



XMW

Electronic Reporting System in XML format

– Payment statistics –

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Contents

Contents	3
1 About this document	4
2 General information	4
2.1 Payment Statistics	4
2.2 Data delivery	4
2.3 File names	4
2.4 XML	4
2.5 Validation	5
2.6 XML schema files	5
2.7 Notation, character set, declaration and datatypes	5
2.8 Policy for the transmission of form items	6
3 File structure in the payment statistics	6
3.1 General structure	6
3.2 LIEFERUNG-ZVSTA root element	7
3.3 MELDUNG reporting element	8
3.4 FORMULAR-XXXX form element	9
3.5 FELD field element	9

This English translation of the Electronic Reporting System in XML format has been prepared by the Deutsche Bundesbank for the convenience of English speaking readers. The sole authoritative text is the original German.

Marks on the right side of the text indicate the main changes with regard to the preceding version.

1 About this document

This document describes the file format accepted by the Deutsche Bundesbank's XML-based electronic reporting system (XMW) for electronic reports of payment statistics. The technical details are explained in a simplified form. More detailed documentation (XML schema files) is available separately. If there are any discrepancies or doubts, XML schema files are the sole authentic guideline for creating XML files.

2 General information

2.1 Payment Statistics

Payment statistics is a work area of banking statistics. Other work areas of banking statistics are monthly balance sheet statistics, borrowers statistics, external position of banks, securities deposit statistics and interest rate statistics. The payment statistics are collected annually.

2.2 Data delivery

Files are delivered via the Bundesbank's ExtraNet. More information is available on the Bundesbank's website. A data delivery consists of one XML file per sender, reporting date and reporting agent. An XML file must only contain the data of one single reporting agent, i.e. the data of different reporting agents must be separated into different files (for naming the files see the following section). All XML files can be compressed into ZIP archives.

2.3 File names

The file name consists of the name, a dot and the three-letter file extension. All letters in the file name are written in lower case. The file extension for XML files is **.xml**; for ZIP archives, it is **.zip**. The name is made up of the statistics abbreviation *zvsta* or *zvst* and a date, given as *YYMM* (e.g. December 2008 is shown as 0812). All file names must give some indication of the content. Examples

- **zvsta0812.xml or zvst0812.xml**: payment statistics for reporting date 31 December 2008 in XML format.
- **zvsta0812.zip or zvst0812.zip**: ZIP archive with an XML file named *zvst0812.xml*.

If different files are delivered for different reporting agents, the bank codes of the reporting agents have to appear in the file name before the date separated by a "_". Examples

- **zvsta50040000_0812.xml or zvst50040000_0812.xml**: payment statistics for reporting date 31 December 2008 in XML format for reporting agent with bank code 50040000.

2.4 XML

XML (Extensible Markup Language) is the industry standard for defining documents with hierarchically structured content. Files are structured by means of elements and attributes. An element consists of a start tag `<ElementName>`, the element content and an end tag `</ElementName>`. Data or further elements form the content of the element. In the start tag, attributes can be added to the element using the following syntax:

`attributname="Attributwert"`. Each XML document has a tree structure with a unique root element. XML is case-sensitive.

Example of a basic XML structure

```
<!-- dies ist ein Kommentar -->
<WurzelElement name="wurzel">
  <!-- Element mit dem Attribut name-->
  Wurzeldaten <!-- Daten als Elementinhalt-->
  <KindElement nummer="1">
    <!-- Unterelement als Elementinhalt-->
    Kind-1-Daten
  </KindElement>
  <KindElement nummer="2">
    Kind-2-Daten
  </KindElement>
</WurzelElement>
```

2.5 Validation

Permitted forms of content for elements or attributes are defined using document type definitions (DTDs) or XML schema definitions (XSDs). Frequently used structures are combined to form datatypes which can then be used in various places in an XML document. An XML file meeting the formal criteria of DTDs or XSDs is said to be valid.

2.6 XML schema files

The **BbkXmwBasis.xsd** and **BbkXmwZvsta.xsd** files are required to create and validate payment statistics reports. They are available on the Deutsche Bundesbank's website and form the basis of this description.

2.7 Notation, character set, declaration and datatypes

In XMW, the names of elements are written in upper case and those of attributes in lower case. If different elements are located at the same hierarchical level, the sequence of elements generally needs to be observed. The sequence of attributes is insignificant. The character set is *Latin-1/West European (ISO-8859-1)*. Each XML report begins with the XML declaration, which never changes.

