# Interface Specification

## LINKWARE IEC 61968 MANAGEMENT

| | | |
|---|---|---|
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# Contents

# 1 Overview

The purpose of this Linkware interface is to allow external systems to manage usage points (metering points in the system), devices and other related entities in Aidon Gateware. The interface is implemented as a web service using the IEC 61968 standards.

## References

| Reference | Document |
|---|---|
| IEC 61968-100 ed.1 Implementation profiles | The document describes how message payloads defined by parts 3-9 of IEC 61968 are conveyed using web services and the Java Messaging System. |
| IEC 61968-9 ed.2 Interfaces for meter reading and control | The purpose of this document is to define a standard for the integration of metering systems (MS), which would include traditional (one or two-way) automated meter reading (AMR) systems, with other systems and business functions within the scope of IEC 61968. |
| Interface Specification – Linkware IEC 61968 Common | Common Linkware IEC 61968 interface specification. Contains general specifications, guidelines and restrictions, including i.e. message headers, error handling and security policies. |

# 2 Interface specification

## 2.1 Common Message Envelope

The common structure for all messages can be found in document Interface Specification – Linkware IEC 61968 Common.

### 2.1.1 Header

The common header can be found in the document Interface Specification – Linkware IEC 61968 Common.

### 2.1.2 Reply

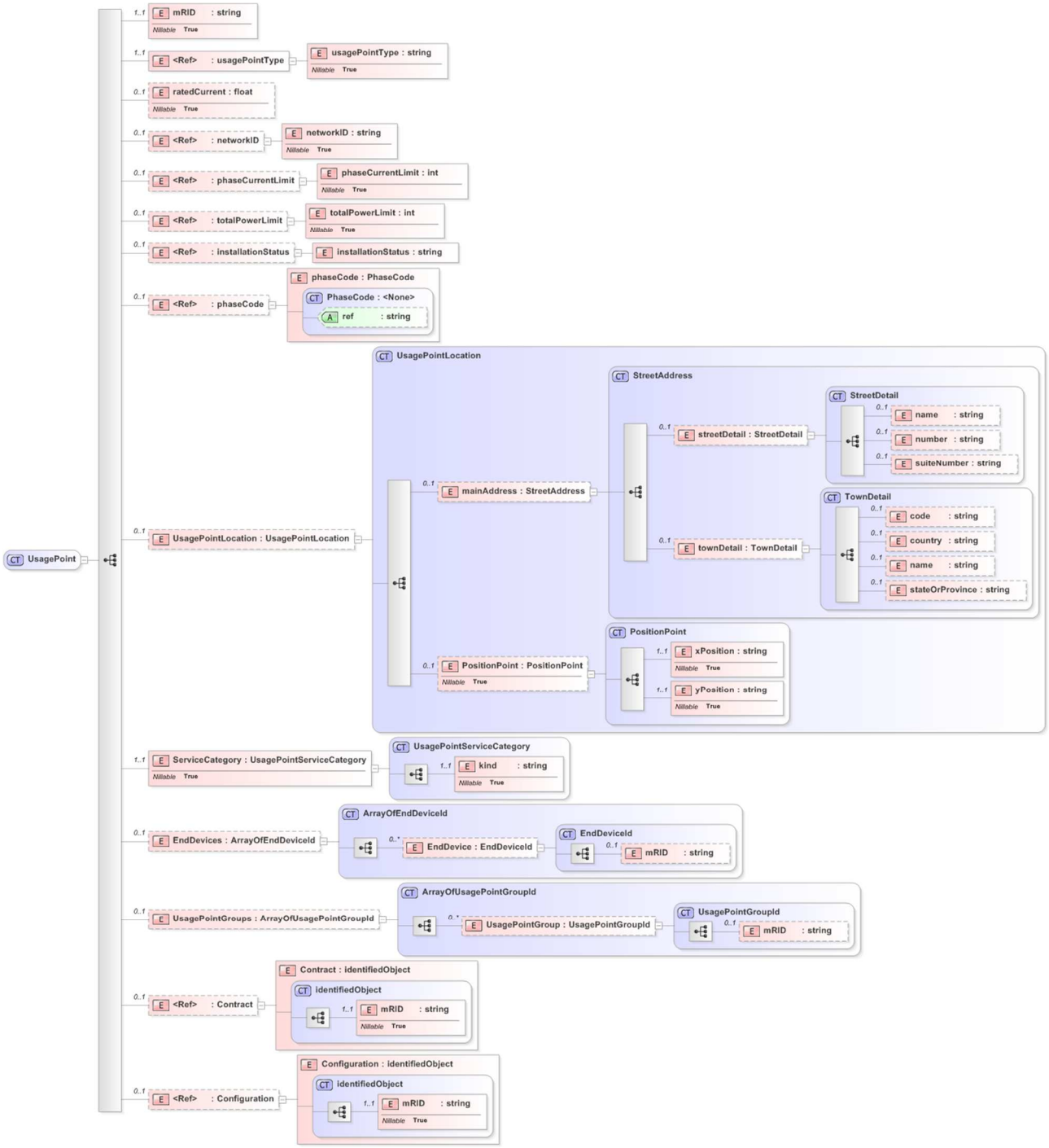
The common reply can be found in the document Interface Specification – Linkware IEC 61968 Common.

## 2.2 Metering Points

The interface enables a client to maintain usage points (metering points in Gateware).

## 2.2.1 UsagePoint message

This message is used for creating, reading and updating metering points.




### 2.2.1.1 m:UsagePoint

| Element | Data type | Cardinality | CRU* | Remarks |
|---|---|---|---|---|
| mRID | xs:string | 1 | CRU | Alphanumeric unique master system identifier for the metering |

| | | | | |
|---|---|---|---|---|
| | | | | point. Mandatory for all messages to identify the metering point. Although the field is mandatory when updating (U), the mRID value of the metering point cannot be changed.<br>Corresponds to the metering point Code in Gateware. |
| usagePointType | xs:string | 1 | CR | The type of the metering point. Possible values:<br>- Metering<br>- Communication |
| ratedCurrent | xs:int | 0..1 | CRU | Corresponds to the fuse size of a metering point in Gateware. The value is in Amperes. The accepted values are between 0-999. If the element is not provided or 0 is given, Unknown will be used as the value in Gateware. |
| networkID | xs:string | 0..1 | CR | The ID of the network. If this element is not provided or an empty string is given, default network is used. If the network matching this ID is not found in Gateware, an error message is returned.<br>Corresponds to Gateware NetworkId. |
| phaseCurrentLimit | xs:int | 0..1 | R | Current limit in Amperes for a single phase. Limit is enforced by the software fuse in the metering device. |
| totalPowerLimit | xs:int | 0..1 | R | Total power limit over all phases in Watts. Limit is enforced by the software fuse in the metering device. |
| installationStatus | xs:string | 0..1 | R | Metering point installation status. Possible values:<br>- Not installed<br>- Installed<br>- ConfigWait<br>- Configured<br>- Deleted |
| phaseCode | | 0..1 | CRU | Phase code that defined number of phases. |
| phaseCode/@ref | | 1 | CRU | Possible values:<br>- A<br>- ABC |
| UsagePointLocation | m:UsagePointLocation | 0..1 | CRU | |

| | | | | |
|---|---|---|---|---|
| ServiceCategory | m:ServiceCategory | 1 | CR | Essentially defines what is measured in the metering point. |
| EndDevices | m:EndDevice | 0..* | R | Describes end device that is linked to the metering point |
| UsagePointGroups | m:UsagePointGroup | 0..* | R | |
| Contract | m:Contract | 0..1 | R | |
| Configuration | m:Configuration | 0..1 | R | |
| EndDeviceFunctions | m:EndDeviceFunction | 0..* | R | |

*CRU = Is element available in Create, Read and Update (Change) operations

#### 2.2.1.2 m:UsagePointLocation

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| mainAddress | m:StreetAddress | 0..1 | |
| PositionPoints | m:PositionPoint | 0..1 | |

#### 2.2.1.3 m:StreetAddress

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| streetDetail | m:StreetDetail | 0..1 | |
| townDetail | m:TownDetail | 0..1 | |

#### 2.2.1.4 m:StreetDetail

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| name | xs:string | 0..1 | Corresponds to the name of the street as extracted part of the street address of a metering point in Gateware. When changing street name without providing the street number, the existing street number will be removed. |
| number | xs:string | 0..1 | Corresponds to the number of a street as extracted part of the street address of a metering point in Gateware. Both street name and street number must be provided together when creating a new metering point or when changing an existing metering point street number. |
| suiteNumber | xs:string | 0..1 | Corresponds to the door number of a metering point in Gateware. |

#### 2.2.1.5 m:TownDetail

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| code | xs:string | 0..1 | Corresponds to the zip code of a metering point in Gateware. |
| country | xs:string | 0..1 | Corresponds to the country of a metering point in Gateware. The value should be an ISO-3166 standard, 3-letter country code. |
| name | xs:string | 0..1 | Corresponds to the city of a metering point in Gateware. |
| stateOrProvince | xs:string | 0..1 | Corresponds to the region of a metering point in Gateware. |

#### 2.2.1.6 m:PositionPoint

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| xPosition | xs:string | 1 | GPS location x coordinate (longitude) in WGS84 system. |
| yPosition | xs:string | 1 | GPS location y coordinate (latitude) in WGS84 system. |

#### 2.2.1.7 m:ServiceCategory

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| kind | xs:string | 1 | Service category. Possible values:<br>- Electricity<br>- HotWater<br>- ColdWater<br>- Water<br>- Heating<br>- Cooling<br>- Gas<br>- None<br>Corresponds to Meteringpoint UtilityType in Gateware.<br>When usagePointType is Communication point then service category is always None.<br>When usagePointType is Metering then service |

| | | | |
|---|---|---|---|
| | | | category None is prohibited |

#### 2.2.1.8 m:EndDevice

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| mRID | xs:string | 1 | Specifies the device affected by this operation. Corresponds to the Code of the device in Gateware. |

#### 2.2.1.9 m:UsagePointGroup

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| mRID | xs:string | 1 | Specifies the metering point group linked to this metering point. Corresponds to the id of the group in Gateware. |

#### 2.2.1.10 m:Contract

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| mRID | xs:string | 1 | Id of the contract. Specifies the contract linked to the metering point. May be either standard contract with STD_ prefix in id or unique contract with UNIQ_ prefix in id for the metering point in Gateware. |

#### 2.2.1.11 m:Configuration

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| mRID | xs:string | 1 | Id of the configuration. Specifies the configuration linked to the metering point. May be either standard configuration with STD_ prefix in id or unique configuration with UNIQ_ prefix in id for the metering point in Gateware. |

#### 2.2.1.12 m:EndDeviceFunction

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| name | xs:string | 1 | Load name, identifies the relay which should be controlled in the system. |
| EndDeviceFunctionKind | xs:string | 1 | Static: “relaysProgramming” |

### 2.2.2 CreateUsagePoint

CreateUsagePoint is used to create a Gateware metering point. The create payload must include metering point details as described in UsagePoint message in section 2.2.1.1.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.2.2.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"create": retrieve metering point information |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Payload | | 1 | |
| Payload/UsagePoint | m:UsagePoint | 1 | Metering point to be created. Only elements that are defined with "C" in CRU column of the UsagePoint message will be available in create. |

#### 2.2.2.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..1 | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

#### 2.2.2.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |

| | | |
|---|---|---|
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.4 | Network not found | FATAL |
| 2.5 | Usage point already exists | FATAL |
| 2.20 | A specified service category is not compatible with the specified usage point type | FATAL |
| 2.35 | The fuse cannot be defined for the usage point type | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.2.4 Examples

Create metering point without rated current and position point

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePoint#"
xmlns:usag2="http://aidon.com/IEC/Management/v2/UsagePoint">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointRequest>
         <usag:Header>
            <mes:Verb>create</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Payload>
            <usag:UsagePoint>
               <usag1:mRID>12345678</usag1:mRID>
               <usag2:usagePointType>Metering</usag2:usagePointType>
               <usag2:currentLimit>80</usag2:currentLimit>
               <usag1:UsagePointLocation>
                  <usag1:mainAddress>
                     <usag1:streetDetail>
                        <usag1:name>Piippukatu</usag1:name>
                        <usag1:number>11</usag1:number>
                        <usag1:suiteNumber>A</usag1:suiteNumber>
                     </usag1:streetDetail>
                     <usag1:townDetail>
                        <usag1:code>40100</usag1:code>
                        <usag1:country>FIN</usag1:country>
```

