

Data delivery – Schemas – Acknowledgement of receipt

Project to establish the National Incomes Register

Version history

Version	Date	Description
1.0	12/06/2017	Document published.
1.01	31/08/2017	The Timestamps section in the General segment has been renamed as Dates and times. The processing of dates and times is clarified in the paragraph.
1.02	14/11/2017	Added an electronic signature: data group Signature (Signature) at the main level of a record. The xs:boolean data type was changed to the irct:trueOrFalse (IRCommonTypes.xsd) data type. Clarified the interpretation rules of upper and lowercase characters in the General/Character set section. Added the namespace of the XML signature schema in the General/Schema section.
1.03	11/06/2018	Clarified the allowed character encoding for reference data under Character set. Corrected the list of values returned in the element Record status (DeliveryDataStatus): value 1 is not returned, instead value 2 is returned. Only in the English language document: Corrected the wrong codeset QueryDataType to DeliveryDataStatus in the element Record status (DeliveryDataStatus).
1.04	26/09/2018	Specified in the section Dates and times that the example in the Finnish time zone concerns standard time: Example in the Finnish time zone (standard time, UTC+2)

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1 GENERAL

1.1 Schema

The acknowledgement of receipt is delivered from the Incomes Register using the **AckFromIR** schema.

The namespaces of the schema are the following:

File name	Prefix	Namespace
	xmlns:xs	http://www.w3.org/2001/XMLSchema
AckFromIR.xsd	xmlns:afir	http://www.tulorekisteri.fi/2017/1/AckFromIR
StatusMessageTypes.xsd	xmlns:smt	http://www.tulorekisteri.fi/2017/1/StatusMessageTypes
IRCommonTypes.xsd	xmlns:irct	http://www.tulorekisteri.fi/2017/1/IRCommonTypes
xmldsig-core-schema.xsd	xmlns:ds	http://www.w3.org/2000/09/xmldsig#

Empty elements are not allowed in the messages. If an element receives no value, the element is left out of the message entirely. Empty character strings are also not allowed, i.e., the minimum length of all values is 1.

1.2 Character set

The schemas of the Incomes Register use UTF-8, which is the default character set of XML. The file must not contain the Byte Order Mark (BOM) character.

The following table presents the requirements for the conversion of special characters appearing in messages.

Character	Description	Presentation format as an entity
&	ampersand	& conversion is mandatory
<	less than	< conversion is mandatory
>	greater than	> conversion is not mandatory, but conforms with best practices
'	apostrophe	' conversion is not mandatory, but conforms with best practices
"	quotation mark	" conversion is not mandatory, but conforms with best practices
--	double hyphen	This character must not appear in an XML file
/*	slash asterisk	This character must not appear in an XML file
&#	ampersand hash	This character must not appear in an XML file

A limited character set is allowed for **reference data**. The allowed characters for the reference data listed below are the numbers 0-9, the letters a-z and A-Z and the symbols " _ " and "-".

- Record owner's record reference (DeliveryId)
- Payer's report reference (ReportId)
- Subscriber's primary subscription reference (MainSubscriptionId)
- Subscriber's secondary subscription reference (SubscriptionId)
- Sender's message reference (MessageId)

In the following data items, upper and lowercase characters are significant:

- Country codes in all data groups (for example, "DE" is interpreted to be a different code than "De").
- Customer IDs in all data groups (for example, "150172-999H" is interpreted to be a different ID than "150172-999h").

1.3 Dates and times

Dates (data type xs:date) must not include time zone information. Example of a date:

```
<StartDate>2017-05-11</StartDate>
```

Data elements containing times of day (data types xs:dateTime and xs:time) must include the time zone.

Example in the Finnish time zone (standard time, UTC+2):

```
<Timestamp>2017-05-11T08:00:00+02:00</Timestamp>
```

```
<Time>08:00:00+02:00</Time>
```

Example in UTC time (UTC+0):

```
<Timestamp>2017-05-11T6:00:00Z</Timestamp>
```

```
<Time>06:00:00Z</Time>
```

1.4 Document reading instructions

In the document diagrams, the 0 .. ∞ marking in the bottom right-hand corner of an element means that the element may appear several times, or not at all. The 1 .. ∞ marking means that the element may appear several times, but it must always appear at least once. The mandatory elements are highlighted with a solid border line and voluntary elements with a dashed border line.

