the searched record e.g.:
  <Country_of_Registration>DE</Country_of_Registration>
- BIC: a string containing the BIC of the searched record e.g.:
  <BIC>OEKOATWW</BIC>
- Postal: a string containing the postal code of the searched record e.g.:
  <Postal>40547</Postal>
- City: a string containing the city of the searched record e.g.:

<City>Düsseldorf</City>

- Category: a string containing the category of the searched record e.g.:
  <Category>Credit Institution</Category>
- Head_Country_of_Registration: a string containing the head country of registration of the searched record e.g.:
  <Head_Country_of_Registration>GB</Head_Country_of_Registration>
- Head_RIAD_Code – a string containing the head RIAD code of the searched record e.g.:
  <Head_RIAD_Code>GB1243</Head_RIAD_Code>
- Reserve: a string containing the reserve of the searched record e.g.:
  <Reserve>Y</Reserve>
- Exempt: a string containing the exempt of the searched record e.g.:
  <Exempt>N</Exempt>
- Sort_by_first: a string containing the element which is used as first sort criteria.
  and
- Sort_by_second: a string containing the element which is used as second sort criteria. Possible sort options are:
  Country_of_Registration | RIAD_Code | Name | Postal | City | Category | Head_Country_of_Registration | Head_RIAD_Code | Head_Name

  E.g.: <Sort_by_first>Country_of_Registration</Sort_by_first>

  <Sort_by_second>RIAD_Code</Sort_by_second>
- outputFileType: a string containing the desired format of the output file (xml or csv). E.g.:
  <outputFileType>xml</outputFileType>
  or
  <outputFileType>csv</outputFileType>
- outputFileCompression: a boolean specifying if the result should be returned encoded (true) or uncompressed (false), e.g.:
  <outputFileCompression>true</outputFileCompression>
  or
  <outputFileCompression>false</outputFileCompression>

The result of the query is the subset of the MFI_MRR full dataset corresponding to the search criteria in xml or csv format and base64 encoded. If the file was requested compressed, it will be first compressed using Gzip.

MID will return the result of the search in the following format:

```
<SOAP-ENV:Envelope
        xmlns:SOAP-ENV=”http://schemas.xmlsoap.org/soap/envelope/”
        xmlns:SOAP-ENC=”http://schemas.xmlsoap.org/soap/encoding/”
        xmlns:xsd=”http://www.w3.org/2001/XMLSchema”
        xmlns:xsi=”http://www.w3.org/2001/XMLSchema-instance”>
        <SOAP-ENV:Header/>
        <SOAP-ENV:Body>
                <ser-root:searchMFIMRRResponse xmlns:ser-root="queryMfiMrr">
                        <mfi_mrr>UklBRF9DT0RFCUJJQwlDT1VOVFJZX09GX1JFR0lT
                        VFJBVElPTglOQU1FCUJPWAlBRERSRVNTCVBPU1RBTAlDSVRZCUN
                        BVEVHT1JZCUhFQURfQ09VTlRSWV9PRl9SRUdJU1RSQVRJT04JSEV
                        BRF9OQU1FCUhFQURfUklBRF9DT0RFCVJFU0VSVkUJRVhFTVBUCkF
                        UMTAwMDAJT0VLT0FUV1cJQVQJT2VzdGVycmVpY2hpc2NoZSBLb250
                        cm9sbGJhbmsgQUcJNzAJQW0gSG9mIDQJMTAxMAlXaWVuCUNyZWR
                        pdCBJbnN0aXR1dGlvbgkJCQlZCU4JDQo=</mfi_mrr>
                        <errorOutput xsi:nil="true"/>
                </ser-root:searchMFIMRRResponse>
        </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

The data within *<mfi_mrr></mfi_mrr>* shall be handled in the following way:

If the data was requested uncompressed, perform a base64 decoding and save the file to your desired location in .xml or .csv format, depending on the file format specified in the search criteria.

If the data was requested compressed, perform a base64 decoding and then save the file to your desired location in in .xml.gz or .csv.gz format, depending on the file format specified in the search criteria.

5.4.4 Monetary Financial Institutions (MFIs) full dataset

In order to retrieve a subset of the MFI data through MID, the below procedure applies:

- queryMfi.wsdl [ref. DOC11 in Annex 4]
- Sample file: mfi_search_all_criteria.xml [ref. DOC12 in Annex 4]

The search is based on SOAP with the following structure:

```
<soapenv:Envelope
        xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:quer="queryMfiD">
        <soapenv:Header/>
        <soapenv:Body>
                <quer:searchMFID>
                        <!--Optional-->
                        <RIAD_Code>string</RIAD_Code>
                        <!--Optional-->
                        <Lei>string</Lei>
                        <!--Optional-->
                        <Name>string</Name>
                        <!--Zero or more repetitions-->
                        <Country_of_Registration>string</Country_of_Registration>
                        <!--Optional-->
                        <Postal>string</Postal>
                        <!--Optional-->
                        <City>string</City>
                        <!--Zero or more repetitions-->
                        <Category>string</Category>
                        <!--Zero or more repetitions-->
                        <Head_Country_of_Registration>string</Head_Country_of_Registration>
                        <!--Optional-->
                        <Head_Name>string</Head_Name>
                        <!--Optional-->
                        <Head_RIAD_Code>string</Head_RIAD_Code>
                        <!--Optional-->
                        <Head_Lei>string</Head_Lei>
                        <!--Optional-->
                        <Sort_by_first>string</Sort_by_first>
                        <!--Optional-->
                        <Sort_by_second>string</Sort_by_second>
                        <outputFileType>string</outputFileType>
                        <outputFileCompression>string</outputFileCompression>
                </quer:searchMFID>
        </soapenv:Body>
</soapenv:Envelope>
```

The search option is case sensitive for all fields. Possible fields to search on are listed below:

- RIAD_Code: a string containing the RIAD Code of the searched record e.g.:
  <RIAD_Code>DE03402</RIAD_Code>
- LEI: a string containing the LEI of the searched records e.g:"
  <LEI>529900GJD3OQLRZCKW37</LEI>
- Name: a string containing the name of the searched record e.g.:
  <Name>GE</Name>
- Country_of_Registration: a string containing the country of registration of the searched record e.g.:
  <Country_of_Registration>DE</Country_of_Registration>
- Postal – a string containing the postal code of the searched record e.g.:

<Postal>38112</Postal>

- City – a string containing the city of the searched record e.g.:
  <City>Braunschweig</City>
- Category: a string containing the category of the searched record e.g.:
  <Category>Credit Institution</Category>
- Head_Country_of_Registration: a string containing the head country of registration of the searched record e.g.:
  <Head_Country_of_Registration>DE</Head_Country_of_Registration>
- Head_Name: a string containing the full registered name of the head office for searched record e.g.:
  <Head_Name>ING-DiBa AG</Head_Name>
- Head_RIAD_Code: a string containing the head RIAD code of the searched record e.g.:
  <Head_RIAD_Code>DE1243</Head_RIAD_Code>
- Head_LEI: a string containing the head RIAD code of the searched record e.g.:
  <Head_LEI>529900GJD3OQLRZCKW37</Head_LEI>
- Sort_by_first: a string containing the element which is used as first sort criteria; and
- Sort_by_second: a string containing the element which is used as second sort criteria. Possible sorting options are:
  Country_of_Registration | RIAD_Code | Name | Postal | City | Category | Head_Country_of_Registration | Head_RIAD_Code | Head_Name
  E.g.: <Sort_by_first>Country_of_Registration</Sort_by_first>
  <Sort_by_second>RIAD_Code</Sort_by_second>
- outputFileType: a string containing the desired format of the output file (xml or csv). Possible options are:
  <outputFileType>xml</outputFileType> or
  <outputFileType>csv</outputFileType>
- outputFileCompression: a boolean specifying if the result should be returned encoded (true) or uncompressed (false), e.g.:
  <outputFileCompression>true</outputFileCompression>
  or
  <outputFileCompression>false</outputFileCompression>

The result of the search is the subset of the MFI full dataset corresponding to the search criteria in xml or csv format and base64 encoded. If the file was requested compressed, it will be first compressed using Gzip.

The result of the search will be returned in the following format:

```
<SOAP-ENV:Envelope
        xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
        xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
        xmlns:xsd="http://www.w3.org/2001/XMLSchema"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <SOAP-ENV:Header/>
        <SOAP-ENV:Body>
                <ser-root:searchMFIDResponse xmlns:ser-root="queryMfiD">
<mfi>//5SAEkAQQBEAF8AQwBPAEQARQAJAEwARQBJAAkAQwBPAFUATgBUAFIAWQBfAE8ARgBfAFIARQBH
AEkAUwBUAFIAQQBUAEkATwBOAAkATgBBAE0ARQAJAEIATwBYAAkAQQBEAEQAUgBFAFMAUwAJAFAATwB
TAFQAQQBMAAkAQwBJAFQAWQAJAEMAQQBUAEUARwBPAFIAWQAJAEgARQBBAEQAXwBDAE8AVQBOAFQ
AUgBZAF8ATwBGAF8AUgBFAEcASQBTAFQAUgBBAFQASQBPAE4ACQBIAEUAQQBEAF8ATgBBAE0ARQAJAEgA
RQBBAEQAXwBSAEkAQQBEAF8AQwBPAEQARQAJAEgARQBBAEQAXwBMAEUASQAJAFIARQBQAE8AUgBUAA
0ACgBEAEUAMAAzADQAMAAyAAkANQAyADkAOQAwADAARwBKAEQAMwBPAFEATABSAFoAQwBLAFcAMw
A3AAkARABFAAkAVgBvAGwAawBzAHcAYQBnAGUAbgAgAEIAYQBuAGsAIABHAGUAcwBlAGwAbABzAGMAaA
BhAGYAdAAgAG0AaQB0ACAAYgBlAHMAYwBoAHIA5ABuAGsAdABlAHIAIABIAGEAZgB0AHUAbgBnAAkACQBH
AGkAZgBoAG8AcgBuAGUAcgAgAFMAdABvAGEA3wBlACAANQA3AAkAMwA4ADEAMQAyAAkAQgByAGEAdQ
BuAHMAYwBoAHcAZQBpAGcACQBDAHIAZQBkAGkAdAAgAEkAbgBzAHQAaQB0AHUAdABpAG8AbgAJAAkAC
QAJAAkAWQBlAHMACQANAAoA</mfi>
                <errorOutput xsi:nil="true"/>
                </ser-root:searchMFIDResponse>
        </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

The data within *<mfi></mfi>* shall be handled in the following way:

If the data was requested uncompressed, perform a base64 decoding and save the file to your desired location in .xml or .csv format, depending on the file format specified in the search criteria.

If the data was requested compressed, perform a base64 decoding and then save the file to your desired location in in .xml.gz or .csv.gz format, depending on the file format specified in the search criteria.

6. Repository

MID makes all releases available in a temporary area accessible to the public. All information available in this area is considered of public domain, i.e. not restricted, not confidential.

This repository is meant to be a temporary area to allow automatic consumption from computer applications and releases are available for a period of about 30 days.

By addressing a limited time period, the repository is not meant to be:

- an archive of ECB information. All past releases, for most release types, are available on the ECB website although they may be in a different format.
- a data mining tool. Only a limited set of search functions and on a limited period of releases is possible via MID services.

7. Connectivity tests

The following tests can be conducted to validate the access to MID services. The focus is on RSS API:

1. Connectivity: Simulation of access to RSS feed.

Test 1: Get http://mid.ecb.europa.eu/rss/test1.xml

Expected result: Read xml file with content single release Test2.

2. Link resolution: Simulation of download of new release.

Test 2: from the retrieved xml file, get the first release in the list (the most recent - http://mid.ecb.europa.eu/rss/test2.xml)

Expected result: retrieve xml file with content of Test 2 release; this includes also an attachment Test 3).

Note: For the purpose of these tests the digital signature associated to the release (Test2) and the attachment (Test3) are not valid ones.

Test 3: from the retrieved xml file, get the first attachment in the list (http://mid.ecb.europa.eu/rss/test3.pdf)

Expected result: retrieve pdf file with content of Test 3 attachment.