```
                        <usag1:name>Jyväskylä</usag1:name>
                     </usag1:townDetail>
                  </usag1:mainAddress>
               </usag1:UsagePointLocation>
               <usag1:ServiceCategory>
                  <usag1:kind>Electricity</usag1:kind>
               </usag1:ServiceCategory>
            </usag:UsagePoint>
         </usag:Payload>
      </usag:CreateUsagePointRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:CreateUsagePointResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.3 ChangeUsagePoint

ChangeUsagePoint is used to update a Gateware metering point information. The update payload may include metering point details as described in UsagePoint message in section 2.2.1.1.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.3.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values: |

| | | | |
|---|---|---|---|
| | | | "change": retrieve metering point information |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Payload | | 1 | |
| Payload/UsagePoint | | 1 | Metering point to be updated. Only elements that are defined with "U" in CRU column of the UsagePoint message will be available for updating. |

#### 2.2.3.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..1 | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

#### 2.2.3.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found | FATAL |
| 2.35 | The fuse cannot be defined for the usage point type | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.3.4 Examples

Update metering point information

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePoint#"
xmlns:usag2="http://aidon.com/IEC/Management/v2/UsagePoint">
   <soapenv:Header />
   <soapenv:Body>
      <usag:ChangeUsagePointRequest>
         <usag:Header>
            <mes:Verb>change</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Payload>
            <usag:UsagePoint>
               <usag1:mRID>12345678</usag1:mRID>
               <usag1:ratedCurrent>100</usag1:ratedCurrent>
            </usag:UsagePoint>
         </usag:Payload>
      </usag:ChangeUsagePointRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:ChangeUsagePointResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:ChangeUsagePointResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

Remove information from a metering point

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePoint#"
xmlns:usag2="http://aidon.com/IEC/Management/v2/UsagePoint"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <soapenv:Header />
   <soapenv:Body>
      <usag:ChangeUsagePointRequest>
         <usag:Header>
            <mes:Verb>change</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Payload>
            <usag:UsagePoint>
               <usag1:mRID>12345678</usag1:mRID>
               <usag1:UsagePointLocation>
                  <usag1:PositionPoints xsi:nil="true" />
               </usag1:UsagePointLocation>
            </usag:UsagePoint>
         </usag:Payload>
      </usag:ChangeUsagePointRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.4 DeleteUsagePoint

DeleteUsagePoint is used to delete a Gateware metering point. The delete operation doesn't actually destroy metering point information, but only marks it archived. Archived metering point will not be available on any further requests in the IEC interfaces.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.4.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"delete": delete metering point information |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Request | | | |

| | | | |
|---|---|---|---|
| Request/ID | xs:string | 1 | Metering point identifier corresponding Gateware metering point code (mRID) |

### 2.2.4.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..1 | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.2.4.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found | FATAL |
| 2.16 | Failed to remove the usage point, because it is still linked with a device | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.4.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
```

```
      <usag:DeleteUsagePointRequest>
         <usag:Header>
            <mes:Verb>delete</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:ID>12345678</mes:ID>
         </usag:Request>
      </usag:DeleteUsagePointRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteUsagePointResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:DeleteUsagePointResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.5 GetUsagePoint

GetUsagePoint is used to get Gateware metering points data in UsagePoint message as requested in request described in section 2.2.1.1.

### 2.2.5.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values: |

| | | | |
|---|---|---|---|
| | | | "get": retrieve metering point information |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Request | | | |
| Request/ID | xs:string | 1..n | List of metering point identifiers corresponding Gateware metering point code (mRID) |

### 2.2.5.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/UsagePoints | | 1 | |
| Payload/UsagePoints/UsagePoint | m:UsagePoint | 0..n | List of metering points |

### 2.2.5.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.5.4 Examples

Get two metering points successfully.

**Request**

```
<soapenv:Envelope xmlns:soapenv=http://schemas.xmlsoap.org/soap/envelope/
           xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
           xmlns:mes="http://iec.ch/TC57/2011/schema/message">
  <soapenv:Header />
  <soapenv:Body>
    <usag:GetUsagePointRequest>
      <usag:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>UsagePoint</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
        <mes:Source>SourceIdentification</mes:Source>
      </usag:Header>
      <usag:Request>
        <mes:ID>123456789</mes:ID>
        <mes:ID>987654321</mes:ID>
      </usag:Request>
    </usag:GetUsagePointRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePoint#"
xmlns:usag2="http://aidon.com/IEC/Management/v2/UsagePoint"
xmlns:usag3="http://aidon.com/IEC/Management/v2/Common">
  <soapenv:Header />
  <soapenv:Body>
    <usag:GetUsagePointResponse>
      <usag:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>UsagePoint</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </usag:Header>
      <usag:Reply>
        <mes:Result>OK</mes:Result>
        <mes:Error>
          <mes:code>0.0</mes:code>
          <mes:level>INFORM</mes:level>
        </mes:Error>
      </usag:Reply>
      <usag:Payload>
        <usag1:UsagePoints>
```

```
<usag1:UsagePoint>
  <usag1:mRID>123456789</usag1:mRID>
  <usag2:usagePointType>Metering</usag2:usagePointType>
  <usag1:ratedCurrent>25</usag1:ratedCurrent>
  <usag2:networkID>12345</usag2:networkID>
  <usag2:phaseCurrentLimit>100</usag2:phaseCurrentLimit>
  <usag2:totalPowerLimit>20000</usag2:totalPowerLimit>
  <usag2:installationStatus>Installed</usag2:installationStatus>
  <usag2:phaseCode ref="ABC" />
  <usag1:UsagePointLocation>
    <usag1:mainAddress>
      <usag1:streetDetail>
        <usag1:name>Piippukatu</usag1:name>
        <usag1:number>11</usag1:number>
        <usag1:suiteNumber>A</usag1:suiteNumber>
      </usag1:streetDetail>
      <usag1:townDetail>
        <usag1:code>40100</usag1:code>
        <usag1:country>FIN</usag1:country>
        <usag1:name>Jyväskylä</usag1:name>
      </usag1:townDetail>
    </usag1:mainAddress>
    <usag1:PositionPoint>
      <usag1:xPosition>62.240929</usag1:xPosition>
      <usag1:yPosition>25.758195</usag1:yPosition>
    </usag1:PositionPoint>
  </usag1:UsagePointLocation>
  <usag1:ServiceCategory>
    <usag1:kind>Electricity</usag1:kind>
  </usag1:ServiceCategory>
  <usag1:EndDevices>
    <usag1:EndDevice>
      <usag1:mRID>201234567</usag1:mRID>
    </usag1:EndDevice>
  </usag1:EndDevices>
  <usag1:UsagePointGroups>
    <usag1:UsagePointGroup>
      <usag1:mRID>1</usag1:mRID>
    </usag1:UsagePointGroup>
    <usag1:UsagePointGroup>
      <usag1:mRID>2</usag1:mRID>
    </usag1:UsagePointGroup>
  </usag1:UsagePointGroups>
  <usag2:Contract>
    <usag3:mRID>STD_Hourly Standard</usag3:mRID>
  </usag2:Contract>
  <usag2:Configuration>
    <usag3:mRID>STD_20</usag3:mRID>
  </usag2:Configuration>
</usag1:UsagePoint>
<usag1:UsagePoint>
  <usag1:mRID>987654321</usag1:mRID>
  <usag2:usagePointType>Metering</usag2:usagePointType>
  <usag1:ratedCurrent>25</usag1:ratedCurrent>
  <usag2:networkID>12345</usag2:networkID>
  <usag2:phaseCurrentLimit>100</usag2:phaseCurrentLimit>
  <usag2:totalPowerLimit>20000</usag2:totalPowerLimit>
  <usag2:installationStatus>Installed</usag2:installationStatus>
  <usag1:UsagePointLocation>
```

```
            <usag1:mainAddress>
              <usag1:streetDetail>
                <usag1:name>Piippukatu</usag1:name>
                <usag1:number>11</usag1:number>
                <usag1:suiteNumber>A</usag1:suiteNumber>
              </usag1:streetDetail>
              <usag1:townDetail>
                <usag1:code>40100</usag1:code>
                <usag1:country>FIN</usag1:country>
                <usag1:name>Jyväskylä</usag1:name>
              </usag1:townDetail>
            </usag1:mainAddress>
            <usag1:PositionPoint>
              <usag1:xPosition>62.240929</usag1:xPosition>
              <usag1:yPosition>25.758195</usag1:yPosition>
            </usag1:PositionPoint>
          </usag1:UsagePointLocation>
          <usag1:ServiceCategory>
            <usag1:kind>Electricity</usag1:kind>
          </usag1:ServiceCategory>
          <usag2:Contract>
            <usag3:mRID>STD_12</usag3:mRID>
          </usag2:Contract>
          <usag2:Configuration>
            <usag3:mRID>UNIQ_30</usag3:mRID>
          </usag2:Configuration>
        </usag1:UsagePoint>
      </usag1:UsagePoints>
    </usag:Payload>
  </usag:GetUsagePointResponse>
 </soapenv:Body>
</soapenv:Envelope>
```

Try to retrieve two metering points when other ID is invalid

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
  <soapenv:Header />
  <soapenv:Body>
    <usag:GetUsagePointRequest>
      <usag:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>UsagePoint</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </usag:Header>
      <usag:Request>
        <mes:ID>123456789</mes:ID>
        <mes:ID>987654321</mes:ID>
      </usag:Request>
    </usag:GetUsagePointRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"

xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
                  xmlns:mes="http://iec.ch/TC57/2011/schema/message"
                  xmlns:usag1="http://iec.ch/TC57/2007/UsagePoint#"
                  xmlns:usag2="http://aidon.com/IEC/Management/v2/UsagePoint"
                  xmlns:usag3="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <usag:GetUsagePointResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>FAILED</mes:Result>
            <mes:Error>
               <mes:code>2.1</mes:code>
               <mes:level>FATAL</mes:level>
               <mes:reason>Usage point not found</mes:reason>
               <mes:ID>987654321</mes:ID>
            </mes:Error>
         </usag:Reply>
         <usag:Payload>
            <usag1:UsagePoints>
               <usag1:UsagePoint>
                  <usag1:mRID>123456789</usag1:mRID>
                  <usag2:usagePointType>Metering</usag2:usagePointType>
                  <usag1:ratedCurrent>25</usag1:ratedCurrent>
                  <usag2:networkID>12345</usag2:networkID>
                  <usag2:phaseCurrentLimit>100</usag2:phaseCurrentLimit>
                  <usag2:totalPowerLimit>20000</usag2:totalPowerLimit>
                  <usag2:installationStatus>Installed</usag2:installationStatus>
                  <usag2:phaseCode ref="ABC" />
                  <usag1:UsagePointLocation>
                     <usag1:mainAddress>
                        <usag1:streetDetail>
                           <usag1:name>Piippukatu</usag1:name>
                           <usag1:number>11</usag1:number>
                           <usag1:suiteNumber>A</usag1:suiteNumber>
                        </usag1:streetDetail>
                        <usag1:townDetail>
                           <usag1:code>40100</usag1:code>
                           <usag1:country>FIN</usag1:country>
                           <usag1:name>Jyväskylä</usag1:name>
                        </usag1:townDetail>
                     </usag1:mainAddress>
                     <usag1:PositionPoints>
                        <usag1:xPosition>62.240929</usag1:xPosition>
                        <usag1:yPosition>25.758195</usag1:yPosition>
                     </usag1:PositionPoints>
                  </usag1:UsagePointLocation>
```

