

Data delivery – Schemas – Record subscriptions 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.



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1 GENERAL

1.1 Schema

Record subscriptions are submitted to the Incomes Register using the **SubscriptionsToIR** schema.

The namespaces of the schema are as follows:

File name	Prefix	Namespace
	xmlns:xs	http://www.w3.org/2001/XMLSchema
SubscriptionsToIR.xsd	xmlns:stir	http://www.tulorekisteri.fi/2017/1/SubscriptionsToIR
MainSubscriptionTypes.xsd	xmlns:mst	http://www.tulorekisteri.fi/2017/1/MainSubscriptionTypes
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 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.

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



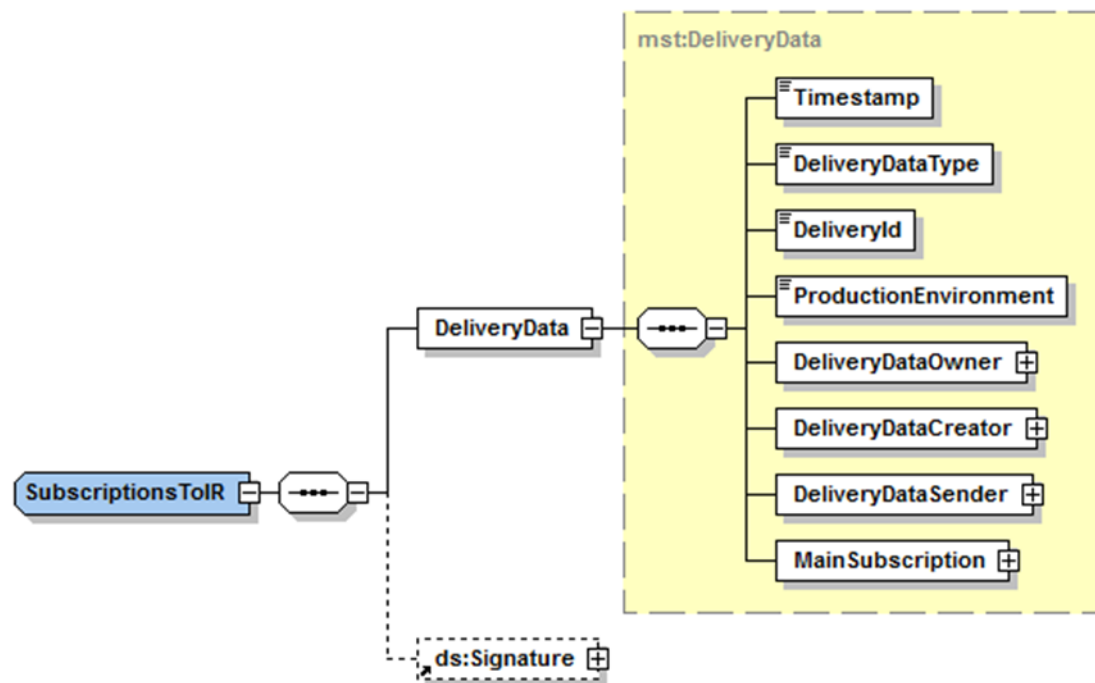
2 RECORD SUBSCRIPTION (SUBSCRIPTIONSTOIR)

