Data delivery – Schemas – Messages 2020

Incomes Register Unit

Version history

Version	Date	Description
1.0	6/11/2019	Document for 2020 published. Contents of the document correspond to the document for 2019.

CONTENTS

TULOREKISTERI

1   GENERAL

1.1   Schema

Messages are submitted to the Incomes Register using the **MessagesToIR** schema.

The namespaces of the schema are the following:

File name	Prefix	Namespace
	xmlns:xs	http://www.w3.org/2001/XMLSchema
MessagesToIR.xsd	xmlns:mtir	http://www.tulorekisteri.fi/2017/1/MessagesToIR
MessagesToIRTypes.xsd	xmlns:mtirt	http://www.tulorekisteri.fi/2017/1/MessagesToIRTypes
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.
M	The element is mandatory if its "parent element" is included.
V/M	The element is conditionally mandatory. The data processing rules describe the situations in which the element is mandatory.

TULOREKISTERI

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   MESSAGES (MESSAGESTOIR)

The general structure of a record containing messages submitted to the Incomes Register is as follows:

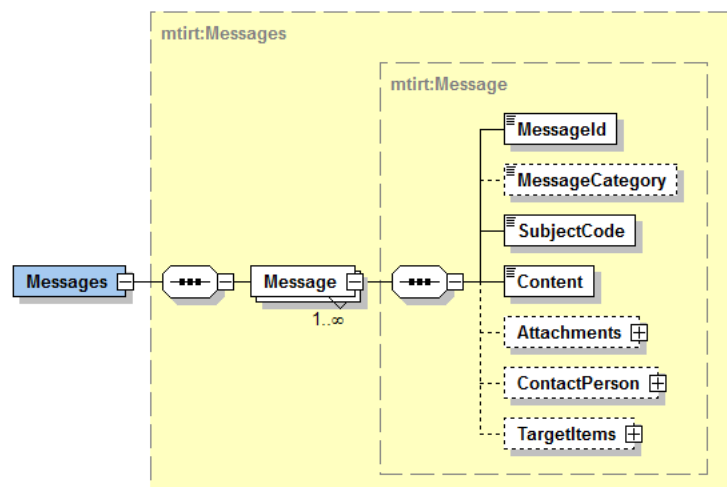| Data designation	Type	V/M
Record data (DeliveryData)	mtirt:DeliveryData	M
Messages (Messages)	mtirt:Messages	M
Message (Message)	mtirt:Message	M
Attachments (Attachments)	mtirt:Attachments	V
Attachment (Attachment)	mtirt:Attachment	M
Contact person (ContactPerson)	mtirt:ContactPerson	V
Target items for message (TargetItems)	mtirt:TargetItems	V
Target item for message (TargetItem)	mtirt:TargetItem	M
Signature (Signature)	xsig:SignatureType	V/M

2.1   Record data (DeliveryData)
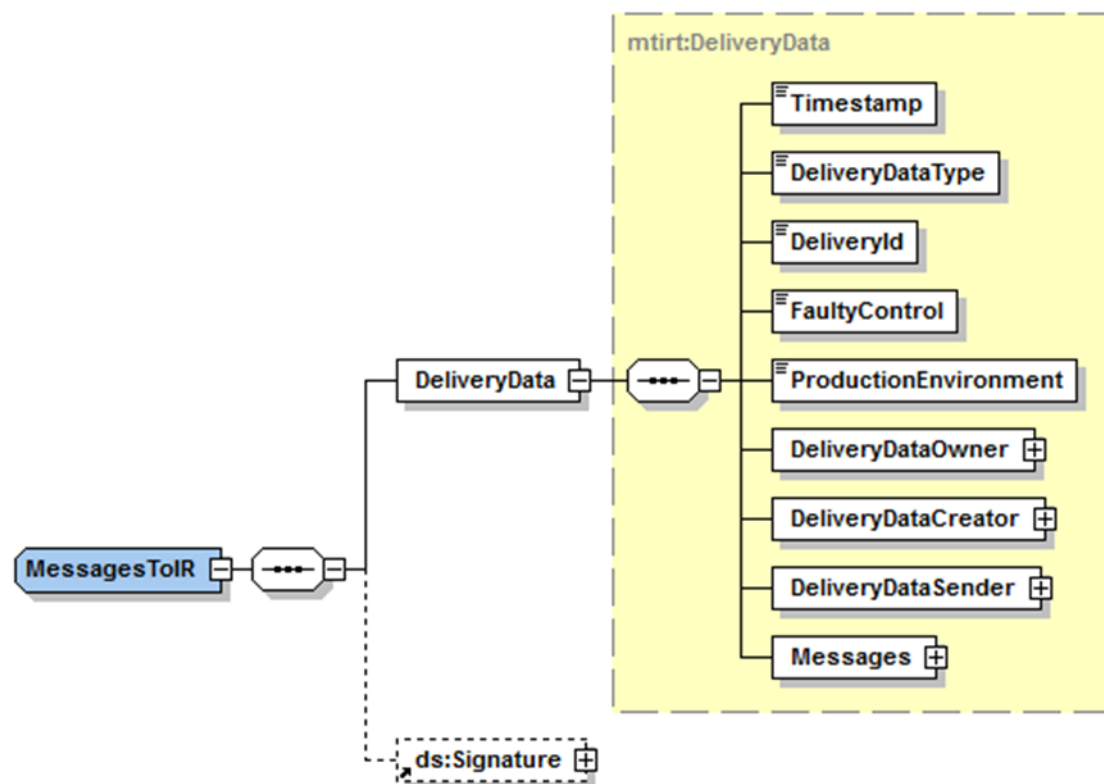
Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Record data (DeliveryData)	mtirt:DeliveryData		M	
Time of record creation (Timestamp)	xs:dateTime		M	
Record type (DeliveryDataType)	xs:int	Codes: QueryDataType and value 104 from it	M	