```
                    <usag1:ServiceCategory>
                        <usag1:kind>Electricity</usag1:kind>
                    </usag1:ServiceCategory>
                    <usag1:EndDevices>
                        <usag1:EndDevice>
                            <usag1:mRID>201234567</usag1:mRID>
                        </usag1:EndDevice>
                    </usag1:EndDevices>
                    <usag1:UsagePointGroups>
                        <usag1:UsagePointGroup>
                            <usag1:mRID>2</usag1:mRID>
                        </usag1:UsagePointGroup>
                    </usag1:UsagePointGroups>
                    <usag2:Contract>
                        <usag3:mRID>STD_13</usag3:mRID>
                    </usag2:Contract>
                    <usag2:Configuration>
                        <usag3:mRID>STD_8</usag3:mRID>
                    </usag2:Configuration>
                </usag1:UsagePoint>
            </usag1:UsagePoints>
        </usag:Payload>
    </usag:GetUsagePointResponse>
</soapenv:Body>
</soapenv:Envelope>
```

### 2.2.6 CreateUsagePointEndDeviceLink

CreateUsagePointEndDeviceLink creates a link between metering point and device. After creating a link device is recognized to be attached to the metering point and all operations targeted to the metering point may cause communicating with the device in question.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.2.6.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static “create”: |
| Header/Noun | xs:string | 1 | Static “MasterDataLinkageConfig” |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./effectiveDateTime | xs:dateTime | 0..1 | Timestamp when this change became effective. When no value given or element not exists, change becomes effective immediately. |
| ./UsagePoint/mRID | xs:string | 1 | ID of the metering point |

| | | | |
|---|---|---|---|
| ./EndDevice/mRID | xs:string | 1 | ID of the device |

### 2.2.6.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.2.6.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.2 | Device not found. | FATAL |
| 2.18 | Failed to link device with the usage point, because the usage point already has a device linked to it | FATAL |
| 2.19 | Failed to link device with the usage point, because the device is already linked to another usage point | FATAL |
| 2.20 | A specified service category is not compatible with the specified usage point type | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.6.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
```

```
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <mas:CreateUsagePointEndDeviceLinkRequest>
         <mas:Header>
            <mes:Verb>create</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </mas:Header>
         <mas:Payload>
            <mas:MasterDataLinkageConfig>
               <mas1:effectiveDateTime>2013-12-
31T13:00:00Z</mas1:effectiveDateTime>
               <mas1:UsagePoint>
                  <com:mRID>12345678</com:mRID>
               </mas1:UsagePoint>
               <mas1:EndDevice>
                  <com:mRID>87654321</com:mRID>
               </mas1:EndDevice>
            </mas:MasterDataLinkageConfig>
         </mas:Payload>
      </mas:CreateUsagePointEndDeviceLinkRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointEndDeviceLinkResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:CreateUsagePointEndDeviceLinkResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

### 2.2.7 DeleteUsagePointEndDeviceLink

DeleteUsagePointEndDeviceLink is used to detach a device from a metering point.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.7.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "delete": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./effectiveDateTime | xs:dateTime | 0..1 | Timestamp when this change became effective. When no value given or element not exists, change becomes effective immediately. |
| ./UsagePoint/mRID | xs:string | 1 | ID of the metering point |
| ./EndDevice/mRID | xs:string | 1 | ID of the device |

### 2.2.7.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.2.7.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |

| | | |
|---|---|---|
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.2 | Device not found. | FATAL |
| 2.13 | Usage point not linked to a device. | WARNING |
| 2.31 | Usage point not linked to the specified device. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.7.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <mas:DeleteUsagePointEndDeviceLinkRequest>
         <mas:Header>
            <mes:Verb>delete</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </mas:Header>
         <mas:Payload>
            <mas:MasterDataLinkageConfig>
               <mas1:effectiveDateTime>2013-12-
31T13:00:00Z</mas1:effectiveDateTime>
               <mas1:UsagePoint>
                  <com:mRID>12345678</com:mRID>
               </mas1:UsagePoint>
               <mas1:EndDevice>
                  <com:mRID>87654321</com:mRID>
               </mas1:EndDevice>
            </mas:MasterDataLinkageConfig>
         </mas:Payload>
      </mas:DeleteUsagePointEndDeviceLinkRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteUsagePointEndDeviceLinkResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:DeleteUsagePointEndDeviceLinkResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

### 2.2.8 GetUsagePointEndDeviceLink

GetUsagePointEndDeviceLink is used to retrieve effective metering point and device links in the specified time in history.

#### 2.2.8.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "get": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Request/StartTime | xs:dateTime | 0..1 | Start of the history period. Start time is included in the retrieved time period.<br>If the start time isn't specified, the current link is always retrieved and end time is also omitted. |
| Request/EndTime | xs:dateTime | 0..1 | End of the history period. Maximum time between start and end times may be one month. End time is included in the retrieved time period.<br>If the end time isn't specified, the current time is used as default. |

| | | | |
|---|---|---|---|
| Request/ID | xs:string | 1 | Entity identifier (mRID) for which the linking history will be retrieved. |
| Request/ID/@objectType | xs:string | 1 | The type of the object whose identifier is used in the ID value. Currently possible values:<br>- "UsagePoint"<br>- "EndDevice" |

### 2.2.8.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfigs | | | |
| Payload/MasterDataLinkageConfigs/ MasterDataLinkageConfig | | 0..n | Effective links for the retrieved period. If there are no effective links at the specified time, the list is empty. |
| ./effectivePeriod | | | |
| ./effectivePeriod/start | xs:dateTime | 1 | Timestamp when this change became effective |
| ./effectivePeriod/end | xs:dateTime | 0..1 | Timestamp when this linking became obsolete. The end time is missing if the linking is currently active. |
| ./UsagePoint/mRID | xs:string | 1 | ID of the metering point |
| ./EndDevice/mRID | xs:string | 1 | ID of the device |

### 2.2.8.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |

| | | |
|---|---|---|
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.2 | Device not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.8.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v1/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:com="http://aidon.com/IEC/Management/v1/Common">
  <soapenv:Header />
  <soapenv:Body>
    <mas:GetUsagePointEndDeviceLinkRequest>
      <mas:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2015-02-03T12:14:59Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </mas:Header>
      <mas:Request>
        <mes:StartTime>2015-01-01T00:00:00Z</mes:StartTime>
        <mes:EndTime>2015-01-31T23:59:59Z</mes:EndTime>
        <mes:ID objectType="UsagePoint">12345678</mes:ID>
      </mas:Request>
    </mas:GetUsagePointEndDeviceLinkRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v1/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v1/Common">
  <soapenv:Header />
  <soapenv:Body>
    <mas:GetUsagePointEndDeviceLinkResponse>
      <mas:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2015-02-03T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E888</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
```

```
      </mas:Header>
      <usag:Reply>
        <mes:Result>OK</mes:Result>
        <mes:Error>
          <mes:code>0.0</mes:code>
        </mes:Error>
      </usag:Reply>
      <mas:Payload>
        <mas:MasterDataLinkageConfigs>
          <mas:MasterDataLinkageConfig>
            <mas1:effectivePeriod>
              <mas1:start>2014-11-20T12:20:00Z</mas1:start>
              <mas1:end>2015-01-18T14:30:20Z</mas1:end>
            </mas1:effectivePeriod>
            <mas1:UsagePoint>
              <com:mRID>12345678</com:mRID>
            </mas1:UsagePoint>
            <mas1:EndDevice>
              <com:mRID>87654321</com:mRID>
            </mas1:EndDevice>
          </mas:MasterDataLinkageConfig>
          <mas:MasterDataLinkageConfig>
            <mas1:effectivePeriod>
              <mas1:start>2015-01-18T15:07:20Z</mas1:start>
            </mas1:effectivePeriod>
            <mas1:UsagePoint>
              <com:mRID>12345678</com:mRID>
            </mas1:UsagePoint>
            <mas1:EndDevice>
              <com:mRID>987654321</com:mRID>
            </mas1:EndDevice>
          </mas:MasterDataLinkageConfig>
        </mas:MasterDataLinkageConfigs>
      </mas:Payload>
    </mas:GetUsagePointEndDeviceLinkResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.2.9 CreateUsagePointContractLink

CreateUsagePointContractLink is used to attach a standard contract to a metering point. If the metering point already have a contract attached to it, the operation will overwrite the earlier contract. If the metering point doesn't have active configuration it will be added if the standard contract has a linked standard configuration.

Standard contract can be either preconfigured or non-preconfigured. If the device is not preconfigured with the products specified in the contract, contract is uploaded to the device either manually or by using scheduled jobs.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.2.9.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface |

| | | | |
|---|---|---|---|
| | | | Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "create": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./UsagePoint/mRID | xs:string | 1 | ID of the metering point |
| ./Contract/mRID | xs:string | 1 | ID of the standard contract. Note that contract identifier is STD_ prefix with the contract name. |
| ./isEndDevicePreconfigured | xs:boolean | 0..1 | Determines whether the device has been preconfigured using the products defined in the contract. When set to true, contract is not uploaded to the device.<br>Defaults to true. |

### 2.2.9.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.2.9.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.8 | Contract not found. | FATAL |

| | | |
|---|---|---|
| 2.13 | Usage point not linked to a device. | FATAL |
| 2.21 | Given contract must be a standard contract. | FATAL |
| 2.29 | Standard contract not preconfigured. | FATAL |
| 2.34 | The contract is not compatible with the usage point type | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.9.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <mas:CreateUsagePointContractLinkRequest>
         <mas:Header>
            <mes:Verb>create</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </mas:Header>
         <mas:Payload>
            <mas:MasterDataLinkageConfig>
               <mas1:UsagePoint>
                  <com:mRID>12345678</com:mRID>
               </mas1:UsagePoint>
               <mas1:Contract>
                  <com:mRID>STD_Hourly Standard</com:mRID>
               </mas1:Contract>
            </mas:MasterDataLinkageConfig>
         </mas:Payload>
      </mas:CreateUsagePointContractLinkRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointContractLinkResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
```

```
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:CreateUsagePointContractLinkResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.10 CreateUsagePointConfigurationLink

CreateUsagePointConfigurationLink is used to attach a standard configuration to a metering point. If the metering point already have a configuration attached to it, the operation will overwrite the earlier configuration.

The configuration is uploaded to the device either manually or by using scheduled jobs.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.10.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static “create”: |
| Header/Noun | xs:string | 1 | Static “MasterDataLinkageConfig” |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./UsagePoint/mRID | xs:string | 1 | ID of the metering point |
| ./Configuration/mRID | xs:string | 1 | ID of the standard configuration. Note that configuration identifier is STD_ prefix with the configuration name. |

### 2.2.10.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static “reply” |

| | | | |
|---|---|---|---|
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.2.10.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.9 | Configuration not found. | FATAL |
| 2.13 | Usage point not linked to a device. | FATAL |
| 2.22 | Given configuration must be a standard configuration | FATAL |
| 2.51 | The configuration is not compatible with the usage point type | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.10.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <mas:CreateUsagePointConfigurationLinkRequest>
         <mas:Header>
            <mes:Verb>create</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
```

```
         </mas:Header>
         <mas:Payload>
            <mas:MasterDataLinkageConfig>
               <mas1:UsagePoint>
                  <com:mRID>12345678</com:mRID>
               </mas1:UsagePoint>
               <mas1:Configuration>
                  <com:mRID>STD_Hourly Standard</com:mRID>
               </mas1:Configuration>
            </mas:MasterDataLinkageConfig>
         </mas:Payload>
      </mas:CreateUsagePointConfigurationLinkRequest >
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointConfigurationLinkResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag: CreateUsagePointConfigurationLinkResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.11 CreateUsagePointGroupLink

CreateUsagePointGroupLink is used to add metering point to a metering point group.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.11.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC |

| | | | |
|---|---|---|---|
| | | | 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "create": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | Either single link or list must be specified. Single element structure is deprecated and will be removed in the future. |
| *./UsagePoint* | | *0..1* | *Either single metering point or list must be specified. Single element structure is deprecated and will be removed in the future.* |
| *./UsagePoint/mRID* | *xs:string* | *1* | *ID of the metering point.* |
| ./UsagePoints | | 0..1 | Either single link or list must be specified. |
| ./UsagePoints/UsagePoint | | 1..n | List of metering points that are linked to the group |
| ./UsagePoints/UsagePoint/mRID | | 1 | |
| ./UsagePointGroup/mRID | xs:string | 1 | ID of the group |

### 2.2.11.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each failed metering point. Successfully created links are not listed here. |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| ./ID | xs:string | 0..1 | Metering point identifier when error is related to a single metering point |

### 2.2.11.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.10 | Group not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.11.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v1/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v1/Common">
  <soapenv:Header />
  <soapenv:Body>
    <mas:CreateUsagePointGroupLinkRequest>
      <mas:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </mas:Header>
      <mas:Payload>
        <mas:MasterDataLinkageConfig>
          <mas1:UsagePoints>
            <mas1:UsagePoint>
              <com:mRID>12345678</com:mRID>
            </mas1:UsagePoint>
          </mas1:UsagePoints>
          <mas1:UsagePointGroup>
            <com:mRID>132</com:mRID>
          </mas1:UsagePointGroup>
        </mas:MasterDataLinkageConfig>
      </mas:Payload>
    </mas:CreateUsagePointGroupLinkRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointGroupLinkResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>MasterDataLinkageConfig</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:CreateUsagePointGroupLinkResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.12 DeleteUsagePointGroupLink

DeleteUsagePointGroupLink is used to remove metering point from a metering point group.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.2.12.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "delete": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | Either single link or list must be specified. Single element structure is deprecated and will be removed in the future. |
| *./UsagePoint* | | *0..1* | *Either single metering point or list must be specified. Single element structure is* |

| | | | |
|---|---|---|---|
| | | | *deprecated and will be removed in the future.* |
| *./UsagePoint/mRID* | *xs:string* | *1* | *ID of the metering point.* |
| ./UsagePoints | | 0..1 | Either single link or list must be specified. |
| ./UsagePoints/UsagePoint | | 1..n | List of metering points that are linked to the group |
| ./UsagePoints/UsagePoint/mRID | | 1 | |
| ./UsagePointGroup/mRID | xs:string | 1 | ID of the group |

### 2.2.12.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each failed metering point. Successfully deleted links are not listed here. |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| ./ID | xs:string | 0..1 | Metering point identifier when error is related to a single metering point |

### 2.2.12.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 2.10 | Group not found. | FATAL |
| 2.14 | Usage point does not belong to the specified group. | WARNING |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.12.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:mas="http://aidon.com/IEC/Management/v1/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas1="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:com="http://aidon.com/IEC/Management/v1/Common">
  <soapenv:Header />
  <soapenv:Body>
    <mas:DeleteUsagePointGroupLinkRequest>
      <mas:Header>
        <mes:Verb>delete</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </mas:Header>
      <mas:Payload>
        <mas:MasterDataLinkageConfig>
          <mas1:UsagePoints>
            <mas1:UsagePoint>
              <com:mRID>12345678</com:mRID>
            </mas1:UsagePoint>
          </mas1:UsagePoints>
          <mas1:UsagePointGroup>
            <com:mRID>132</com:mRID>
          </mas1:UsagePointGroup>
        </mas:MasterDataLinkageConfig>
      </mas:Payload>
    </mas:DeleteUsagePointGroupLinkRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v1/MasterDataLinkageConfigMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
  <soapenv:Header />
  <soapenv:Body>
    <usag:DeleteUsagePointGroupLinkResponse>
      <usag:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </usag:Header>
      <usag:Reply>
        <mes:Result>OK</mes:Result>
      </usag:Reply>
    </usag:DeleteUsagePointGroupLinkResponse>
  </soapenv:Body>
```

```
</soapenv:Envelope>
```