Annex 1: Release structure codes

Table 1 – Release type codes

Originator	Release type	Release Type Code
ECB Market Operations	Tender operation announcement	TenderOperationAnnouncement
	Tender operation allotment	TenderOperationAllotment
	List of eligible assets	EligibleAssetsList
	List of monetary financial institutions including Minimum Reserve (MRR) Requirement features	MonetaryFinancialInstitutionsIncludingMRR
	Euro foreign exchange reference rates	EuroForeignExchangeReferenceRates
	Liquidity Management Publication	LiquidityManagementData
ECB Statistics	List of monetary financial institutions (MFIs)	MonetaryFinancialInstitutionsList
ECB Payment Systems	TARGET2 operational status message	TARGET2OperationalStatusMessage
	TARGET2 Securities operational status message	T2SOperationalStatusMessage
	TIPS operational status message	TIPSOperationalStatusMessage
ECB Communications	Press release on Monetary Policy Decision	PressReleaseMonPolDecision
	Press release on Monetary developments in the euro area	PressReleaseM3

Table 2 – Language codes

Language	Code
Bulgarian	BG
Czech	CS
Danish	DA
German	DE
Greek	EL

English	EN
Spanish	ES
Estonian	ET
Finnish	FI
French	FR
Irish	GA
Croatian	HR
Hungarian	HU
Italian	IT
Japanese	JA
Lithuanian	LT
Latvian	LV
Maltese	MT
Dutch	NL
Polish	PL
Portuguese	PT
Romanian	RO
Russian	RU
Slovak	SK
Slovenian	SL
Swedish	SV
Turkish	TR
Chinese	ZH
Other	Other

Table 3 - Thematic tag codes

ECB Market Operations			
Information type	Tag and description		Code
Tender operation announcement	Transaction type	Issuance of ECB DCs	DC
		Foreign exchange swaps	FX
		Reverse transaction	RT
		Fixed Term Deposits	FD
		Outright transaction	OR
	Operation name	Main Refinancing Operation, MRO	MR
		Long Term Refinancing Operation, LTRO	LT

		Other operation	OT
	Operation type	Liquidity absorbing	LA
		Liquidity providing	LP
	Operation currency	E.g. EUR, CHF, USD	<ISO-3 currency code>
Tender operation allotment			<No tags>
List of eligible assets			EA
List of monetary financial institutions (MFIs) including minimum reserve requirements (MRR) features			MFI_MRR
Euro foreign exchange reference rates			<No tags>
Liquidity management	Liquidity conditions in the euro area		LiquidityConditionsEuroArea
	History during maintenance period		historyDuringMaintenancePeriod
	Tender Operations		tenderOperations
	Monetary policy portfolios		monetaryPolicyPortfolios
	Estimate of autonomous factors		EstimateAutonomousFactors
	Required and excess reserves		RequiredAndExcessReserves
	Announcements on operational aspects		AnnouncementOperationalAspects
	Benchmark		EstimateBenchmark

ECB Payment Systems		
Information type	Tag and description	Code
TARGET2 operational status messages	TARGET2 normal operation message	OK
	Abnormal situation at SSP level	Incident_SSP
	Abnormal situation at PHA (domestic proprietary home accounting) level	Incident_PHA
	Message sent upon resolving the incident	Incident_Solved
	TARGET2 is operating normally after suffering a delay in the normal operation times	OK
	Other events – situations not covered by the above modules	Event

TARGET2 Securities operational status messages	TARGET2 Securities normal operation message	OK
	TARGET2 Securities Incident	T2S_Incident
	TARGET2 Securities Incident resolved	T2S_Incident_resolved
	TARGET2 Securities Delay	T2S_Delay
TIPS operational status messages	TIPS normal operation message	OK
	TIPS Incident	TIPS_Incident
	TIPS Incident resolved	TIPS_Incident_resolved
	TIPS normal operation without business date change	OK

ECB Communications		
Information type	Tag and description	Code
Press release	Press release on Monetary Policy Decisions	MonetaryPolicy
Press release	Press release on Monetary Policy Decisions	Statistics

Table 4 – Predefined file attachments for data lists

Data lists published via MID, e.g. daily list of MFIs; monthly list of MFIs including minimum reserve requirements; and daily list of eligible assets, will be available including URLs from where several files can be downloaded.