XML declaration

```
<?xml version="1.0" encoding="ISO-8859-1"?>
```

The XMW schema definitions contain self-defined datatypes. The following types are helpful for understanding these instructions.

alphanum datatype

The *alphanum* datatype is used for text content, eg name fields. Data of this type may be up to 80 characters in length. In principle, all characters in the character set are permitted; the XML special characters <, >, &, " and ' are rewritten as <, >, &, " and '. Multiple space characters, tab spaces and line breaks are interpreted as a single space character.

adresse datatype

The *adresse* datatype describes address data. It is used in the ERSTELLER, ADRESSAT, ABSENDER, and MELDER elements and has the following subelements.

Element	Nec ¹	Value range/format	Content
BLZ or RZLZ or TESTLZ	+	8 or 9 digits R followed by 8 digits T followed by 8 digits	Bank sort code for MFIs, computer centre code for computer centres or other file submitters, test code for testing purposes In the case of the BLZ, the nine-digit form with check digit is the preferable choice.
NAME	+	<i>alphanum</i>	Name of the institution
STRASSE or POSTFACH	-	<i>alphanum</i>	Street/PO box
PLZ	-	<i>alphanum</i> , characters 1–10	Postcode
ORT	-	<i>alphanum</i>	Town/city
LAND	-	2 capital letters	Host country ISO code (ISO-3166)
KONTAKT	-	subelements (see below)	Contact person or agency

¹ Column "Nec": +/- means "necessary" and "optional" respectively

The **KONTAKT** element contains information on how to contact a person or unit for further information. It contains the following subelements.

Element	Ne c	Value range/format	Content
ANREDE	-	<i>alphanum</i>	Form of address (Dr, Prof etc) of the contact person
VORNAME	-	<i>alphanum</i>	Contact person's first name
ZUNAME	+	<i>alphanum</i>	Contact person's last name or the name of the contact unit
ABTEILUNG	-	<i>alphanum</i>	Contact person's division
TELEFON	-	Sequences of digits; optionally with “(.”) or “/” to signify the area code, “-” “ for the extension and spaces for structuring the number	Telephone (direct number of contact person)

FAX	-	see TELEFON	Fax number
EMAIL	-	characters@characters	E-mail address (personal or unit address)
EXTRANET-ID	-	8 letters starting with EXN	Login name for the Bundesbank's ExtraNet, if available

XML example of the *adresse* datatype

The example shows an element of the *adresse* datatype with all optional information.

```
<MELDER>
  <BLZ>123456789</BLZ>
  <NAME>Musterbank</NAME>
  <STRASSE>Bankstraße 12</STRASSE>
  <!-- oder <POSTFACH>12</POSTFACH>-->
  <PLZ>67891</PLZ>
  <ORT>Bankstadt</ORT>
  <LAND>DE</LAND>
  <KONTAKT>
    <ANREDE>Frau</ANREDE>
    <VORNAME>Inge</VORNAME>
    <ZUNAME>Müller</ZUNAME>
    <ABTEILUNG>K1</ABTEILUNG>
    <TELEFON>023/121414-11</TELEFON>
    <FAX>023/121414-21</FAX>
    <EMAIL>i.mueller@k1.musterbank.de</EMAIL>
    <EXTRANET-ID>EXNABCDE</EXTRANET-ID>
  </KONTAKT>
</MELDER>
```

The shortest possible form is

```
<MELDER>
  <BLZ>123456789</BLZ>
  <NAME>Musterbank</NAME>
</MELDER>
```

2.8 Policy for the transmission of form items

Form items that occur in practice for the reporting institution, but which have the value 0 (possibly also after roundings), must be reported explicitly as such. Items that do not occur in practice for the reporting institution are not transmitted. For more information, see section 3.5.

3 File structure in the payment statistics

3.1 General structure

The XML files of the payment statistics have a four-level structure modelled on the XML file structure for the monthly balance sheet statistics. The root element is on the first level. It comprises the complete data delivery and contains, besides general address information, one or more report elements on the second level. Each report element contains the reports of a single reporter. The report elements contain form elements on the third hierarchical level. Each form element combines the data to be reported from a single form. For this purpose, it contains the field elements with the individual data on the fourth hierarchical level.