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

Data designation	Type	V/M
Record data (DeliveryData)	mst:DeliveryData	M
Primary subscription (MainSubscription)	mst:MainSubscription	M
Secondary subscriptions (Subscriptions)	mst:Subscriptions	M
Secondary subscription (Subscription)	mst:Subscription	M
Query criteria (SubscriptionParameters)	mst:SubscriptionParameters	V/M
A list of the customers to include (IdCodeList)	mst:IdCodeList	V/M
Customers to include (CodeItems)	mst: CodeItems	M
Customer to include (CodeItem)	mst: CodeItem	M
Customer-specific query criteria (SubscriptionParameters)	mst:SubscriptionParameters	V/M
Query schedule (Schedule)	mst:Schedule	M
Query schedule of recurrent subscription (RecurringDeliverySchedule)	mst: RecurringDeliverySchedule	V/M
Monthly schedule (MonthlySchedule)	mst: MonthlySchedule	V/M
Weekly schedule (WeeklySchedule)	mst: WeeklySchedule	V/M
Daily schedule (DailySchedule)	mst:DailySchedule	V/M
Query schedule of one-off subscription (OnetimeDeliverySchedule)	mst: OnetimeDeliverySchedule	V/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)	mst:DeliveryData		M	
Time of record creation (Timestamp)	xs:dateTime		M	Date and time when the record was created in the record submitter's system.
Record type (DeliveryDataType)	xs:int	Codes: DeliveryDataType and value 103 from it	M	
Record owner's (subscriber's) record reference (DeliveryId)	irct:String40		M	The record owner's (subscriber's) record reference must uniquely identify all records of a specific subscriber (DeliveryDataOwner) that contain record subscriptions (DeliveryDataType=103).

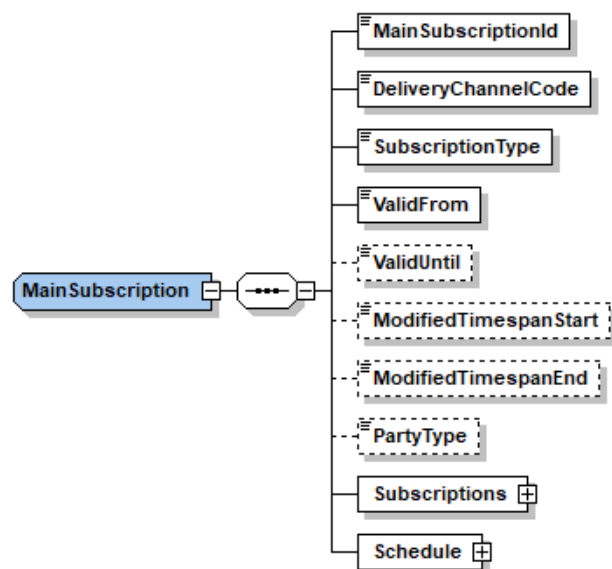
Production environment (ProductionEnvironment)	irct:trueOrFalse	Codes: ProductionEnvironment	M	If the value is "true", the data must have been delivered to the Incomes Register's production environment. If the value is "false", the data must have been delivered to the Incomes Register's test environment.
Record owner (DeliveryDataOwner)	mst:Id		M	<p>Processing rules related to data items Record owner, Record creator and Record submitter:</p> <p>The record subscriber submits the record subscription: The record subscriber, i.e., the organisation whose data access rights are used in the record query, must be specified as the <i>Record owner</i>. The organisation must have a customer ID. If the record subscriber has a business ID, it must be specified as the Record owner. The Record owner (= subscriber) must be specified as the <i>Record creator</i>. The Record owner (= subscriber) must be specified as the <i>Record submitter</i>.</p> <p>A service provider submits the record subscription on behalf of the subscriber: The record subscriber, i.e., the organisation whose data access rights are used in the record query, must be specified as the <i>Record owner</i>. The organisation must have a customer ID. If the record subscriber has a business ID, it must be specified as the Record owner. The identifier of the service provider must be specified as the <i>Record creator</i>. 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 <i>Record submitter</i>.</p>
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)	mst: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)	mst: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.
Primary subscription (MainSubscription)	mst:MainSubscription		M	
Signature (Signature)	xsig:SignatureType		V/M	<p>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.</p> <p>The element is voluntary in connection with records submitted through the upload/download service.</p>



2.2 Primary subscription (MainSubscription)



Data group details:

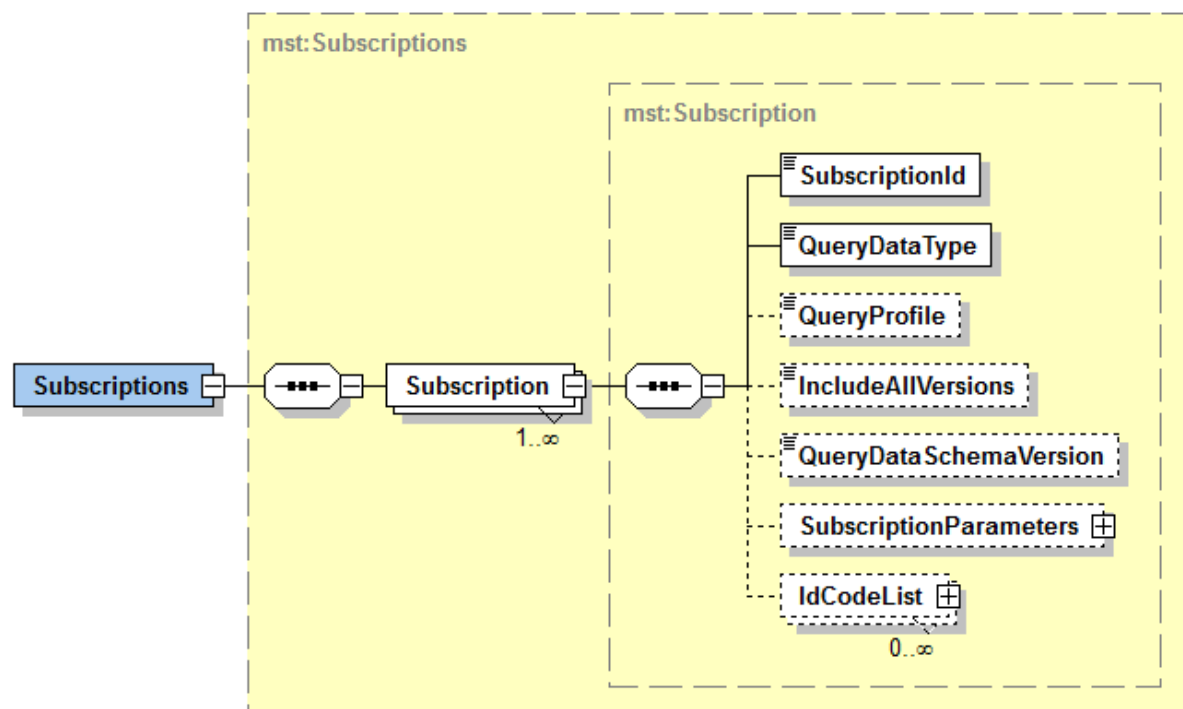
Data designation	Type	Allowed values	V/ M	Processing rule
Primary subscription (MainSubscription)	mst:MainSubscription		M	
Subscriber's primary subscription reference (MainSubscriptionId)	irct:String40		M	The subscriber's primary subscription reference must uniquely identify all subscriptions of a specific subscriber (DeliveryDataOwner).
Distribution channel (DeliveryChannelCode)	xs:int	Codes: DeliveryChannelCode	M	The distribution channel must be allowed for all record types specified in the secondary subscriptions belonging to the primary subscription. The allowed distribution channels are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".
Record subscription type (SubscriptionType)	xs:int	Codes: SubscriptionType	M	The record subscription type must be allowed for all those record types specified in the secondary subscriptions belonging to the primary subscription. The allowed record subscription types are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".
Validity start date (ValidFrom)	xs:date		M	Start date of the validity of the primary subscription.