List of eligible assets
Five attachment URLs are included in the header of the message. All of them are in compressed format (.gz) except for the data dictionary (.xml, not compressed). • Full list in XML format, compressed ✓ XML schema: ea.xsd [ref. DOC13 in Annex 4] ✓ Sample file: ea_xml_150929.xml.gz [ref. DOC14 in Annex 4] • Full list in CSV format, compressed ✓ Sample file: ea_csv_150929.csv.gz [ref. DOC15 in Annex 4] • List of changes from the previous day in XML format, compressed ✓ XML schema: ea_update.xsd [ref. DOC16 in Annex 4] ✓ Sample file: ea_xml_update_150929.xml.gz [ref. DOC17 in Annex 4] • List of changes from the previous day in CSV format, compressed ✓ Sample file: ea_csv_update_150929.csv.gz [ref. DOC18 in Annex 4]

- Eligible assets data dictionary:
  - ✓ XML schema: ea_dictionary.xsd [ref. DOC19 in Annex 4]
  - ✓ Sample file: ea_dictionary_150618.xml [ref. DOC20 in Annex 4]

List of monetary financial institutions
Four attachment URLs are included in the header of the message. All of them are in compressed format (.gz). • Full list in XML format, compressed ✓ XML schema: mfi.xsd [ref. DOC21 in Annex 4] ✓ Sample file: mfi_xml_180801.xml.gz [ref. DOC22 in Annex 4] • Full list in CSV format, compressed ✓ Sample file: mfi_csv_180801.csv.gz [ref. DOC23 in Annex 4] • List of changes from the previous day in XML format, compressed ✓ Sample file: mfi_xml_update_180801.xml.gz [ref. DOC24 in Annex 4] • List of changes from the previous day in CSV format, compressed ✓ Sample file: mfi_csv_update_180801.csv.gz [ref. DOC25 in Annex 4]

List of monetary financial institutions including minimum reserve requirement features
Four attachment URLs are included in the header of the message. All of them are in compressed format (.gz): • Full list in XML format, compressed ✓ XML schema: mfi_mrr.xsd [ref. DOC26 in Annex 4] ✓ Sample file: mfi_mrr_xml_150529.xml.gz [ref. DOC27 in Annex 4] • Full list in CSV format, compressed ✓ Sample file: mfi_mrr_csv_150529.csv.gz [ref. DOC28 in Annex 4] • List of changes from the previous month in XML format, compressed ✓ Sample file: mfi_mrr_xml_update_150529.xml.gz [ref. DOC29 in Annex 4] • List of changes from the previous month in CSV format, compressed ✓ Sample file: mfi_mrr_csv_update_150529.csv.gz [ref. DOC30 in Annex 4]

Annex 2: Release body format

TenderOperationAnnouncement
XML schema: top_ann.xsd [ref. DOC31 in Annex 4] Sample file: sample_top_ann20150063.xml [ref. DOC32 in Annex 4]

TenderOperationAllotment
XML schema: top_all.xsd [ref. DOC33 in Annex 4] Sample file: sample_top_all20150063.xml [ref. DOC34 in Annex 4]

EligibleAssetsList
Free text describing the content of the message

MonetaryFinancialInstitutionsIncludingMRR
Free text describing the content of the message

MonetaryFinancialInstitutionsList
Free text describing the content of the message

EuroForeignExchangeReferenceRates
XML schema: eurofx.xsd [ref. DOC35 in Annex 4] Sample file: sample_eurofx.xml [ref. DOC36 in Annex 4]

LiquidityMangementPublication
XML schemas: [ref DOC37 in Annex 4] Sample files: [ref DOC38 in Annex 4]

TARGET2OperationalStatusMessage
Free text in body.

T2SOperationalStatusMessage
Free text in body.

TIPSOperationalStatusMessage
Free text in body.

PressReleaseMonPolDecision
Free text in body.

PressReleaseM3
Free text in body.

Annex 3: Summary of all release messages

Release type	Content description	Periodicity	Release Date/Time
TenderOperationAnnouncement	Publication of operation announcements of tenders	Ad-hoc (can be daily, weekly or monthly)	Mostly scheduled, depending on situation time can vary
TenderOperationAllotment	Publication of allotments (results of the tender)	Ad-hoc (can be daily, weekly or monthly)	Mostly scheduled, depending on situation time can vary
EligibleAssetsList	List of eligible assets	Daily	The list is updated from Monday to Friday regardless of holidays after close of business.
MonetaryFinancialInstitutionsIncludingMRR	List of monetary financial institutions including minimum reserve requirement features	Monthly	At 17:00 CET Last working day of the month
EuroForeignExchangeReferenceRates	List of Euro foreign exchange reference rates.	Daily	Around 16:00 CET on every working day, except on TARGET closing days, based on a regular daily concertation procedure between central banks across Europe, which normally takes place at 14:15 CET.
MonetaryFinancialInstitutionsList	List of monetary financial institutions	Daily	At 18:00 CET