## 2.2.13 GetUsagePointChangeHistory

GetUsagePointHistory is used to retrieve change history for a Gateware metering point.

### 2.2.13.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"get": retrieve change history entries |
| Header/Noun | xs:string | 1 | Static "ChangeHistoryEntry" |
| Request | | | |
| Request/StartTime | xs:dateTime | 1 | Start of the change history period. Start time is included in the retrieved time period. |
| Request/EndTime | xs:dateTime | 1 | End of the change history period. Maximum time between start and end times may be one month. Start and end times are included in the retrieved time period. |
| Request/ID | xs:string | 1 | Metering point identifier (mRID) for which the change history will be retrieved. |

### 2.2.13.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "ChangeHistoryEntry" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

| | | | |
|---|---|---|---|
| Payload | | 1 | |
| Payload/ChangeHistoryEntries | | 1 | |
| Payload/ChangeHistoryEntries /ChangeHistoryEntry | | 0..n | List of change history entries |
| ./effectiveDateTime | | 1 | Timestamp when the change became effective |
| ./modifiedBy | | 1 | User or system who performed the change |
| ./type | | 1 | Currently supported types:<br>- Device linked<br>- Device unlinked<br>- Contract linked<br>- Contract unlinked<br>- Metering point group linked<br>- Metering point group unlinked |
| ./description | | 0..1 | Description text about the change in English. For example "Device was unlinked from the metering point" |
| ./changedEntity/mRID | | 1 | Metering point identifier (mRID) of the metering point that was targeted by the change. |
| ./relatedEntity/mRID | | 1 | Identifier (mRID) of an entity that was related to this operation if the change was affecting a link between two entities (for example: mRID of the device that was unlinked). |

### 2.2.13.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.1 | Usage point not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.13.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/ChangeHistoryMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:GetUsagePointChangeHistoryRequest>
         <usag:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>ChangeHistoryEntry</mes:Noun>
            <mes:Timestamp>2015-01-20T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:StartTime>2015-01-01T00:00:00Z</mes:StartTime>
            <mes:EndTime>2015-01-31T23:59:59Z</mes:EndTime>
            <mes:ID>12345678</mes:ID>
         </usag:Request>
      </usag:GetUsagePointChangeHistoryRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"

xmlns:chan="http://aidon.com/IEC/Management/v2/ChangeHistoryMessage"
                  xmlns:mes="http://iec.ch/TC57/2011/schema/message"
                  xmlns:chan1="http://aidon.com/IEC/Management/v2/ChangeHistory"
                  xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <chan:GetUsagePointChangeHistoryResponse>
         <chan:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>ChangeHistoryEntry</mes:Noun>
            <mes:Timestamp>2015-01-20T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </chan:Header>
         <chan:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </chan:Reply>
         <chan:Payload>
            <chan:ChangeHistoryEntries>
               <chan1:changeHistoryEntry>
                  <chan1:effectiveDateTime>2015-01-
02T12:15:00Z</chan1:effectiveDateTime>
```

```
                  <chan1:modifiedBy>Test User</chan1:modifiedBy>
                  <chan1:type>Device unlinked</chan1:type>
                  <chan1:description>Device 87654321 was unlinked from the usage
point 12345678</chan1:description>
                  <chan1:changedEntity>
                     <com:mRID>12345678</com:mRID>
                  </chan1:changedEntity>
                  <chan1:relatedEntity>
                     <com:mRID>87654321</com:mRID>
                  </chan1:relatedEntity>
               </chan1:changeHistoryEntry>
               <chan1:changeHistoryEntry>
                  <chan1:effectiveDateTime>2015-01-
02T12:25:00Z</chan1:effectiveDateTime>
                  <chan1:modifiedBy>Test User</chan1:modifiedBy>
                  <chan1:type>Device linked</chan1:type>
                  <chan1:description>Device 87654322 was linked to the usage
point 12345678</chan1:description>
                  <chan1:changedEntity>
                     <com:mRID>12345678</com:mRID>
                  </chan1:changedEntity>
                  <chan1:relatedEntity>
                     <com:mRID>87654322</com:mRID>
                  </chan1:relatedEntity>
               </chan1:changeHistoryEntry>
            </chan:ChangeHistoryEntries>
         </chan:Payload>
      </chan:GetUsagePointChangeHistoryResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.2.14 GetUsagePointGroupChangeHistory

GetUsagePointGroupHistory is used to retrieve change history for a Gateware metering point Group.

### 2.2.14.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>“get”: retrieve change history entries |
| Header/Noun | xs:string | 1 | Static “ChangeHistoryEntry” |
| Request | | | |
| Request/StartTime | xs:dateTime | 1 | Start of the change history period. Start time is included in the retrieved time period. |
| Request/EndTime | xs:dateTime | 1 | End of the change history period. Maximum time between start |

| | | | |
|---|---|---|---|
| | | | and end times may be one month. Start and end times are included in the retrieved time period. |
| Request/ID | xs:string | 1 | Metering point group identifier (mRID) for which the change history will be retrieved. |

### 2.2.14.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "ChangeHistoryEntry" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/ChangeHistoryEntries | | 1 | |
| Payload/ChangeHistoryEntries /ChangeHistoryEntry | | 0..n | List of change history entries |
| ./effectiveDateTime | | 1 | Timestamp when the change became effective |
| ./modifiedBy | | 1 | User or system who performed the change |
| ./type | | 1 | Currently supported types:<br>- Metering point linked<br>- Metering point unlinked |
| ./description | | 0..1 | Description text about the change in English. For example "Metering point was unlinked from the metering point group" |
| ./changedEntity/mRID | | 1 | Metering point group identifier (mRID) of the metering point that was targeted by the change. |
| ./relatedEntity/mRID | | 1 | Identifier (mRID) of an entity that was related to this operation if the change was affecting a link between two |

| | | | |
|---|---|---|---|
| | | | entities (for example: mRID of the metering point that was unlinked). |

### 2.2.14.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.10 | Group not found | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.14.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/ChangeHistoryMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:GetUsagePointGroupChangeHistoryRequest>
         <usag:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>ChangeHistoryEntry</mes:Noun>
            <mes:Timestamp>2015-01-20T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:StartTime>2015-01-01T00:00:00Z</mes:StartTime>
            <mes:EndTime>2015-01-31T23:59:59Z</mes:EndTime>
            <mes:ID>123</mes:ID>
         </usag:Request>
      </usag:GetUsagePointGroupChangeHistoryRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:chan="http://aidon.com/IEC/Management/v2/ChangeHistoryMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:chan1="http://aidon.com/IEC/Management/v2/ChangeHistory"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
```

```
   <soapenv:Header />
   <soapenv:Body>
      <chan:GetUsagePointGroupChangeHistoryResponse>
         <chan:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>ChangeHistoryEntry</mes:Noun>
            <mes:Timestamp>2015-01-20T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </chan:Header>
         <chan:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </chan:Reply>
         <chan:Payload>
            <chan:ChangeHistoryEntries>
               <chan1:changeHistoryEntry>
                  <chan1:effectiveDateTime>2015-01-
02T12:15:00Z</chan1:effectiveDateTime>
                  <chan1:modifiedBy>Client System</chan1:modifiedBy>
                  <chan1:type>Usage point linked</chan1:type>
                  <chan1:description>Usage point 12345678 was linked to the
group</chan1:description>
                  <chan1:changedEntity>
                     <com:mRID>123</com:mRID>
                  </chan1:changedEntity>
                  <chan1:relatedEntity>
                     <com:mRID>12345678</com:mRID>
                  </chan1:relatedEntity>
               </chan1:changeHistoryEntry>
               <chan1:changeHistoryEntry>
                  <chan1:effectiveDateTime>2015-01-
02T12:15:00Z</chan1:effectiveDateTime>
                  <chan1:modifiedBy>Client System</chan1:modifiedBy>
                  <chan1:type>Usage point linked</chan1:type>
                  <chan1:description>Usage point 12345679 was linked to the
group</chan1:description>
                  <chan1:changedEntity>
                     <com:mRID>123</com:mRID>
                  </chan1:changedEntity>
                  <chan1:relatedEntity>
                     <com:mRID>12345679</com:mRID>
                  </chan1:relatedEntity>
               </chan1:changeHistoryEntry>
               <chan1:changeHistoryEntry>
                  <chan1:effectiveDateTime>2015-01-
02T12:25:00Z</chan1:effectiveDateTime>
                  <chan1:modifiedBy>Test User</chan1:modifiedBy>
                  <chan1:type>Usage point unlinked</chan1:type>
                  <chan1:description>Usage point 11223344 was unlinked from the
group</chan1:description>
                  <chan1:changedEntity>
                     <com:mRID>123</com:mRID>
                  </chan1:changedEntity>
                  <chan1:relatedEntity>
```