				The start date must not be prior to the current date.
Validity end date (ValidUntil)	xs:date		V	End date of the validity of the primary subscription. The validity end date may not be earlier than the validity start date.
Start of the query time range for changes (ModifiedTimespanStart)	xs:dateTime		V/M	Mandatory data, if the primary subscription includes a secondary subscription, the record type "Start of the query period for modified reports" of which has a mandatory query criterion. The mandatory and voluntary data specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register". One-off subscription: The start of the query period for modified reports must be earlier than the query time. The query time means the start date of the validity of the primary subscription and the time defined in the query schedule. Recurrent subscription: The start of the query period for modified reports must be before the first scheduled query time.
End of the query time range for changes (ModifiedTimespanEnd)	xs:dateTime		V/M	Mandatory data, if the primary subscription includes a secondary subscription, the record type "End of the query period for modified reports" of which has a mandatory query criterion. The mandatory and voluntary data specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register". The end of the query period for modified reports must not be earlier than the start of the query period for modified reports. One-off subscription: The end of the query time range for changes may not be later than the query time. The query time means the start date of the validity of the primary subscription and the time defined in the query schedule. Recurrent subscription: This data cannot be entered for a recurrent subscription.
Type of record subscriber (PartyType)	xs:int	Codes: PartyType and values 1, 2 and 3 derived from it	V/M	Mandatory data, if the record is submitted via the upload service and the record is not signed. If the record is signed, the Type of record subscriber must correspond to the certificate used in the signature: If the Type of record subscriber is Provider of earnings payment data / Provider of benefits payment data / Data user, the record must be signed using the certificate of the provider of earnings payment data / provider of benefits payment data / data user.
Secondary subscriptions (Subscriptions)	mst:Subscriptions		M	

Query schedule (Schedule)	mst:Schedule		M	
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2.3 Secondary subscriptions (Subscriptions)



Data group details:

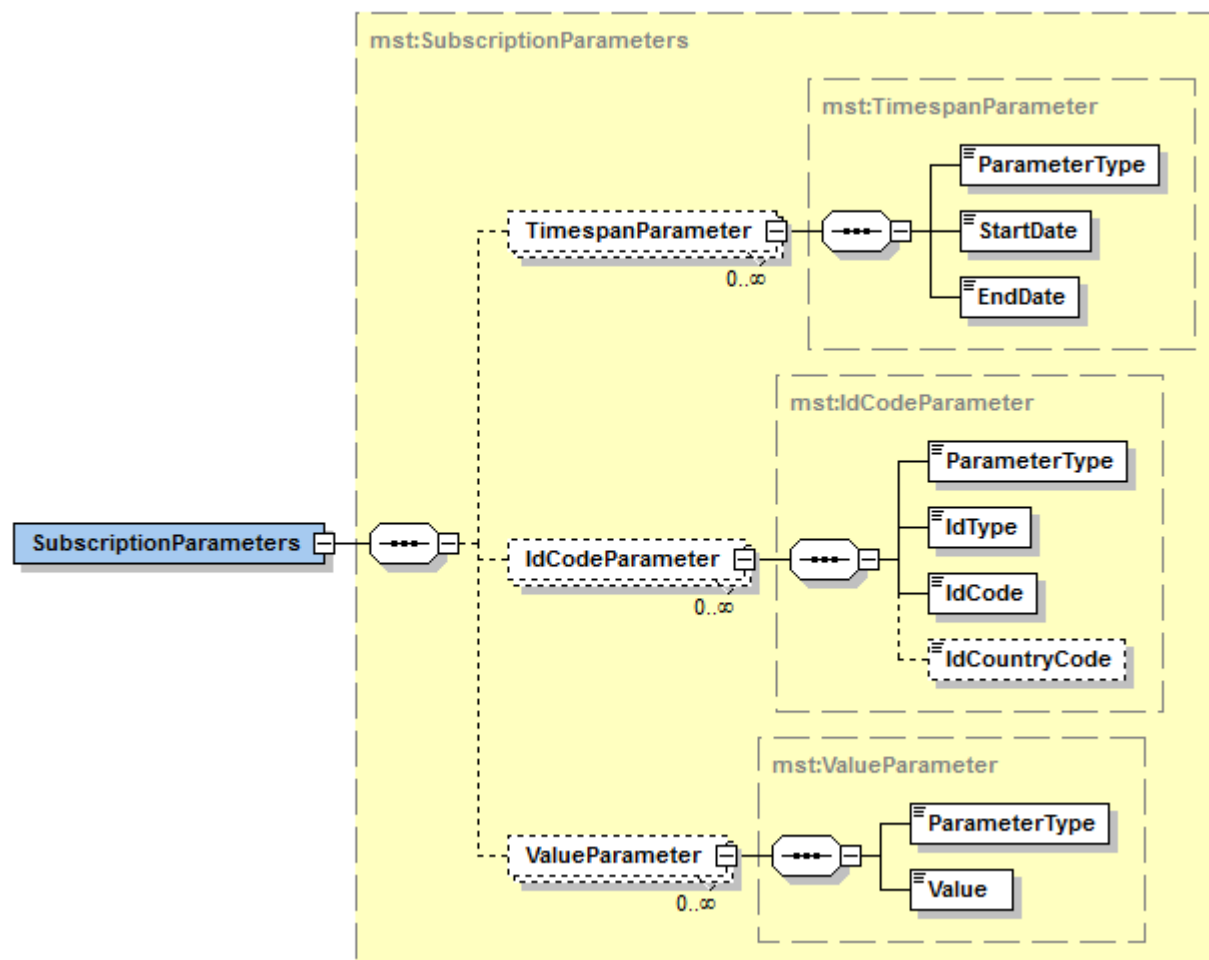
Data designation	Type	Allowed values	V/ M	Processing rule
Secondary subscriptions (Subscriptions)	mst:Subscriptions		M	
Secondary subscription (Subscription)	mst:Subscription		M	Several secondary subscriptions may be connected to a primary subscription.
Subscriber's secondary subscription reference (SubscriptionId)	irct:String40		M	The subscriber's secondary subscription reference must uniquely identify all secondary subscriptions connected to the primary subscriptions (they must be unique within the primary subscription).
Record type (QueryDataType)	xs:int	Codes: QueryDataType and values 300–399, 600–799 derived from it	M	If an agreement is required for subscribing to a record type, the record subscriber (DeliveryDataOwner) must have an agreement that entitles them to