XML example

The following XML file with minimal content illustrates this structure. It shows a report of a single reporter. The report contains only form ZV1 with a single field content. A realistic data delivery contains several field elements per form, several forms per report and, as appropriate, several reporters.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<LIEFERUNG-ZVSTA
  xmlns="http://www.bundesbank.de/xmw/2003-01-01"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="BbkXmwZvsta.xsd"
  erstellzeit="2007-12-11T11:00:00"
  version="1.0"
  stufe="Produktion"
  bereich="Statistik">

  <ABSENDER>
    <RZLZ>R12345678</RZLZ>
    <NAME>Rechenzentrum X</NAME>
  </ABSENDER>
  <MELDUNG erstellzeit="2007-12-11T11:00:00">
    <MELDER>
      <BLZ>500005005</BLZ>
      <NAME>Musterbank</NAME>
    </MELDER>
    <MELDETERMIN>2007-12</MELDETERMIN>
    <FORMULAR-ZV1>
      <FELD pos="Z005S01">452456</FELD>
    </FORMULAR-ZV1>
  </MELDUNG>
</LIEFERUNG-ZVSTA>
<!--
  Das Attribut
  xsi:noNamespaceSchemaLocation="BbkXmwZvsta.xsd"
  kann ersetzt werden durch
  xsi:schemaLocation="http://www.bundesbank.de/xmw/2003-01-01
  BbkXmwZvsta.xsd" -->
```

3.2 LIEFERUNG-ZVSTA root element

The root element is called LIEFERUNG-ZVSTA.

Attributes of the root element

Name	Nec	Value range/format	Content
Version	+	1.0	Version of XMW schema; currently fixed
Erstellzeit	+	YYYY-MM-DDThh:mm:ss For example: 2004-08-21T12:00:00	Date and time of file creation
Stufe	+	Test Production	Distinguishes between test and production data
dateireferenz	-	0 to 99	Not used in the payment statistics
Bereich	+	Statistics (supervision)	"Statistics" for the payment statistics
xmlns or xmlns:bbk	+	http://www.bundesbank.de/xmw/2003-01-01	Empty prefix (preferred) or "bbk:" for the name space of the Deutsche Bundesbank
xmlns:xsi	+	http://www.w3.org/2001/XMLSchema-instance	Prefix "xsi:" for the name space of the XML schema definition
baseSchema Location	+	[path]BbkXmwZvsta.xsd	Search path for the XML schema file ¹
xsi:schemaL ocation	+	http://www.bundesbank.de/xmw/2003-01-01 [path]BbkXmwZvsta.xsd	Alternative search path for the XML schema file ¹

¹ The search path [path] for the schema file has to be adapted to the locally installed software. Please ensure that the schema file BbkXmwZysta.xsd includes the second schema file BbkXmwBasis.xsd. A path adjustment may also be necessary here.

Subelements of the root element

Element	Nec/Rep ¹⁾	Value range/format	Content
ABSENDER	+	address	Address of the delivering institution. See description of the <i>adresse</i> datatype.
ERSTELLER	-	address	Address of the file creator, if not same as sender
ADRESSAT	-	address	Optional information on the addressee of the report. N/a if submitted to the Deutsche Bundesbank. Intended for data exchange with third parties.
KOMMENTAR	-	alphanumeric	Comment by sender; generally n/a
MELDUNG	+/-	report element (see below)	Report by an MFI for the work area specified in the root element. The report includes the MFI's address, the report date and the contents of the forms required to be reported by the work area.

¹ Column Rep: + means repeatable

XML example of the root element

```
<LIEFERUNG-ZVSTA
  xmlns="http://www.bundesbank.de/xmw/2003-01-01"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation=
    "http://www.bundesbank.de/xmw/2003-01-01 BbkXmwZvsta.xsd"
  erstellzeit="2003-08-14T11:15:00" version="1.0"
  stufe="Produktion"
  bereich="Statistik">