```
                    <com:mRID>11223344</com:mRID>
                </chan1:relatedEntity>
            </chan1:changeHistoryEntry>
        </chan:ChangeHistoryEntries>
    </chan:Payload>
</chan:GetUsagePointGroupChangeHistoryResponse>
</soapenv:Body>
</soapenv:Envelope>
```

## 2.2.15 SearchUsagePoint

The SearchUsagePoint operation is a generic usage point search to get a list of usage points (metering points in system) from the system with various search conditions. The search conditions are defined as objectType attribute on each ID element of the request. At the moment, only those metering points are returned that satisfy all conditions.

### 2.2.15.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>“get”: retrieve metering point information |
| Header/Noun | xs:string | 1 | Static “UsagePoint” |
| Request/ID | xs:string | 1..n | List of object identifiers (mRID). Currently corresponding only to Group ID in Gateware. |
| Request/ID/@objectType | xs:string | 1 | The type of the object whose identifier is used in the ID value. Currently possible values:<br>- “UsagePointGroup” |

### 2.2.15.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header/Verb | xs:string | 1 | Static “reply” |
| Header/Noun | xs:string | 1 | Static “UsagePoint” |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |

| | | | |
|---|---|---|---|
| Payload/UsagePoints | | 1 | List of metering point identifiers corresponding to MeteringPoint code in Gateware. |
| Payload/UsagePoints/mRID | | 0..n | |

### 2.2.15.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.10 | Group not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.2.15.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:SearchUsagePointRequest>
         <usag:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:ID objectType="UsagePointGroup">10011</mes:ID>
         </usag:Request>
      </usag:SearchUsagePointRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

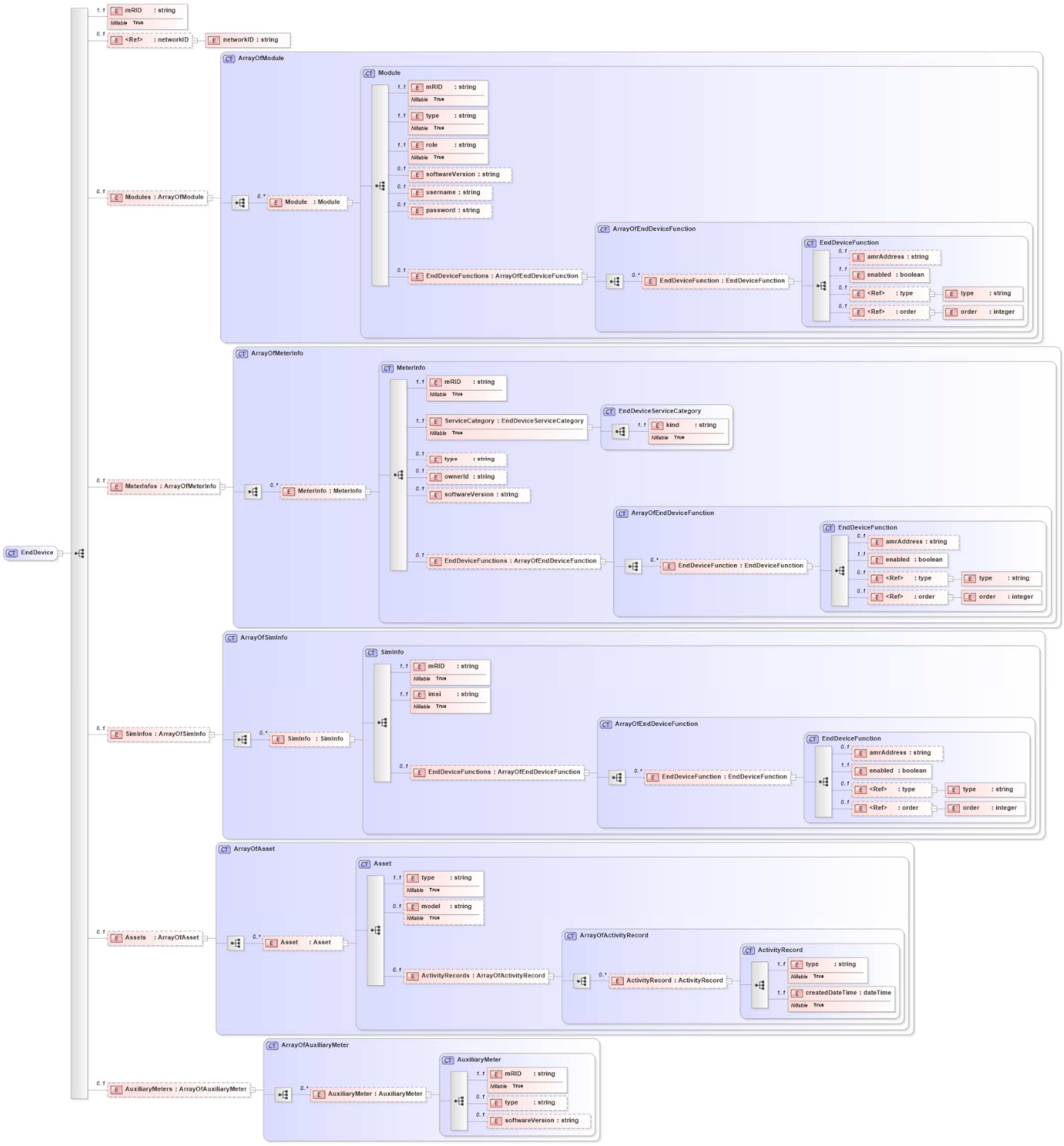
```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
```

```
   <soapenv:Body>
      <usag:SearchUsagePointResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
         <usag:Payload>
            <usag:UsagePoints>
               <com:mRID>123456787</com:mRID>
               <com:mRID>123456788</com:mRID>
               <com:mRID>123456789</com:mRID>
            </usag:UsagePoints>
         </usag:Payload>
      </usag:SearchUsagePointResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.3 Devices

The EndDevice message is used to get, create, change and delete devices in Gateware.

### 2.3.1 EndDevice message




#### 2.3.1.1 m:EndDevice

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| mRID | xs:string | 1 | Unique alphanumeric manufacturer identifier for the device. |

| | | | |
|---|---|---|---|
| | | | Corresponds to the device code in Gateware. |
| networkId | xs:string | 0..1 | The ID of the network. If this element is not provided or an empty string is given, default network is used. If the network matching this ID is not found in Gateware, an error message is returned.<br>Corresponds to Gateware NetworkId. |
| Modules | m:Module | 0..n | Device modules |
| MeterInfos | m:MeterInfo | 0..n | Meter information |
| SimInfo | m:SimInfo | 0..n | SIM information |
| Assets | m:Asset | 0..n | Asset information |
| AuxiliaryMeters | m:AuxiliaryMeter | 0..n | Auxiliary meter information |

*CRU = Is element available in Create, Read and Update (Change) operations

#### 2.3.1.2 m:Module

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| mRID | xs:string | 1 | Unique alphanumeric manufacturer identifier for the module. |
| type | xs:string | 1 | Alphanumeric value describing the module type. Example: "I5410". |
| role | xs:string | 1 | Module role |
| softwareVersion | xs:string | 0..1 | Software / firmware version of the module |
| username | xs:string | 0..1 | |
| password | xs:string | 0..1 | |
| EndDeviceFunctions | m:EndDeviceFuction | 0..n | Contains module communication information. |

#### 2.3.1.3 m:MeterInfo

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| mRID | xs:string | 1 | Unique alphanumeric manufacturer identifier for the meter. |
| ServiceCategory | m:ServiceCategory | 1 | Essentially defines what is measured in the metering point |
| type | xs:string | 0..1 | Alphanumeric value describing the device type. Example: "I6531". |
| ownerID | xs:string | 0..1 | Unique alphanumeric master system identifier for the device. |
| softwareVersion | xs:string | 0..1 | String representation of the assumed software version of the device. |
| EndDeviceFunctions | m:EndDeviceFuction | 0..1 | Contains device communication information. |

| | | | |
|---|---|---|---|
| | | | Corresponds to Gateware device addresses. |

#### 2.3.1.4 m:SimInfo

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| mRID | xs:string | 1 | Unique alphanumeric manufacturer identifier for the meter. |
| imsi | xs:string | 1 | International Mobile Subscriber Identity number |
| EndDeviceFunctions | m:EndDeviceFuction | 0..1 | Contains SIM communication information. |

#### 2.3.1.5 m:Asset

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| type | xs:string | 1 | Asset type. Possible values:<br>- IOAdapter |
| model | xs:string | 0..1 | Asset model |
| ActivityRecords | | 0..1 | |
| ActivityRecords/ActivityRecord | | 0..n | |
| ./type | xs:string | 1 | Type of the activity. Possible values:<br>- Installation |
| ./createdDateTime | xs:dateTime | 1 | Timestamp of the activity |

#### 2.3.1.6 m:AuxiliaryMeter

| Element | Data type | Cardinality | Description |
|---|---|---|---|
| mRID | xs:string | 1 | Unique alphanumeric manufacturer identifier for the meter. |
| type | xs:string | 0..1 | Alphanumeric value describing the device type. Example: "I6531". |
| softwareVersion | xs:string | 0..1 | String representation of the assumed software version of the device. |

#### 2.3.1.7 m:ServiceCategory

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| kind | xs:string | 1 | Service category. Possible values:<br>- Electricity<br>- HotWater<br>- ColdWater<br>- Water<br>- Heating<br>- Cooling<br>- Gas<br>- Undefined |

| | | | |
|---|---|---|---|
| | | | Corresponds to UtilityTypes of the DeviceType of the Device in Gateware. If the device is not connected to any metering point, value “Undefined” is used. |

#### 2.3.1.8 m:EndDeviceFunction

| Element | Data type | Cardinality | Remarks |
|---|---|---|---|
| amrAddress | xs:string | 0..1 | Alphanumeric value representing the device address. Examples: “0405866964”, ”127.0.0.1:5000” |
| enabled | xs:boolean | 1 | True if this address is enabled. |
| type | xs:string | 0..1 | Connection type of the address. Value must be one of the following:<br>“TCPIP”<br>“TCPIPSocket”<br>“TCPIPWakeup”<br>“SMSWakeup”<br>“CallWakeup”<br>“DataCall”<br>“Local”<br>“VirtualDevice”<br>If the verb of the message is change, a new address is inserted if the type of the address is not yet in use on the device. If the device already has an address with the given type the old address is replaced with the new address. |
| order | xs:integer | 0..1 | Connection priority number. The order number implies the order in which the different addresses are tried in, starting from the smallest number. The order value must be between 1 and 5 except when the type is “Local”; then the order number is 0.<br>If the order number is not defined for an address, a new number is assigned to addresses in the order of appearance in the message. |

| | | | |
|---|---|---|---|
| | | | Corresponds to Gateware DeviceAddressPriority in an address. |

## 2.3.2 GetEndDevice

The GetEndDevice request is used to get information about a single or multiple devices by their manufacturer given device IDs. A response is returned containing the device information. If any errors occur during the processing of the request, they are included in the response.

### 2.3.2.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"get": retrieve device information |
| Header/Noun | xs:string | 1 | Static "EndDevice" |
| Request | | | The request element that contains the device identifiers. |
| Request/ID | xs:string | 1..n | List of device identifiers (mRID). These correspond to the device codes in Gateware. |

### 2.3.2.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "EndDevice". |
| Reply | | 1 | Contains information about the processing of the request in Gateware. |
| Reply/Result | | 1 | "OK" or "FAILED", depending if there were errors during processing. |
| Reply/Error | | 0..n | If Reply/Result was "FAILED", contains the Error for each device that was not returned in the Payload/EndDevices list. |
| Reply/Error/code | xs:string | 1 | Error code, see table in 2.3.2.3 for the codes. |

| | | | |
|---|---|---|---|
| Reply/Error/level | xs:string | 1 | |
| Reply/Error/reason | xs:string | 0..1 | Description of why the error occurred. |
| Payload | | 1 | The payload that contains the successfully retrieved devices. |
| Payload/EndDevices | | 1 | The devices. |
| Payload/EndDevices/EndDevice | m:EndDevice | 0..n | List of devices. |

#### 2.3.2.3 Result codes

| Code | Description | Error Level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.2 | Device not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes error codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

#### 2.3.2.4 Examples

Request multiple end devices of which two are not found from the system.

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
           xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
           xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <end:GetEndDeviceRequest>
         <end:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>EndDevice</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </end:Header>
         <end:Request>
            <mes:ID>7350049083691515</mes:ID>
            <mes:ID>7350049083691616</mes:ID>
            <mes:ID>7350049083691717</mes:ID>
            <mes:ID>7350049083691818</mes:ID>
         </end:Request>
```

```
      </end:GetEndDeviceRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:end1="http://iec.ch/TC57/2007/EndDevice#"
xmlns:end2="http://aidon.com/IEC/Management/v2/EndDevice">
  <soapenv:Header />
  <soapenv:Body>
    <end:GetEndDeviceResponse>
      <end:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>EndDevices</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </end:Header>
      <end:Reply>
        <mes:Result>FAILED</mes:Result>
        <mes:Error>
          <mes:code>1.4</mes:code>
          <mes:level>FATAL</mes:level>
          <mes:reason>End device not found</mes:reason>
          <mes:ID>7350049083691616</mes:ID>
        </mes:Error>
        <mes:Error>
          <mes:code>1.4</mes:code>
          <mes:level>FATAL</mes:level>
          <mes:reason>End device not found</mes:reason>
          <mes:ID>7350049083691818</mes:ID>
        </mes:Error>
      </end:Reply>
      <end:Payload>
        <end1:EndDevices>
          <end1:EndDevice>
            <end1:mRID>7350049088737201</end1:mRID>
            <end2:networkID>13371337</end2:networkID>
            <end1:Modules>
              <end1:Module>
                <end1:mRID>7350081620002187</end1:mRID>
                <end1:type>ADN6478</end1:type>
                <end1:role>DynamicMaster</end1:role>
                <end1:softwareVersion>2.0.5621</end1:softwareVersion>
                <end1:EndDeviceFunctions>
                  <end1:EndDeviceFunction>
                    <end1:amrAddress>2000218</end1:amrAddress>
                    <end1:enabled>true</end1:enabled>
                    <end2:type>NetworkAddress</end2:type>
                    <end2:order>1</end2:order>
                  </end1:EndDeviceFunction>
                </end1:EndDeviceFunctions>
              </end1:Module>
              <end1:Module>
                <end1:mRID>7350081610332256</end1:mRID>
```