				subscribe to the record type and is valid on the start date of the validity of the primary subscription.
Data access profile (QueryProfile)	irct:String40		V/M	<p>Mandatory data, if it is required for the record type of the secondary subscription. The mandatory and voluntary data specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".</p> <p>The specified combination (Record type, Data access profile, Distribution channel) must be valid for the subscriber (DeliveryDataOwner) at the start of the validity of the primary subscription.</p>
Query all report versions (IncludeAllVersions)	irct:trueOrFalse	Codes: IncludeAllVersions	V/M	Mandatory data, if it is required for the record type of the secondary subscription. The mandatory and voluntary data specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".
Record schema version (QueryDataSchemaVersion)	irct:String200	Codes: QueryDataSchemaVersion	V/M	<p>Mandatory data, if it is required for the record type of the secondary subscription. The mandatory and voluntary data specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".</p> <p>The specified schema must be one of the schemas valid for the record type in question on the start date of the validity of the primary subscription.</p>
Query criteria (SubscriptionParameters)	mst:SubscriptionParameters		V/M	<p>The query criteria are record type specific.</p> <p>The mandatory and voluntary query criteria specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".</p>
A list of the customers to include (IdCodeList)	mst:IdCodeList		V/M	<p>The query criteria are record type specific.</p> <p>The mandatory and voluntary query criteria specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".</p>