Record owner's (message sender's) record reference (DeliveryId)	irct:String40		M	Each record containing messages (DeliveryDataType=104) from a specific sender (DeliveryDataOwner) must have a unique record owner's record reference.
Rule for processing invalid data (messages) (FaultyControl)	xs:int	Codes: FaultyControl	M	If the record contains invalid messages, this entry determines whether to reject only the invalid messages in the record or the entire record.
Production environment (ProductionEnvironment)	irct:trueOrFalse	Codes: ProductionEnvironment	M	If the value is "true", the data must have been delivered to the Incomes Register's production environment. If the value is "false", the data must have been delivered to the Incomes Register's test environment.
Record owner (DeliveryDataOwner)	mtirt:Id		M	Processing rules related to data items Record owner, Record creator and Record submitter: **The organisation sending the messages delivers the messages:** The organisation sending the messages (the party in whose name the messages are sent) is specified as the *Record owner*. The organisation must have a customer ID. If the sender of messages has a business ID, it must be specified as the Record owner. The Record owner (= the sending organisation) must be specified as the *Record creator.* The Record owner (= the sending organisation) must be specified as the *Record submitter.* **The service provider delivers the messages on behalf of the sending organisation:** The organisation sending the messages (the party in whose name the messages are sent) is specified as the *Record owner*. The organisation must have a customer ID. If the sender of messages has a business ID, it must be specified as the Record owner. The identifier of the service provider must be specified as the *Record creator.* If the service provider has a business ID, it must be specified. It must be specified in the Incomes Register that the service provider has the right to submit records on behalf of others. The Record creator (= service provider) must be specified as the *Record submitter*.
Identifier type (Type)	xs:int	Codes: IdType	M	
Identifier (Code)	irct:String30		M	If the "Identifier type" is "Business ID", the identifier must exist (according to information from the Business Information System (YTJ)). If the "Identifier type" is "Finnish Personal Identification Number", the identifier must exist (according to information from the Population Information System (VTJ)).

|				
Country code (CountryCode)	irct:String2	A two-character code in accordance with the ISO 3166 country codes. If the country is unknown, the value "99" is entered.	V/M	Mandatory data if "Identifier type" is other than "Business ID" or "Finnish Personal Identification Number".
Country name (CountryName)	irct:String70		V/M	Mandatory data if "Country code" is "99".
Record creator (DeliveryDataCreator)	mtirt:Id		M	The processing rules for Identifier type, Identifier, Country code and Country name are the same as in the Record owner (DeliveryDataOwner) data group.
Record submitter (DeliveryDataSender)	mtirt:Id		M	The processing rules for Identifier type, Identifier, Country code and Country name are the same as in the Record owner (DeliveryDataOwner) data group.
Messages (Messages)	mtirt:Messages		M	
Signature (Signature)	xsig:SignatureType		V/M	The electronic signature of the record is delivered in this data group. The record must be signed using the certificate of the party specified as the Record creator. The element is voluntary in connection with records submitted through the upload/download service.