```
        <end1:type>ADN6478</end1:type>
        <end1:role>DynamicSlave</end1:role>
        <end1:softwareVersion>2.0.5620</end1:softwareVersion>
        <end1:EndDeviceFunctions>
          <end1:EndDeviceFunction>
            <end1:amrAddress>1033225</end1:amrAddress>
            <end1:enabled>true</end1:enabled>
            <end2:type>NetworkAddress</end2:type>
            <end2:order>1</end2:order>
          </end1:EndDeviceFunction>
        </end1:EndDeviceFunctions>
      </end1:Module>
    </end1:Modules>
    <end1:MeterInfos>
      <end1:MeterInfo>
        <end1:mRID>7350049088737201</end1:mRID>
        <end1:ServiceCategory>
          <end1:kind>Electricity</end1:kind>
        </end1:ServiceCategory>
        <end1:type>ADN6531</end1:type>
      </end1:MeterInfo>
    </end1:MeterInfos>
    <end1:SimInfos>
      <end1:SimInfo>
        <end1:mRID>89358021140826093887</end1:mRID>
        <end1:imsi>359852050181685</end1:imsi>
        <end1:EndDeviceFunctions>
          <end1:EndDeviceFunction>
            <end1:amrAddress>10.111.45.123:49997</end1:amrAddress>
            <end1:enabled>true</end1:enabled>
            <end2:type>TcpIpSocket</end2:type>
            <end2:order>1</end2:order>
          </end1:EndDeviceFunction>
        </end1:EndDeviceFunctions>
      </end1:SimInfo>
    </end1:SimInfos>
  </end1:EndDevice>
  <end1:EndDevice>
    <end1:mRID>7350049088737202</end1:mRID>
    <end2:networkID>13371337</end2:networkID>
    <end1:Modules>
      <end1:Module>
        <end1:mRID>7350081620002186</end1:mRID>
        <end1:type>ADN6483</end1:type>
        <end1:role>DynamicSlave</end1:role>
        <end1:softwareVersion>2.0.5621</end1:softwareVersion>
        <end1:EndDeviceFunctions>
          <end1:EndDeviceFunction>
            <end1:amrAddress>2000218</end1:amrAddress>
            <end1:enabled>true</end1:enabled>
            <end2:type>NetworkAddress</end2:type>
            <end2:order>1</end2:order>
          </end1:EndDeviceFunction>
        </end1:EndDeviceFunctions>
      </end1:Module>
    </end1:Modules>
    <end1:MeterInfos>
      <end1:MeterInfo>
        <end1:mRID>7350049088737202</end1:mRID>
```

```
                <end1:ServiceCategory>
                  <end1:kind>Electricity</end1:kind>
                </end1:ServiceCategory>
                <end1:type>ADN6534</end1:type>
              </end1:MeterInfo>
            </end1:MeterInfos>
          </end1:EndDevice>
        </end1:EndDevices>
      </end:Payload>
    </end:GetEndDeviceResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.3.3 DeleteEndDevice

DeleteEndDevice is used to delete a Gateware Device. The delete operation doesn't actually destroy device information, but only marks it archived. Archived device will not be available on any further requests in the IEC interfaces.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.3.3.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"delete": delete / archive metering point information |
| Header/Noun | xs:string | 1 | Static "EndDevice" |
| Request | | | The request element that contains the device identifier. |
| Request/ID | xs:string | 1 | Device identifier corresponding Gateware device identifier (mRID) |

#### 2.3.3.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "EndDevice" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |

| | | | |
|---|---|---|---|
| Reply/Error | | 0..1 | If Result=Failed, return Error for each device |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.3.3.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.2 | Device not found. | FATAL |
| 2.17 | Failed to remove the device, because it is still linked to a metering point. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.3.3.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteEndDeviceRequest>
         <usag:Header>
            <mes:Verb>delete</mes:Verb>
            <mes:Noun>EndDevice</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:ID>87654321</mes:ID>
         </usag:Request>
      </usag:DeleteEndDeviceRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
```

```
xmlns:usag="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteEndDeviceResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>EndDevice</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:DeleteEndDeviceResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

### 2.3.4 CreateEndDeviceComponentLink

CreateEndDeviceComponentLink creates a link between device and device component. Device component is described in the operation details, but generally it may be for example communication module, meter, SIM card or similar device component.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.3.4.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "create": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./EndDevice | | 1 | Device to which the component is linked |
| ./EndDevice/mRID | xs:string | 1 | ID of the device |
| ./Module | | 0..1* | Module to be linked to the end device |
| ./Module/mRID | xs:string | | Module identifier |

| | | | |
|---|---|---|---|
| ./MeterInfo | | 0..1* | Meter to be linked to the end device |
| ./MeterInfo/mRID | xs:string | 1 | Meter identifier |
| ./SimInfo | | 0..1* | Sim card to be linked to the end device |
| ./SimInfo/mRID | xs:string | 1 | SIM card identifier |

* = One (and one only) type of component should be included in the request.

### 2.3.4.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.3.4.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.2 | Device not found. | FATAL |
| 2.41 | Component not found | FATAL |
| 2.42 | Failed to link component with the device, because the component is already linked to another device | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.3.4.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
```

```
xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:end1="http://iec.ch/TC57/2007/EndDevice#">
  <soapenv:Header />
  <soapenv:Body>
    <end:CreateEndDeviceComponentLinkRequest>
      <end:Header>
        <mes:Verb>create</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </end:Header>
      <end:Payload>
        <end:MasterDataLinkageConfig>
          <mas:EndDevice>
            <end1:mRID>12345678</end1:mRID>
          </mas:EndDevice>
          <mas:Module>
            <end1:mRID>987654321</end1:mRID>
          </mas:Module>
        </end:MasterDataLinkageConfig>
      </end:Payload>
    </end:CreateEndDeviceComponentLinkRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
  <soapenv:Header />
  <soapenv:Body>
    <end:CreateEndDeviceComponentLinkResponse>
      <end:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </end:Header>
      <end:Reply>
        <mes:Result>OK</mes:Result>
        <mes:Error>
          <mes:code>0.0</mes:code>
        </mes:Error>
      </end:Reply>
    </end:CreateEndDeviceComponentLinkResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.3.5 DeleteEndDeviceComponentLink

DeleteEndDeviceComponentLink is used to detach a component from a device.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.3.5.1 Request

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "delete": |
| Header/Noun | xs:string | 1 | Static "MasterDataLinkageConfig" |
| Payload | | 1 | |
| Payload/MasterDataLinkageConfig | | 1 | |
| ./EndDevice | xs:string | 1 | |
| ./EndDevice/mRID | xs:string | 1 | ID of the device |
| ./Module | | 0..1* | Module to be detached from the end device |
| ./Module/mRID | xs:string | | Module identifier |
| ./MeterInfo | | 0..1* | Meter to be detached from the end device |
| ./MeterInfo/mRID | xs:string | 1 | Meter identifier |
| ./SimInfo | | 0..1* | Sim card to be detached from the end device |
| ./SimInfo/mRID | xs:string | 1 | SIM card identifier |

* = One (and one only) type of component should be included in the request.

#### 2.3.5.2 Response

| Header | Data type | Cardinality | Standard header with details specified below |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | | Static "reply" |
| Header/Noun | xs:string | | Static "MasterDataLinkageConfig" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error |

| | | | |
|---|---|---|---|
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.3.5.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.2 | Device not found. | FATAL |
| 2.41 | Component not found | FATAL |
| 2.43 | Device not linked to the specified component. | WARNING |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.3.5.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:mas="http://iec.ch/TC57/2007/MasterDataLinkageConfig#"
xmlns:end1="http://iec.ch/TC57/2007/EndDevice#">
  <soapenv:Header />
  <soapenv:Body>
    <end:DeleteEndDeviceComponentLinkRequest>
      <end:Header>
        <mes:Verb>delete</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </end:Header>
      <end:Payload>
        <end:MasterDataLinkageConfig>
          <mas:EndDevice>
            <end1:mRID>12345678</end1:mRID>
          </mas:EndDevice>
          <mas:Module>
            <end1:mRID>987654321</end1:mRID>
          </mas:Module>
        </end:MasterDataLinkageConfig>
```

```
      </end:Payload>
    </end:DeleteEndDeviceComponentLinkRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

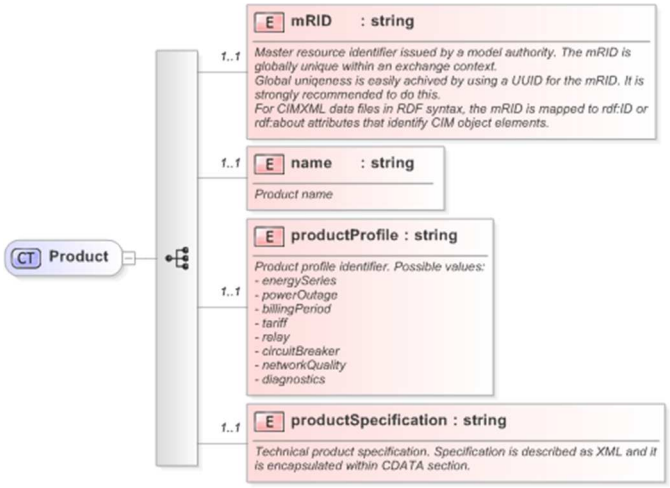
**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:end="http://aidon.com/IEC/Management/v2/EndDeviceMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
  <soapenv:Header />
  <soapenv:Body>
    <end:DeleteEndDeviceComponentLinkResponse>
      <end:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>MasterDataLinkageConfig</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </end:Header>
      <end:Reply>
        <mes:Result>OK</mes:Result>
        <mes:Error>
          <mes:code>0.0</mes:code>
        </mes:Error>
      </end:Reply>
    </end:DeleteEndDeviceComponentLinkResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

# 2.4 Configuration

## 2.4.1 Data models

### 2.4.1.1 Product

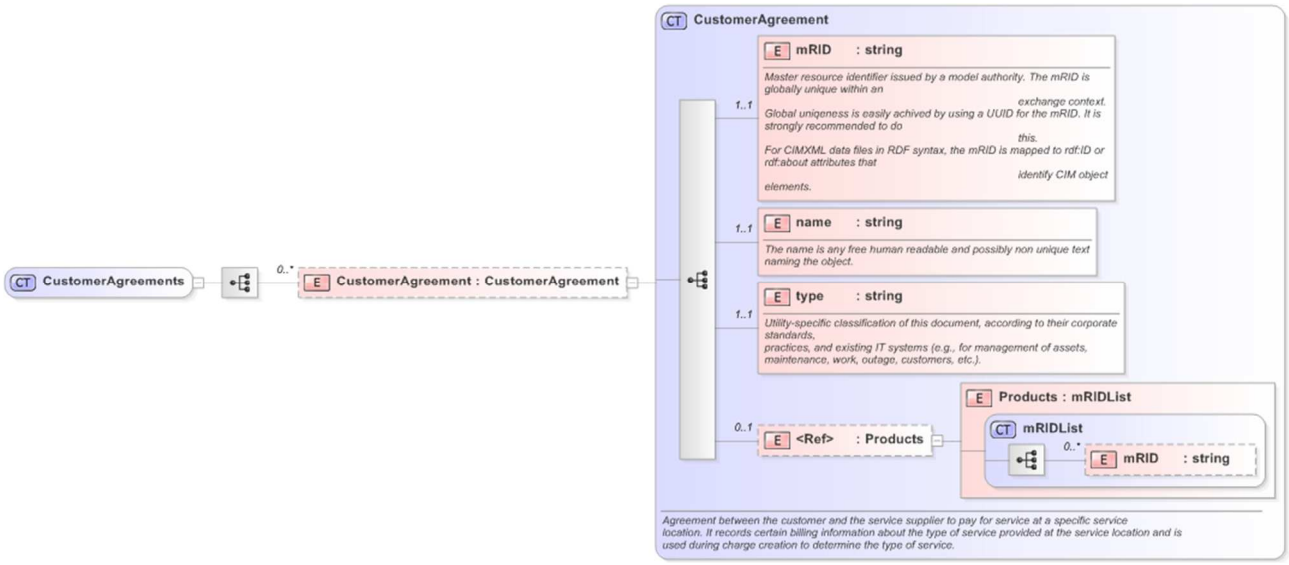


### 2.4.1.2 m:Product

| Element | Data type | Cardinality | CRU | Description |
|---|---|---|---|---|
| mRID | xs:string | 1 | R | Product identifier in Gateware |
| name | xs:string | 1 | R | Product name |
| productProfile | xs:string | 1 | R | Product profile identifier<br>Possible values:<br>- energySeries<br>- powerOutage<br>- billingPeriod<br>- tariff<br>- relay<br>- circuitBreaker<br>- networkQuality<br>- diagnostics<br>- substationmonitoring |
| productSpecification | xs:string | 1 | R | Technical product specification. Specification is described as XML and it is encapsulated within CDATA section. |

### 2.4.1.3 CustomerAgreement (Contract and Configuration)

Contracts and Configurations in the interface are based on CustomerAgreement schema and it is common for both Contract and Configuration.