LiquidityManagementData	Publication of various liquidity management data	Daily and Weekly	
TARGET2OperationalStatusMessage	Up-to-date information on the SSP's operational status. This message provides information on any event affecting the normal operation of TARGET2, as well as scheduled activities.	Daily	On TARGET2 working days. MID releases regular messages at 7:00 CET (normal operation), 18:00 CET (day trade phase close) and 19:00 CET (new business day). On particular events (e.g. incidents, re-establishment of service after interruption, etc.), ad-hoc messages will be released.

TIPSOperationalStatusMessage	Up-to-date information on the operational status of TIPS. This message provides information on any event affecting the normal operation of TIPS, as well as scheduled activities.	Daily	On TARGET2 working days. MID releases regular messages at 7:00 CET (normal operation), 18:05 CET (TIPS new business day) and 20:00 CET (TIPS during TARGET2 night-time operations). On particular events (e.g. incidents, re-establishment of service after interruption, etc.), ad-hoc messages will be released.
TARGET2SOperationalStatusMessage	Up-to-date information on the T2S operational status. This message provides information on any event affecting the normal operation of TARGET2 Securities, as well as scheduled activities.	Daily	On TARGET2 Securities working days. MID releases regular messages at 5:00 CET (normal operation) and the closing message at 03:00 CET Saturdays and T2S holidays. On particular events (e.g. incidents, delays, etc.), ad-hoc messages will be released.

PressReleaseMonPolDecision	Press Release on Monetary Policy Decisions	Every six weeks (depending on the meeting schedule of ECB Governing Council meetings)	13:45h on days of the monetary policy Governing Council meetings (https://www.ecb.europa.eu/press/calendars/mgcgc/html/index.en.html)
PressReleaseM3	Monetary developments in the euro area	Monthly (depending on the release schedule: https://www.ecb.europa.eu/press/calendars/statscal/mfm/html/stprmp.en.html)	10:00 CET on the release date

Annex 4: List of references

List of files in the .zip file linked to this integration guide available on: http://www.ecb.europa.eu/press/html/mid.en.html

Ref. in document	File name	Path	File content
DOC01	sample-rss-ie-mid.xml	mid\API_specs\rss\	Sample of Internet Explorer generated RSS message.
DOC02	searchReleases.wsdl	mid\API_specs\queries\wsdl\	Sample of web query to search releases using the different search criteria.
DOC03	search_all_criteria_request.xml	mid\API_specs\queries\samples\	Sample XML file to search for all releases with all criteria.
DOC04	seach_all_criteria_response.xml	mid\API_specs\queries\samples\	Sample XML file of the result of the above search.
DOC05	searchEaDictionary.wsdl	mid\API_specs\queries\wsdl\	WSDL file to query the eligible assets data dictionary.
DOC06	ea_dict_request.xml	mid\API_specs\queries\samples\	Sample file of query for the eligible assets data dictionary.
DOC07	queryEa.wsdl	mid\API_specs\queries\wsdl\	WSDL file to query for eligible assets.
DOC08	ea_search_all_criteria.xml	mid\API_specs\queries\samples\	Sample file containing all possible criteria to perform a content based query on the list of eligible assets.
DOC09	queryMfiMrr.wsdl	mid\API_specs\queries\wsdl\	WSDL file to query for MFIs including minimum reserve requirements features (MRR).