  <ABSENDER>
    <RZLZ>R12345678</RZLZ>
    <NAME>Rechenzentrum</NAME>
  </ABSENDER>
  <!-- weitere optionale Elemente -->
  <MELDUNG [Attribute von MELDUNG]>
    <!-- Inhalt des Meldungselements-->
  </MELDUNG>
</LIEFERUNG-ZVSTA>
```

3.3 MELDUNG reporting element

The reporting element contains the report of an MFI on a given reporting date. It includes the address data and forms. The element is called `MELDUNG` and contains the `erstellzeit` and `korrektur` attributes.

Attributes of the reporting element

Name	Nec	Value range/format	Content
erstellzeit	+	YYYY-MM-DDThh:mm:ss For example: 2004-08-21T12:00:00	Date and time the MFI's report was created
korrektur	-	yes no	Marking the whole report as a correction. Standard value: no

Subelements of the reporting element

Element	Nec/Rep	Value range/format	Content
MELDER	+	address	Reporting party's master data. The first subelement is called <i>BLZ</i> and contains the MFI's bank sort code; the other elements are optional. Contact information should be provided to enable subject-related queries.
KOMMENTAR	-	alphanumeric	For messages from the MFI; generally n/a.

MELDETERMIN	+	YYYY-MM Example: 2005-07	Reporting period
FORMULAR-XXXX	+/+	form element (see below)	Content of a form.

XML example of a reporting element

```
<!-- Auszug aus einer LIEFERUNG-ZVSTA -->
<MELDUNG erstellzeit="2005-12-31T10:34:40" korrektur="nein">
  <MELDER>
    <!-- Inhalt vom Typ adresse -->
  </MELDER>
  <MELDETERMIN>2005-12</MELDETERMIN>
  <Formularelement [ggf. Attribute des Formularelements]>
    <!-- Inhalt des Formularelements -->
  </Formularelement>
</MELDUNG>
```

3.4 FORMULAR-XXXX form element

The form element is called FORMULAR-XXXX. The placeholder is called XXXX. It stands for the names of the template forms ZV1 to ZV7C. The element has no attributes. Only field elements that contain the individual data of the forms are possible as subelements.

Subelements of the form element

Name	Nec	Value range/format	Content
FELD ^a	-	field element (see below)	Individual value of an item of the form

XML example of a form element

```
<!-- Auszug aus einer LIEFERUNG-ZVSTA -->
<!-- Formular ZV1 -->

<FORMULAR-ZV1>
  <FELD pos="Z005S01">2341</FELD>
  <FELD pos="Z010S02">214</FELD>
  <FELD pos="Z011S01">4323</FELD>
  <!-- (...) weitere Felder -->
</FORMULAR-ZV1>
```

XML example of an empty form element

```
<!-- Auszug aus einer LIEFERUNG-ZVSTA -->
<!-- Leeres Formular ZV1 -->

<FORMULAR-ZV1/>
```

Notes on content

A missing form element is interpreted as a non-existing report on the relevant form. By contrast, an empty form element is an explicit empty report on a form, in other words, a report in which zeroes are entered in all items of the template forms. The difference is only important in the case of a correction report. FELD field element

The field element is called FELD and contains the entry of a form position. It contains the following attributes.

Attributes of the field element

Name	Nec	Value range/format	Content
einheit	-	Number	Information on the unit of the form field entry. Values in brackets are

		Percent Currency Ratio (Date) (yesNo)	not used in banking statistics. The standard value is currency.
Dim	-	Cnt Eins Tsd Mio	Quantity factor for numerical field entries. cnt=1/100, Eins=1, Tsd=1,000, Mio=1,000,000. If this attribute is missing, the factor expected in the template form is imputed. In payment statistics, the attribute cnt is not to be used.
Iso-w	-	Three capital letters eg USD, EUR, SFR	ISO code of the currency in which field entries are given. In the payment statistics, only EUR is possible.
pos	+	ZXXSYY Example: Z123S07	Position designation of the form field. Line-column form with three digits for the line and two digits for the column.

Contents of the field element

The element may contain a number in *double* format. Examples are 12345, -5, +34, 1.32, -1E-3. A period is used as the decimal separator. For reports in payment statistics, however, only integer values without decimal separator are expected here. A null item is reported by an explicit field element containing 0 (possibly also as rounded value).

Missing field element

If a field element is left out, it means that the respective item is not used in practice at the reporting institution. It is therefore interpreted differently as a field element that is explicitly itemised with 0.

Item designations

The item designations, ie the values of the `pos` attribute, are given as ZXXSYY. They may be extracted from the template forms. The forms are structured as tables with three-digit line numbers XXX and two-digit column numbers YY which are combined to form the item designation ZXXSYY.

XML example of a field element

```
<!-- Ausführlich -->

<FELD einheit="Waehrung" dim="Tsd" iso-w="EUR" pos="Z010S01">
  2341
</FELD>

<!-- Kurzform -->

<FELD pos="Z010S01">
  2341
</FELD>
```