In the document tables, the mandatory or voluntary nature of the elements is depicted with the following markings:

V/M	Description
V	The element is always voluntary. Data groups or data items marked as voluntary are included in the acknowledgement of receipt, if they contain data.
M	The element is always included if its "parent element" is included.

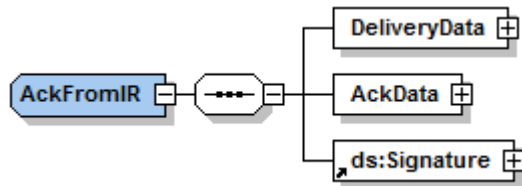
In some elements, messages use a limited range of values, i.e. codes. The possible values for these codes are described in the "Codes" document. This document refers to the values presented in the codesets using the term "codes".



2 ACKNOWLEDGEMENT OF RECEIPT (ACKFROMIR)

The general structure of an acknowledgement of receipt delivered from the Incomes Register is as follows:

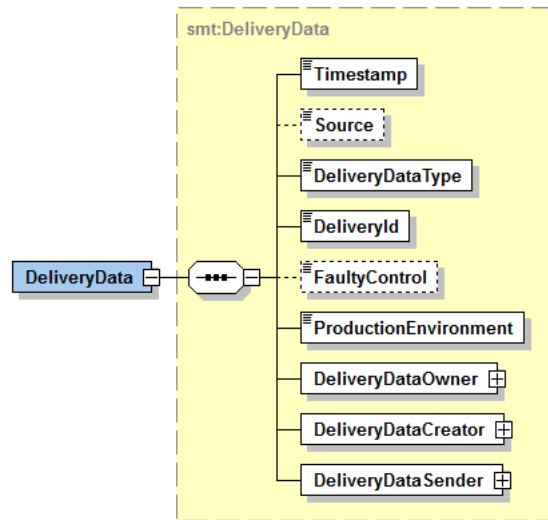
Data designation	Type	V/M
Details of the received record (DeliveryData)	smt:DeliveryData	M
Details of an acknowledgement of receipt (AckData)	smt:AckData	M
Message-level errors (MessageErrors)	smt:MessageErrors	V
Error information (ErrorInfo)	smt:ErrorInfo	M
Record-level errors (DeliveryErrors)	smt:DeliveryErrors	V
Error information (ErrorInfo)	smt:ErrorInfo	M
Signature (Signature)	xsig:SignatureType	M



Data group details:

Data designation	Type	Allowed values	V/M	Processing rule
Details of the received record (DeliveryData)	smt:DeliveryData		M	The general details of the received record are returned in this data group with content that is identical to that of the received record.
Details of an acknowledgement of receipt (AckData)	smt:AckData		M	The data group contains the data of the acknowledgement of receipt generated by the Incomes Register.
Signature (Signature)	xsig:SignatureType		M	The electronic signature of the record is delivered in this data group.