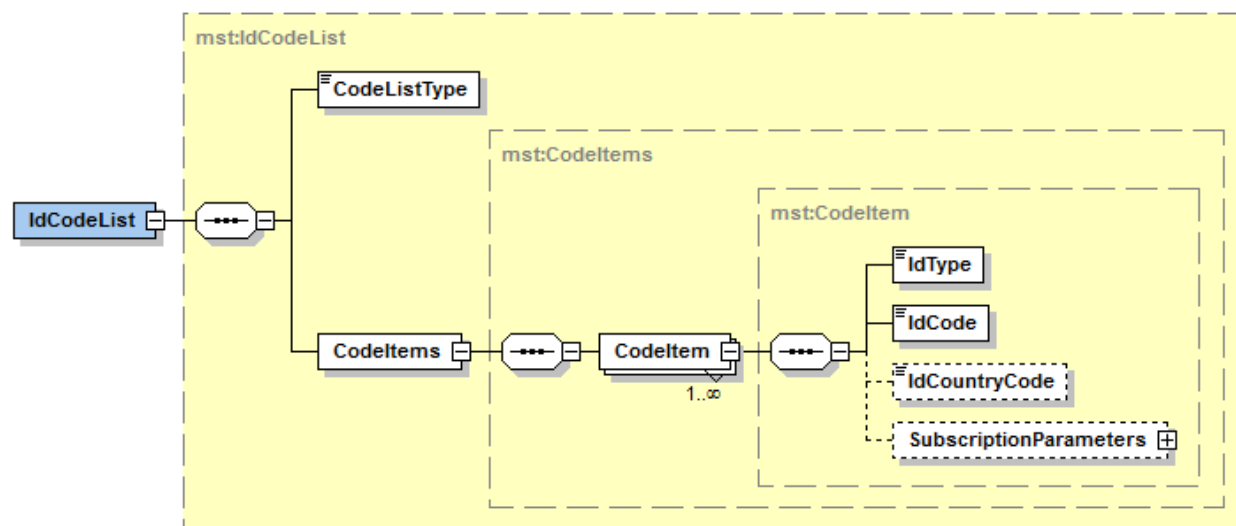
2.4 Query criteria (SubscriptionParameters)



Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query criteria (SubscriptionParameters)	mst:SubscriptionParameters		V/M	The query criteria are record type specific. The mandatory and voluntary (if any) query criteria for the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".
Period (TimespanParameter)	mst:TimespanParameter		V/M	There can be several periods.
Query criterion type (ParameterType)	xs:int	Codes: ParameterType	M	
Start date of time range (StartDate)	xs:date		M	If the Query criterion type is Time range of reporting period, only the year and month are taken into consideration.
End date of time range (EndDate)	xs:date		M	If the Query criterion type is Time range of reporting period, only the year and month are taken into consideration. The end date of the time range may not be earlier than its start date.
Customer (IdCodeParameter)	mst:IdCodeParameter		V/M	There may be several customers.
Customer type (ParameterType)	xs:int	Codes: ParameterType	M	
Customer identifier type (IdType)	xs:int	Codes: IdType	M	
Customer identifier (IdCode)	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 (IdCountryCode)	irct:String2	A two-character country code (ISO 3166)	V/M	Mandatory data if "Identifier type" is other than "Business ID" or "Finnish Personal Identification Number".
Value (ValueParameter)	mst:ValueParameter		V/M	There may be several values.
Query criterion type (ParameterType)	xs:int	Codes: ParameterType	M	
Value (Value)	irct:String100		M	

2.5 A list of the customers to include (IdCodeList)



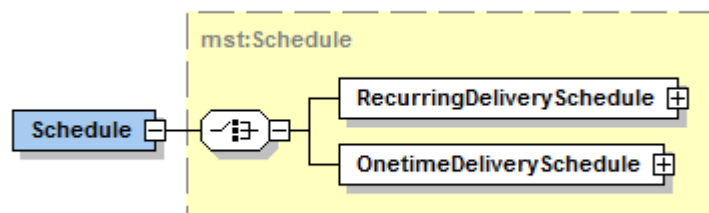
Data group details:

Data designation	Type	Allowed values	V/M	Processing rule
A list of the customers to include (IdCodeList)	mst:IdCodeList		V/M	
Type of customers to include (CodeListType)	xs:int	Codes: CodeListType	M	
Customers to include (CodeItems)	mst: CodeItems		M	
Customer to include (CodeItem)	mst: CodeItem		M	There can be several query targets.
Customer identifier type (IdType)	xs:int	Codes: IdType	M	
Customer identifier (IdCode)	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 (IdCountryCode)	irct:String2	A two-character country code (ISO 3166)	V/M	Mandatory data if "Identifier type" is other than "Business ID" or "Finnish Personal Identification Number".