TULOREKISTERI

2.2 Messages (Messages)

Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Messages (Messages)	mtirt:Messages		M	
Message (Message)	mtirt:Message		M	Several messages can be submitted.
Sender's message reference (MessageId)	irct:String40		M	The sender's message reference must uniquely identify all messages of a specific sender (DeliveryDataOwner).
Message type (MessageCategory)	xs:int	Codes: MessageCategory	V	The message type must be one, according to the codes, that the party can send.
Message subject (SubjectCode)	xs:int	Codes: MessageSubjectCode	M	The message subject must be one, according to the codes, that the party can send.
Content (Content)	irct:String4000		M	
Attachments (Attachments)	mtirt:Attachments		V	
Contact person (ContactPerson)	mtirt:ContactPerson		V	
Target items for message (TargetItems)	mtirt:TargetItems		V	

2.3 Attachments (Attachments)
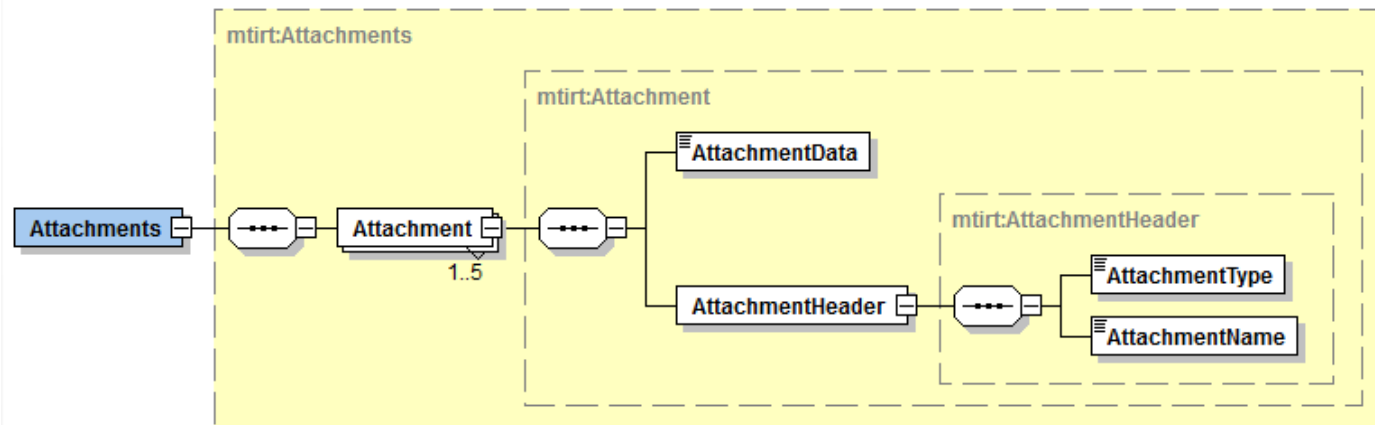
Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Attachments (Attachments)	mtirt:Attachments		V	
Attachment (Attachment)	mtirt:Attachment		M	There can be a maximum of 5 file attachments.
File attachment (AttachmentData)	xs:base64Binary		M	File attachment in base64Binary format. The maximum size of a file attachment is 1 MB.
Attachment details (AttachmentHeader)	mtirt:AttachmentHeader		M	
Attachment type (AttachmentType)	xs:int	Codes: AttachmentType	M	
Attachment name (AttachmentName)	irct:String200		M	

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2.4   Contact person (ContactPerson)
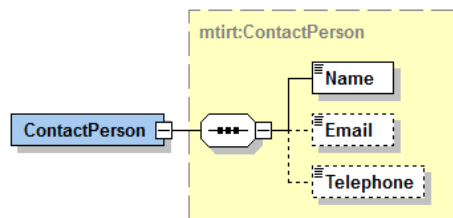
Data group details:

Data designation	Type	Allowed values	V/M	Processing rule
Contact person (ContactPerson)	mtirt:ContactPerson		V	
Name (Name)	irct:String200		M	
E-mail (Email)	irct:String70		V	
Telephone number (Telephone)	irct:String40		V	

TULOREKISTERI

2.5   Target items for message (TargetItems)

Data group details:

Data designation	Type	Allowed values	V/M	Processing rule
Target items for message (TargetItems)	mtirt:TargetItems		V	
Target item for message (TargetItem)	mtirt:TargetItem		M	There can be several target items for a message. The available types of target item for message are customer, incomes payment report, message, a record submitted to the Incomes Register or a record distributed from the Incomes Register. Target item for message is a customer The "Customer" data group is specified in the target item for message details. Only a single payer can be a target item for message (data group "Customer" may appear in the target item for message details only once with "Payer" as the "Customer type"). Only a single income earner can be a target item for message (data group "Customer" may appear in the target item for message details only once with "Income earner" as the "Customer type"). However, both a payer and an income earner can be target items for the same message (data group "Customer" may appear in the target item for message details no more than twice). "Payer" must also be specified as a target item for message, if one of the target items for message is an incomes payment report or a record submitted to the Incomes Register. Target item for message is an incomes payment report The "Incomes payment report" data group is specified in the target item for message details. The message can have several incomes payment reports as target items. In such a case, however, the reports must have the same payer. "Payer" must also be specified as a target item for message in the "Customer" data group. Target item for message is another message The "Message" data group is specified in the target item for message details.