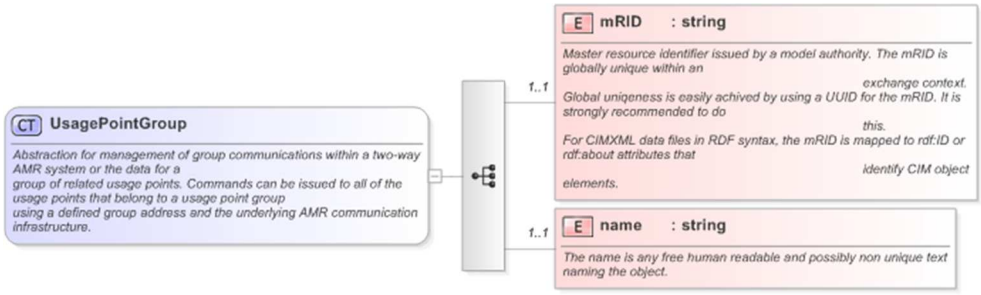



### 2.4.1.4 m:CustomerAgreement

| Element | Data type | Cardinality | CRU | Description |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| mRID | xs:string | 1 | R | Contract or configuration identifier in Gateware |
| name | xs:string | 1 | R | Contract or configuration name if available |
| type | xs:string | 1 | R | Contract of configuration type. Possible values:<br>- Standard<br>- Unique |
| products | a:mRIDList | 0..1 | R | List of product identifiers for products that are linked to the contract or the configuration |

#### 2.4.1.5 UsagePointGroup




| Element | Data type | Cardinality | CRU | Description |
|---|---|---|---|---|
| mRID | xs:string | 1 | R | Metering point group identifier in Gateware |
| name | xs:string | 1 | CR | Group name |
| description | xs:string | 0..1 | CR | Group description |
| createdBy | xs:string | 1 | R | Name of the user who created the metering point group |

### 2.4.2 GetProduct

#### 2.4.2.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>“get”: retrieve product information |
| Header/Noun | xs:string | 1 | Static “Product”. |
| Request/ID | xs:string | 0..n | List of product identifiers (mRID) that correspond to product ids in Gateware. The operation returns |

| | | | |
|---|---|---|---|
| | | | all products if ID parameter is missing. |

### 2.4.2.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "Product" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each product |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/Products | | 1 | |
| Payload/Products/Product | m:Product | 0..n | List of products |
| ./mRID | xs:string | 1 | Product identifier |
| ./name | xs:string | 1 | Product name |
| ./productProfile | xs:string | 1 | Product profile. Possible values:<br>- energySeries<br>- powerOutage<br>- billingPeriod<br>- tariff<br>- relayControl<br>- circuitBreaker<br>- networkQuality (note: this may change)<br>- diagnostics<br>- substationmonitoring<br>- daylightsavingtime |
| ./productSpecification | xs:string | 1 | Technical product specification. Specification is described as XML and it is encapsulated within CDATA section. |

### 2.4.2.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |

| | | |
|---|---|---|
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.7 | Product not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.2.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:prod="http://aidon.com/IEC/Management/v2/ProductMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header/>
   <soapenv:Body>
      <prod:GetProductRequest>
         <prod:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>Product</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </prod:Header>
         <prod:Request>
            <mes:ID>8</mes:ID>
         </prod:Request>
      </prod:GetProductRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
                  xmlns:prod="http://aidon.com/IEC/Management/v1/ProductMessage"
                  xmlns:mes="http://iec.ch/TC57/2011/schema/message"
                  xmlns:prod1="http://aidon.com/IEC/Management/v1/Product">
  <soapenv:Header />
  <soapenv:Body>
    <prod:GetProductResponse>
      <prod:Header>
        <mes:Verb>get</mes:Verb>
        <mes:Noun>Product</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3B0</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961C0</mes:CorrelationID>
      </prod:Header>
```

```
      <prod:Reply>
        <mes:Result>OK</mes:Result>
      </prod:Reply>
      <prod:Payload>
        <prod1:Products>
          <prod1:Product>
            <prod1:mRID>8</prod1:mRID>
            <prod1:name>2-Tariff</prod1:name>
            <prod1:productProfile>tariff</prod1:productProfile>
            <prod1:productSpecification><![CDATA[ <?xml version="1.0"
encoding="iso-8859-1"?><product name="001000 2T KSV"><industryProfile name="AMR
Industry Profile - Household Electricity Meter" version="v1.0"
versionDate="2005-10-01" /><productProfile name="tariff" /><description>2-
Tariff, KSV</description><definition><tariff><registers><tariffRegister
name="t1" displayName="T1" /><tariffRegister name="t2" displayName="T2"
/></registers><yearPeriod name="Talvi" start="01.11" end="31.03"><weekDay
day="Bank" startRegister="t1"></weekDay><weekDay day="Sat"
startRegister="t1"><change index="1" name="t2" t="07:00" /><change index="2"
name="t1" t="22:00" /></weekDay><weekDay day="Fri" startRegister="t1"><change
index="1" name="t2" t="07:00" /><change index="2" name="t1" t="22:00"
/></weekDay><weekDay day="Thu" startRegister="t1"><change index="1" name="t2"
t="07:00" /><change index="2" name="t1" t="22:00" /></weekDay><weekDay day="Wed"
startRegister="t1"><change index="1" name="t2" t="07:00" /><change index="2"
name="t1" t="22:00" /></weekDay><weekDay day="Tue" startRegister="t1"><change
index="1" name="t2" t="07:00" /><change index="2" name="t1" t="22:00"
/></weekDay><weekDay day="Mon" startRegister="t1"><change index="1" name="t2"
t="07:00" /><change index="2" name="t1" t="22:00" /></weekDay><weekDay day="Sun"
startRegister="t1"></weekDay></yearPeriod><yearPeriod name="Kesa" start="01.04"
end="31.10"><weekDay day="Bank" startRegister="t1"></weekDay><weekDay day="Sat"
startRegister="t1"><change index="1" name="t2" t="07:00" /><change index="2"
name="t1" t="22:00" /></weekDay><weekDay day="Fri" startRegister="t1"><change
index="1" name="t2" t="07:00" /><change index="2" name="t1" t="22:00"
/></weekDay><weekDay day="Thu" startRegister="t1"><change index="1" name="t2"
t="07:00" /><change index="2" name="t1" t="22:00" /></weekDay><weekDay day="Wed"
startRegister="t1"><change index="1" name="t2" t="07:00" /><change index="2"
name="t1" t="22:00" /></weekDay><weekDay day="Tue" startRegister="t1"><change
index="1" name="t2" t="07:00" /><change index="2" name="t1" t="22:00"
/></weekDay><weekDay day="Mon" startRegister="t1"><change index="1" name="t2"
t="07:00" /><change index="2" name="t1" t="22:00" /></weekDay><weekDay day="Sun"
startRegister="t1"></weekDay></yearPeriod></tariff></definition></product>
]]></prod1:productSpecification>
          </prod1:Product>
        </prod1:Products>
      </prod:Payload>
    </prod:GetProductResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.4.3 GetContract

#### 2.4.3.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – |

| | | | |
|---|---|---|---|
| | | | Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"get": retrieve contract information |
| Header/Noun | xs:string | 1 | Static "Contract" |
| Request/ID | xs:string | 1..n | List of contract identifiers (mRID) that correspond to contract id in Gateware. Service returns all standard contracts and those unique contracts that do not reference a standard contract if ID parameter is missing. Note: Linkware presents contract ids prefixed with STD_ or UNIQ_ depending on the type of the contract. With standard contracts the contract name is used as the id. |

#### 2.4.3.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "Contract" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each contract |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/Contracts | | 1 | |
| Payload/Contracts/Contract | m:CustomerAgreement | 0..n | List of contracts with ContractStatus 1 (Confirmed) in Gateware. |
| ./mRID | xs:string | 1 | Contract identifier corresponding to contract id in Gateware with STD_ prefix for standard contracts and UNIQ_ for unique contracts. |
| ./name | xs:string | 1 | Contract name |

| | | | |
|---|---|---|---|
| ./type | xs:string | 1 | Type of the contract.<br>Possible values:<br>- Standard<br>- Unique |
| ./Products | a:mRIDList | 1 | All installed products that belong to the contract. |
| ./Products/mRID | xs:string | 0..n | Product identifier corresponding to product id in Gateware. |

### 2.4.3.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.8 | Contract not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.3.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
                  xmlns:con="http://aidon.com/IEC/Management/v2/ContractMessage"
                  xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <con:GetContractRequest>
         <con:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>Contract</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </con:Header>
         <con:Request>
            <mes:ID>1</mes:ID>
         </con:Request>
      </con:GetContractRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:con="http://aidon.com/IEC/Management/v2/ContractMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:cus="http://iec.ch/TC57/2007/CustomerAgreement#"
xmlns:cus1="http://aidon.com/IEC/Management/v2/CustomerAgreement"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <con:GetContractResponse>
         <con:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>Contract</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </con:Header>
         <con:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </con:Reply>
         <con:Payload>
            <con:Contracts>
               <con:Contract>
                  <cus:mRID>STD_ Hourly Standard</cus:mRID>
                  <cus:name>General</cus:name>
                  <cus:type>Standard</cus:type>
                  <cus1:Products>
                     <com:mRID>1</com:mRID>
                  </cus1:Products>
               </con:Contract>
            </con:Contracts>
         </con:Payload>
      </con:GetContractResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.4.4 GetConfiguration

### 2.4.4.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"get": retrieve configuration information |
| Header/Noun | xs:string | 1 | Static "Configuration" |
| Request/ID | xs:string | 0..n | List of configuration identifiers (mRID). Service returns all |

| | | | |
|---|---|---|---|
| | | | standard configurations and those unique configurations that do not reference a standard configuration if ID parameter is missing. Note: Linkware presents configuration ids prefixed with STD_. Unique configurations are not currently supported. |

### 2.4.4.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "Configuration" |
| Reply | | 1 | |
| Reply/Result | xs:string | 1 | "OK", "FAILED" |
| Reply/Error | | 0..n | If Result="Failed", return Error for each configuration |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/Configurations | | 1 | |
| Payload/Configurations/ Configuration | m:CustomerAgreement | 0..n | List of configurations with status installed. |
| ./mRID | xs:string | 1 | Configuration identifier. |
| ./name | xs:string | 1 | Configuration name. |
| ./type | xs:string | 1 | Type of the configuration. Possible values:<br>- Standard<br>Note: Unique configurations are not currently supported with this operation. |
| ./ProductList | | 1 | List of linked products |
| ./ProductList/productID | xs:string | 0..n | Product identifier (mRID) corresponding to product Id in Gateware. |

### 2.4.4.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not "change" or header's correlation id is missing. | FATAL |

| | | |
|---|---|---|
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.9 | Configuration not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.4.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:con="http://aidon.com/IEC/Management/v2/ConfigurationMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header/>
   <soapenv:Body>
      <con:GetConfigurationRequest>
         <con:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>Configuration</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </con:Header>
         <con:Request>
            <mes:ID>2</mes:ID>
         </con:Request>
      </con:GetConfigurationRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:con="http://aidon.com/IEC/Management/v2/ConfigurationMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:cus="http://iec.ch/TC57/2007/CustomerAgreement#"
xmlns:cus1="http://aidon.com/IEC/Management/v2/CustomerAgreement"
xmlns:com="http://aidon.com/IEC/Management/v2/Common">
   <soapenv:Header />
   <soapenv:Body>
      <con:GetConfigurationResponse>
         <con:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>Configuration</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </con:Header>
         <con:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
```