Customer-specific query criteria (SubscriptionParameters)	mst:SubscriptionParameters		V/M	The query criteria are record type specific. The mandatory and voluntary query criteria specified in the subscription are described by record type in the document, "Technical interface – Data distribution from the Incomes Register".
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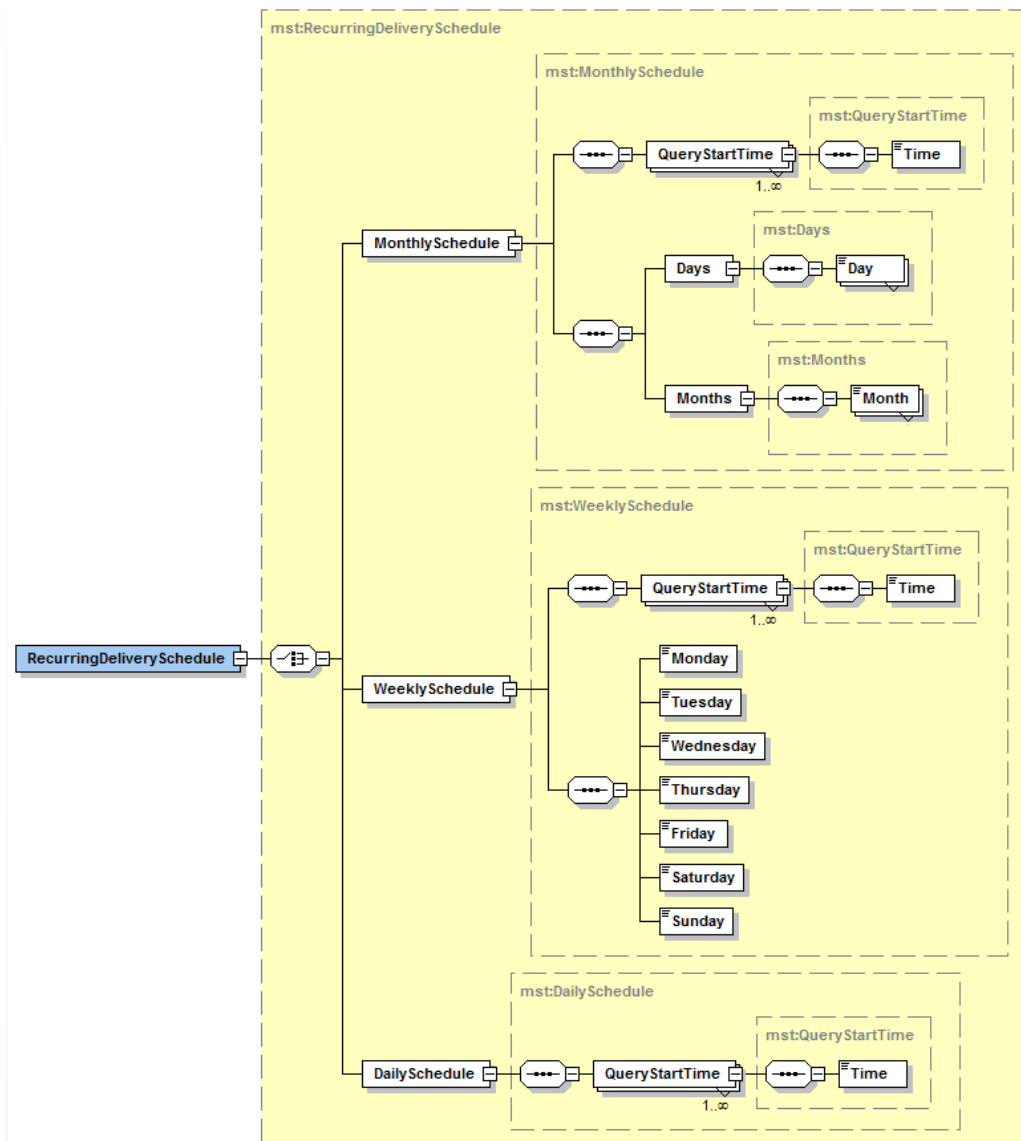
2.6 Query schedule (Schedule)



Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query schedule (Schedule)	mst:Schedule		M	<p>The query schedule must be set to either "Query schedule of recurrent subscription" or "Query schedule for one-off subscription". Both schedules must not be specified.</p> <p>If the type of the record subscription is recurrent subscription, the data group "Query schedule of recurrent subscription" must be specified for the subscription.</p> <p>If the type of the record subscription is one-off subscription, the data group "Query schedule of one-off subscription" must be specified for the subscription.</p>
Query schedule of recurrent subscription (RecurringDeliverySchedule)	mst:RecurringDeliverySchedule		V/M	
Query schedule of one-off subscription (OnetimeDeliverySchedule)	mst:OnetimeDeliverySchedule		V/M	

2.7 Query schedule of recurrent subscription (RecurringDeliverySchedule)



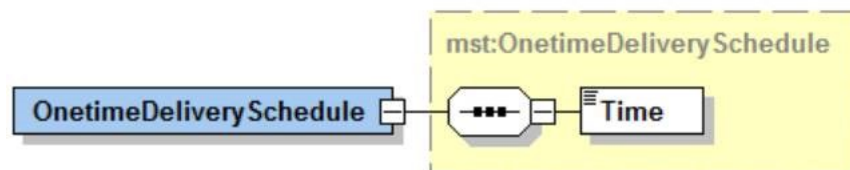
Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query schedule of recurrent subscription (RecurringDeliverySchedule)	mst:RecurringDeliverySchedule		V/M	The query schedule for the primary subscription must be set to either "Query schedule of recurrent subscription" or "Query schedule for one-off subscription". Both schedules must not be specified. The query schedule of a recurrent subscription must be set as one (and only one) of the following: "Monthly schedule", "Weekly schedule", "Daily schedule".
Monthly schedule (MonthlySchedule)	mst:MonthlySchedule		V/M	
Query time (QueryStartTime)	mst:QueryStartTime		M	Several query times can be specified.
Time (Time)	xs:time		M	The minimum allowed time between queries is record type-specific.
Days of the month of the query (Days)	mst:Days		M	Several days of the month of the query can be specified.
Day of the month of the query (Day)	mst:Day	1–31, 32	M	The value "32" is specified, if the query is to be performed on the last day of the month. You can specify a certain day of the month only once (e.g. the value 1 cannot be specified several times). The specified combination of query month + query day must be an existing date (e.g. 30 February is not allowed).
Query months (Months)	mst:Months		M	Several query months can be specified.
Query month (Month)	mst:Month	1-12	M	You can specify a certain month only once (e.g. the value 1 cannot be specified several times).
Weekly schedule (WeeklySchedule)	mst:WeeklySchedule		V/M	At least one weekday on which a query is made must be entered into a weekly schedule (the weekday-specific value is "true").
Query time (QueryStartTime)	mst:QueryStartTime		M	Several query times can be specified.
Time (Time)	xs:time		M	The minimum allowed time between queries is record type-specific.
Monday (Monday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Mondays. Otherwise, enter the value "false".
Tuesday (Tuesday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Tuesdays. Otherwise, enter the value "false".
Wednesday (Wednesday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Wednesdays. Otherwise, enter the value "false".
Thursday (Thursday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Thursdays.

				Otherwise, enter the value "false".
Friday (Friday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Fridays. Otherwise, enter the value "false".
Saturday (Saturday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Saturdays. Otherwise, enter the value "false".
Sunday (Sunday)	irct:trueOrFalse		M	Enter the value "true", if you wish the query to be performed on Sundays. Otherwise, enter the value "false".
Daily schedule (DailySchedule)	mst:DailySchedule		V/M	
Query time (QueryStartTime)	mst:QueryStartTime		M	Several query times can be specified.
Time (Time)	xs:time		M	The minimum allowed time between queries is record type-specific.



2.8 Query schedule of one-off subscription (OnetimeDeliverySchedule)



Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query schedule of one-off subscription (OnetimeDeliverySchedule)	mst:OnetimeDeliverySchedule		V/M	The query schedule for the primary subscription must be set to either "Query schedule of recurrent subscription" or "Query schedule for one-off subscription". Both schedules must not be specified.
Query time (Time)	xs:time		M	The time at which the query is performed.