				A message can have several previously sent messages as target items. Target item for message is a record submitted to the Incomes Register "Record submitted to the Incomes Register" is specified in the target item for message details. The message can only have a single record as a target item; it must be a record containing earnings payment reports, employer's separate reports or benefits payment reports. "Payer" must also be specified as a target item for message in the "Customer" data group. Target item for message is a record queried from the Incomes Register "Record queried from the Incomes Register" is specified in the target item for message details. A message can have several records queried from the Incomes Register as target items.
Customer (IdCodeTargetItem)	mtirt: IdCodeTargetItem		V/M	This data group is included if the target item for message is a payer or an income earner.
Customer type (TargetItemType)	xs:int	Codes: MessageIdTargetItemType e	M	Type of customer as a target item for message.
Customer identifier type (Type)	xs:int	Codes: IdType	M	
Customer identifier (Code)	irct:String30		M	If the "Identifier type" is "Business ID", the identifier must exist (according to information from the Business Information System (YTJ)). If the "Identifier type" is "Finnish Personal Identification Number", the identifier must exist (according to information from the Population Information System (VTJ)).
Country code of the identifier (CountryCode)	irct:String2	A two-character code in accordance with the ISO 3166 country codes. If the country is unknown, the value "99" is entered.	V/M	Mandatory data if "Identifier type" is other than "Business ID" or "Finnish Personal Identification Number".
Country name (CountryName)	irct:String70		V/M	Mandatory data if "Country code" is "99".
Incomes payment report (ReportTargetItem)	mtirt:ReportTargetItem		V	This data group is included if the target item for message is an incomes payment report.

					Either "Payer's report reference" or "Incomes Register report reference" must be specified as allocation information.
	Type of incomes payment report (TargetItemType)	xs:int	Codes: ReportType	M	
	Payer's report reference (ReportId)	irct:String40		V/M	If the "Payer's report reference" is specified, a report must be found in the Incomes Register with that reference, conforming to the "Incomes payment report type" value and having the payer specified as allocation information in the "Customer" data group as the payer.
	Incomes Register report reference (IRReportId)	irct:Guid		V/M	If the "Incomes Register report reference" is specified, a report must be found in the Incomes Register with that reference, conforming to the "Incomes payment report type" value and having the payer specified as allocation information in the "Customer" data group as the payer.
	Report version number (ReportVersion)	xs:int		V	The version number must be a positive integer larger than zero. If the version number is specified, a report with a matching version number must be found in the Incomes Register based on the "Payer's report reference" or "Incomes Register report reference".
Message (MessageTargetItem)		mtirt:MessageTargetItem		V	This data group is included if the target item for message is a previously sent message. Either "Sender's message reference" or "Incomes Register message reference" must be specified as allocation information.
	Sender's message reference (MessageId)	irct:String40		V/M	If a sender's message reference has been specified, a message previously sent by the message sender must be found in the Incomes Register with the reference.
	Incomes Register message reference (IRMessageId)	irct:Guid		V/M	If an Incomes Register message reference has been specified, a message previously sent from the Income Register must be found, with the sender/recipient being the message sender.
Record submitted to the Incomes Register (DeliveryTargetItem)		mtirt:DeliveryTargetItem		V	This data group is included if a record containing earnings payment reports, employer's separate reports or benefits payment reports is the target item for the message. Either the "Record submitter's record reference" or the "Incomes Register record reference" must be specified as allocating information.
	Record type (TargetItemType)	xs:int	Codes: DeliveryDataType and values 100, 101 from it	M	

TULOREKISTERI

Record owner's record reference (DeliveryId)	irct:String40		V/M	If the "Record submitter's report reference" is specified, a record must be found in the Incomes Register with that reference, conforming to the "Record type" value and having the payer specified as allocation information in the "Customer" data group as the payer.
Incomes Register record reference (IRDeliveryId)	irct:Guid		V/M	If the "Incomes Register record reference" is specified, a record must be found in the Incomes Register with that reference, conforming to the "Record type" value and having the payer specified as allocation information in the "Customer" data group as the payer.
Record queried from the Incomes Register (QueryTargetItem)	mtirt:QueryTargetItem		V	This data group is included if a record queried from the Incomes Register is the target item for the message.
Record type (TargetItemType)	xs:int	Codes: QueryDataType	M	
Incomes Register query reference (IRQueryId)	irct:Guid		M	This data must be an existing Incomes Register query reference for a record conforming to the "Record type".

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