DOC10	mfi_mrr_search_all_criteria.xml	mid\API_specs\queries\samples\	Sample file containing all possible criteria to perform a content based query on the list of MFIs including MRR.
DOC11	queryMfi.wsdl	mid\API_specs\queries\wsdl\	WSDL file to query for monetary financial institutions
DOC12	mfi_search_all_criteria.xml	mid\API_specs\queries\samples\	Sample file containing all possible criteria to perform a content based query on MFIs.
DOC13	ea.xsd	mid\data sets\ea	XSD file (XML schema) for the full list of eligible assets.
DOC14	ea_xml_150929.xml.gz	mid\data sets\ea\download\xml	Sample file of a full list of eligible assets in XML format compressed (.gz).
DOC15	ea_csv_150929.csv.gz	mid\data sets\ea\download\csv	Sample file of a full list of eligible assets in CSV format compressed (.gz).
DOC16	ea_update.xsd	mid\data sets\ea	XSD file (XML schema) for the changes from the previous day in the list of eligible assets.
DOC17	ea_xml_update_150929.xml.gz	mid\data sets\ea\download\xml	Changes from the previous day in the list of eligible assets in XML format, compressed (.gz).
DOC18	ea_csv_update_150929.csv.gz	mid\data sets\ea\download\csv	Changes from the previous day in the list of eligible assets in CSV format, compressed (.gz).
DOC19	ea_dictionary.xsd	mid\data sets\ea	XML schema for the data dictionary for eligible assets.
DOC20	ea_dictionary_150618.xml	mid\data sets\ea\download\xml	Eligible assets data dictionary XML sample file.

DOC21	mfi.xsd	mid\data sets\mfi	XML schema for the list of monetary financial institutions (MFIs).
DOC22	mfi_xml_180801.xml.gz	mid\data sets\mfi\download\xml	Sample file for the full list of MFIs in XML format, compressed (.gz).
DOC23	mfi_csv_180801.csv.gz	mid\data sets\mfi\download\csv	Sample file for the full list of MFIs in CSV format, compressed (.gz).
DOC24	mfi_xml_update_180801.xml.gz	mid\data sets\mfi\download\xml	Sample file for the changes in the MFI list from the previous day, in XML fromat, compressed (.gz).
DOC25	mfi_csv_update_180801.csv.gz	mid\data sets\mfi\download\csv	Sample file for the changes in the MFI list from the previous day, in CSV format, compressed (.gz).
DOC26	mfi_mrr.xsd	mid\data sets\mfi_mrr	XML schema for the list of MFIs including minimum reserve requirement features
DOC27	mfi_mrr_xml_150529.xml.gz	mid\data sets\mfi_mrr\download\xml	Sample file of the full list of MFIs including minimum reserve requirement features, in XML format, compressed (.gz).
DOC28	mfi_mrr_csv_150529.csv.gz	mid\data sets\mfi_mrr\download\csv	Sample file of the full list of MFIs including minimum reserve requirement features, in CSV format, compressed (.gz).

DOC29	mfi_mrr_xml_update_150529.xml.gz	mid\data sets\mfi_mrr\download\xml	Sample file of the changes from the previous day in the list of MFIs including minimum reserve requirement features, in XML format, compressed (.gz).
DOC30	mfi_mrr_csv_update_150529.csv.gz	mid\data sets\mfi_mrr\download\csv	Sample file of the changes from the previous day in the list of MFIs including minimum reserve requirement features, in CSV format, compressed (.gz).
DOC31	top_ann.xsd	mid\data sets\top_ann\	XML schema for a tender operation announcement message
DOC32	sample_top_ann20150063.xml		Sample file of a tender operation announcement message, in XML format
DOC33	top_all.xsd	mid\data sets\top_all\	XML schema for a tender operation allotment message
DOC34	sample_top_all20150063.xml		Sample file of a tender operation announcement message, in CSV format
DOC35	eurofx.xsd	mid\data sets\eurofx\	XML schema for the list of foreign exchange reference rates release.
DOC36	sample_eurofx.xml		Sample file of the list of foreign exchange reference rates, in XML format.
DOC37	• New liq_man.xsd • liq_man from before 24 September 2018.xsd	mid\data sets\liq_man	XML schema for the Liquidity management publication releases.

DOC38	• sample_liqman from before 24 September 2018.xml • Sample MID tenderOperations.xml • Sample MID RequiredAndExcessReserves.xml • Sample MID monetaryPolicyPortfolios.xml • Sample MID LiquidityConditionsEuroArea.xml • Sample MID historyDuringMaintenancePeriod.xml • Sample MID EstimateBenchmark.xml • Sample MID EstimateAutonomousFactors.xml • Sample MID AnnouncementOperationalAspects.xml	mid\data sets\liq_man	Sample files for the liquidity management publication release.