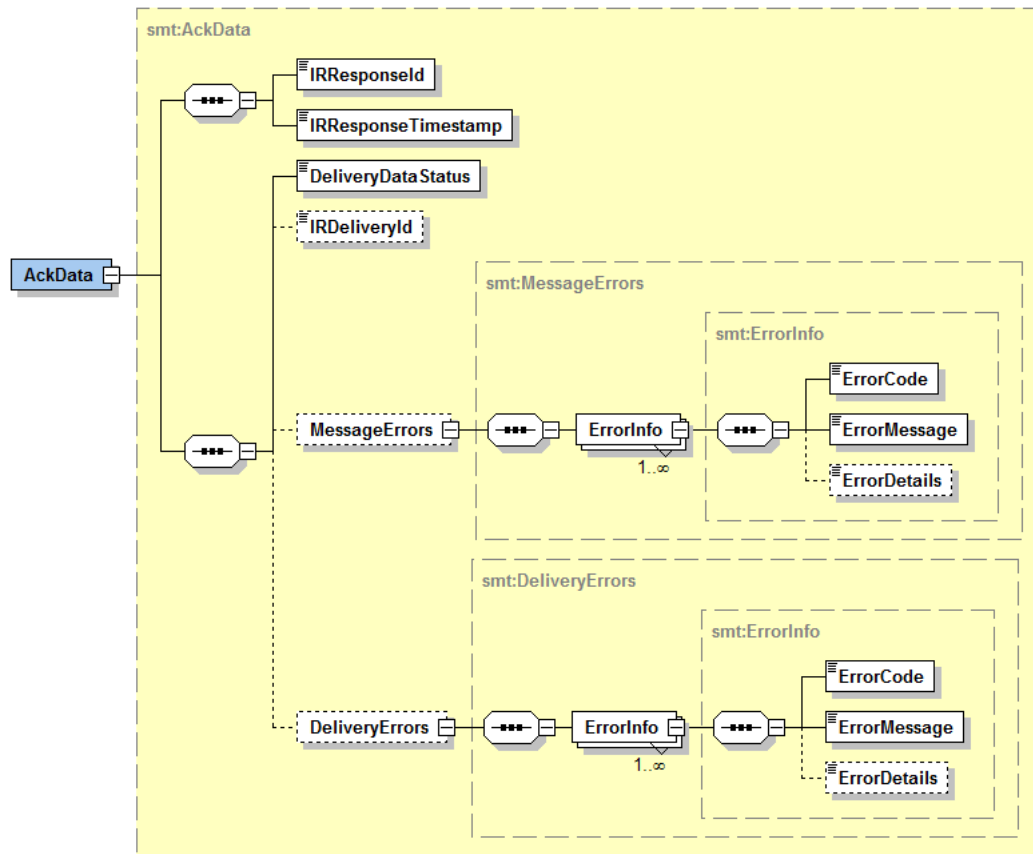
2.1 Details of the received record (DeliveryData)



Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Details of the received record (DeliveryData)	smt:DeliveryData		M	The general details of the received record are returned in this data group with content that is identical to that of the received record.
Time of record creation (Timestamp)	xs:dateTime		M	
Data source (Source)	irct:String30		V	
Record type (DeliveryDataType)	xs:int	Codes: DeliveryDataType	M	
Record owner's record reference (DeliveryId)	irct:String40		M	
Rule for processing invalid data (FaultyControl)	xs:int	Codes: FaultyControl	V	
Production environment (ProductionEnvironment)	irct:trueOrFalse	Codes: ProductionEnvironment	M	
Record owner (DeliveryDataOwner)	smt:Id		M	
Record creator (DeliveryDataCreator)	smt:Id		M	
Record submitter (DeliveryDataSender)	smt:Id		M	

2.2 Details of an acknowledgement of receipt (AckData)



Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Details of an acknowledgement of receipt (AckData)	smt:AckData		M	The data group contains the data of the acknowledgement of receipt generated by the Incomes Register.
Incomes Register message reference (IRResponseld)	irct:Guid		M	The Incomes Register message reference uniquely identifies all messages sent from the Incomes Register.

Acknowledgement of receipt timestamp (IRResponseTimestamp)	xs:dateTime		M	The time when the Incomes Register generated the acknowledgement of receipt.
Record status (DeliveryDataStatus)	xs:int	Codes: DeliveryDataStatus and values 0, 2 and 4 from it	M	The status of the record after reception in the Incomes Register is delivered in this element.
Incomes Register record reference (IRDeliveryId)	irct:Guid		V	If the record was successfully received by the Incomes Register, the reference assigned to the record by the Incomes Register is delivered in this element. The Incomes Register record reference uniquely identifies all records submitted to the Incomes Register. If the reception of the record by the Incomes Register failed, this value is blank.
Message-level errors (MessageErrors)	smt:MessageErrors		V	This data group is used to return technical and authorisation errors.
Error information (ErrorInfo)	smt:ErrorInfo		M	There may be several errors.
Error code (ErrorCode)	irct:String20		M	The error code is returned in this element.
Error code description (ErrorMessage)	irct:String500		M	A description of the error code is returned in this element.
Error details (ErrorDetails)	irct:String500		V	Allocation and identifying information for the error is returned in this element.
Record-level errors (DeliveryErrors)	smt:DeliveryErrors		V	This data group is used to return errors related to the contents of record-level data.
Error information (ErrorInfo)	smt:ErrorInfo		M	There may be several errors.
Error code (ErrorCode)	irct:String20		M	The error code is returned in this element.
Error code description (ErrorMessage)	irct:String500		M	A description of the error code is returned in this element.
Error details (ErrorDetails)	irct:String500		V	Allocation and identifying information for the error is returned in this element.