```
            <mes:code>0.0</mes:code>
         </mes:Error>
      </con:Reply>
      <con:Payload>
         <con:Configurations>
            <con:Configuration>
               <cus:mRID>STD_2</cus:mRID>
               <cus:name>ActivePIHA</cus:name>
               <cus:type>Standard</cus:type>
               <cus1:Products>
                  <com:mRID>3</com:mRID>
                  <com:mRID>4</com:mRID>
                  <com:mRID>5</com:mRID>
                  <com:mRID>7</com:mRID>
               </cus1:Products>
            </con:Configuration>
         </con:Configurations>
      </con:Payload>
   </con:GetConfigurationResponse>
</soapenv:Body>
</soapenv:Envelope>
```

## 2.4.5 GetUsagePointGroup

### 2.4.5.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>“get”: retrieve metering point groups |
| Header/Noun | xs:string | 1 | Static “UsagePointGroup” |
| Request/ID | xs:string | 0..n | List of metering point group identifiers (mRID) corresponding to group id in Gateware. Service returns all active groups if ID parameter is missing. |

### 2.4.5.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header/Verb | xs:string | 1 | Static “reply” |
| Header/Noun | xs:string | 1 | Static “UsagePointGroup” |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point group |
| ./code | xs:string | 1 | Error code, see table below |

| | | | |
|---|---|---|---|
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/UsagePointGroups | | 1 | |
| Payload/UsagePointGroups/ UsagePointGroup | | 0..n | List of metering point groups |
| ./mRID | xs:string | 1 | Metering point group identifier corresponding group id in Gateware |
| ./name | xs:string | 1 | Metering point group name |
| ./description | xs:string | 0..1 | Metering point group description |
| ./createdBy | xs:string | 1 | Name of the user who created the metering point group |
| ./createdDateTime | xs:dateTime | 1 | Timestamp when the group was created |

### 2.4.5.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.10 | Usage point group not found | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.5.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:GetUsagePointGroupRequest>
         <usag:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>UsagePointGroup</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
```

```
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:ID>10011</mes:ID>
         </usag:Request>
      </usag:GetUsagePointGroupRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePointGroup#">
  <soapenv:Header />
  <soapenv:Body>
    <usag:GetUsagePointGroupResponse>
      <usag:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>UsagePointGroup</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Aidon Linkware</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </usag:Header>
      <usag:Reply>
        <mes:Result>OK</mes:Result>
        <mes:Error>
          <mes:code>0.0</mes:code>
          <mes:level>INFORM</mes:level>
        </mes:Error>
      </usag:Reply>
      <usag:Payload>
        <usag1:UsagePointGroups>
          <usag1:UsagePointGroup>
            <usag1:mRID>10011</usag1:mRID>
            <usag1:name>SLA Group #1</usag1:name>
            <usag1:description>Group to track SLA deviations in energy series
delivery</usag1:description>
            <usag1:createdBy>admin</usag1:createdBy>
            <usag1:createdDateTime>2015-12-02T12:10:07Z</usag1:createdDateTime>
          </usag1:UsagePointGroup>
          <usag1:UsagePointGroup>
            <usag1:mRID>10012</usag1:mRID>
            <usag1:name>SLA Group #2</usag1:name>
            <usag1:createdBy>admin</usag1:createdBy>
            <usag1:createdDateTime>2015-12-13T08:24:00Z</usag1:createdDateTime>
          </usag1:UsagePointGroup>
        </usag1:UsagePointGroups>
      </usag:Payload>
    </usag:GetUsagePointGroupResponse>
  </soapenv:Body>
</soapenv:Envelope>
```

### 2.4.6 CreateUsagePointGroup

CreateUsagePointGroup is used to create a Gateware metering point group.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

#### 2.4.6.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"create": retrieve metering point information |
| Header/Noun | xs:string | 1 | Static "UsagePointGroup" |
| Payload | | 1 | |
| Payload/UsagePointGroup | | 1 | Metering point group to be created |
| ./name | xs:string | 1 | Metering point group name |
| ./description | xs:string | 0..1 | Metering point group description |

#### 2.4.6.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePoint" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..1 | If Result=Failed, return Error for each metering point |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 0..1 | |
| Payload/UsagePointGroup | | 1 | Created metering point group |
| ./mRID | | 1 | Metering point group identifier corresponding group id in Gateware |

| | | | |
|---|---|---|---|
| ./name | xs:string | 1 | Metering point group name |
| ./description | xs:string | 0..1 | Metering point group description |
| ./createdBy | xs:string | 1 | Name of the user who created the metering point group |

### 2.4.6.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.28 | Group already exists. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.6.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePointGroup#">
  <soapenv:Header />
  <soapenv:Body>
    <usag:CreateUsagePointGroupRequest>
      <usag:Header>
        <mes:Verb>reply</mes:Verb>
        <mes:Noun>UsagePointGroup</mes:Noun>
        <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
        <mes:Source>Client System</mes:Source>
        <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
        <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
      </usag:Header>
      <usag:Payload>
        <usag:UsagePointGroup>
          <usag1:name>SLA Group #3</usag1:name>
          <usag1:description>This group is used to include the usage points that
have SLA deviations</usag1:description>
        </usag:UsagePointGroup>
      </usag:Payload>
    </usag:CreateUsagePointGroupRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag1="http://iec.ch/TC57/2007/UsagePointGroup#">
   <soapenv:Header />
   <soapenv:Body>
      <usag:CreateUsagePointGroupResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePointGroup</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FF</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
         <usag:Payload>
            <usag:UsagePointGroup>
               <usag1:mRID>102</usag1:mRID>
               <usag1:name>SLA Group #3</usag1:name>
            </usag:UsagePointGroup>
         </usag:Payload>
      </usag:CreateUsagePointGroupResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.4.7 DeleteUsagePointGroup

DeleteUsagePointGroup is used to mark metering point group as archived in Gateware.

Common principles to create or change data in Aidon systems is described in Interface Specification – Linkware IEC 61968 Common.

### 2.4.7.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"delete": delete / archive metering point group |
| Header/Noun | xs:string | 1 | Static "UsagePointGroup" |
| Request/ID | xs:string | 1 | Metering point group identifier (mRID) corresponding to group id in Gateware. |

### 2.4.7.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "UsagePointGroup" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each metering point group |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |

### 2.4.7.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.10 | Group not found. | FATAL |
| 2.27 | Group is not empty. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.7.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteUsagePointGroupRequest>
         <usag:Header>
            <mes:Verb>delete</mes:Verb>
            <mes:Noun>UsagePointGroup</mes:Noun>
```

```
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Request>
            <mes:ID>102</mes:ID>
         </usag:Request>
      </usag:DeleteUsagePointGroupRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:usag="http://aidon.com/IEC/Management/v2/UsagePointGroupMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <usag:DeleteUsagePointGroupResponse>
         <usag:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePointGroup</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FE</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </usag:Header>
         <usag:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </usag:Reply>
      </usag:DeleteUsagePointGroupResponse>
   </soapenv:Body>
</soapenv:Envelope>
```

## 2.4.8 GetNetwork

GetNetwork is used to retrieve basic information about the network.

### 2.4.8.1 Request

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Possible values:<br>"get": retrieve contract information |
| Header/Noun | xs:string | 1 | Static "Network" |

| | | | |
|---|---|---|---|
| Request/ID | xs:string | 0..n | List of network identifiers (mRID). If ID is unspecified, all available networks are returned. |

### 2.4.8.2 Response

| Element | Data type | Cardinality | Description and usage |
|---|---|---|---|
| Header | | 1 | The header that contains information about the message. See Interface Specification – Linkware IEC 61968 Common for generic Header elements. |
| Header/Verb | xs:string | 1 | Static "reply" |
| Header/Noun | xs:string | 1 | Static "Network" |
| Reply | | 1 | |
| Reply/Result | | 1 | OK, FAILED |
| Reply/Error | | 0..n | If Result=Failed, return Error for each network |
| ./code | xs:string | 1 | Error code, see table below |
| ./level | xs:string | 1 | |
| ./reason | xs:string | 0..1 | Description of the error |
| Payload | | 1 | |
| Payload/Networks | | 1 | |
| Payload/Networks/Network | m:Network | 0..n | |
| ./mRID | xs:string | 1 | Network identifier (mRID) |
| ./name | xs:string | 1 | Network name |
| ./timezone | xs:string | 1 | Timezone of the network as UTC offset, for example "UTC+2:00" |

### 2.4.8.3 Result codes

| Code | Description | Error level |
|---|---|---|
| 0.0 | Ok | |
| 1.0 | Request message is invalid or incomplete. This code is used when the request is invalid i.e. some required element is missing or invalid. For example when ChangeEndDevices message header's verb is not change or header's correlation id is missing. | FATAL |
| 1.1 | The message contains incorrect time specification. Only UTC times are supported. | FATAL |
| 2.4 | Network not found. | FATAL |
| 5.0 | Operation failed. This code is used when the request cannot be completed because an exception has occurred. | FATAL |

This table describes result codes that are possibly returned from the described service. Result codes are listed and maintained in the document Interface Specification – Linkware IEC 61968 Common.

### 2.4.8.4 Examples

**Request**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
                  xmlns:net="http://aidon.com/IEC/Management/v2/NetworkMessage"
                  xmlns:mes="http://iec.ch/TC57/2011/schema/message">
   <soapenv:Header />
   <soapenv:Body>
      <net:GetNetworkRequest>
         <net:Header>
            <mes:Verb>get</mes:Verb>
            <mes:Noun>Network</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Client System</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FC</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </net:Header>
         <net:Request>
            <mes:ID>2</mes:ID>
         </net:Request>
      </net:GetNetworkRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

**Response**

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:get="http://aidon.com/IEC/Management/v2/GetNetworkMessage"
xmlns:net="http://aidon.com/IEC/Management/v2/NetworkMessage"
xmlns:mes="http://iec.ch/TC57/2011/schema/message"
xmlns:usag="http://iec.ch/TC57/2007/UsagePoint#"
xmlns:net1="http://aidon.com/IEC/Management/v2/Network">
   <soapenv:Header />
   <soapenv:Body>
      <get:GetNetworkResponse>
         <net:Header>
            <mes:Verb>reply</mes:Verb>
            <mes:Noun>UsagePoint</mes:Noun>
            <mes:Timestamp>2014-01-01T12:15:00Z</mes:Timestamp>
            <mes:Source>Aidon Linkware</mes:Source>
            <mes:MessageID>795931F9-3DF3-4D2C-A743-AF139041E3FD</mes:MessageID>
            <mes:CorrelationID>6E4496DD-E2F8-4775-A332-
D3DE25B961E9</mes:CorrelationID>
         </net:Header>
         <net:Reply>
            <mes:Result>OK</mes:Result>
            <mes:Error>
               <mes:code>0.0</mes:code>
            </mes:Error>
         </net:Reply>
         <net:Payload>
            <usag:Networks>
               <usag:Network>
                  <net1:mRID>2</net1:mRID>
                  <net1:name>Test Network</net1:name>
                  <net1:timezone>UTC+2:00</net1:timezone>
               </usag:Network>
```

```
            </usag:Networks>
          </net:Payload>
        </get:GetNetworkResponse>
    </soapenv:Body>
</soapenv:Envelope>
```

# 3 Appendix: Change history

| Version | Author | Date | Changes |
|---|---|---|---|
| 2.03D | Apa | 16.1.2015 | Corrected typing errors and minor formatting |
| 2.04D | HKl | 26.1.2015 | Added effectiveDateTime to CreateUsagePointEndDeviceLink and DeleteUsagePointEndDeviceLink |
| 2.05D | HKl | 29.1.2015 | Fixed examples, updated CRU columns for metering points and devices |
| 2.06D | HKl | 20.2.2015 | Changed so that it's not allowed ot update the service category for metering point |
| 2.07D | HKl | 5.3.2015 | Added GetNetwork operation |
| 2.08D | HKl | 2.4.2015 | Fixed service category description and possible values for EndDevice. Added Error/code element to successful response examples. |
| 2.09D | Vla | 17.4.2015 | Updated error codes to better reflect the existing errors. |
| 2.10 | HKl | 10.7.2015 | Published Linkware 1.6 release version |
| 2.11D | HKl | 24.8.2015 | Software fuse related changes to usage point: currentLimit changed to phaseCurrentLimit and added new elements totalPowerLimit and phaseCode. |
| 2.12 | HKl | 29.8.2015 | Published Linkware 1.7 release version |
| 2.13 | HKl | 8.9.2015 | Fixed GetUsagePoint and ChangeUsagePoint example messages according to software fuse related changes |
| 2.14 | HKl | 8.9.2015 | Published updated Linkware 1.7 release version |
| 2.15D | HKl | 11.9.2015 | Drafted changes for 1.8: added created by and description to metering point groups and changed EndDevice model to contain Modules, MeterInfo and SIMInfo |
| 2.16D | HKl | 16.9.2015 | Changed UsagePoint message to support software fuse related information and communication points. |
| 2.17D | HKl | 24.9.2015 | Changed ratedCurrent in UsagePoint to accept range 0-255. |
| 2.18D | HKl | 26.10.2015 | Fixed description for result code 2.20 |
| 2.19D | MVÄ | 27.10.2015 | Fixed description for result code 2.20 |
| 2.20D | MVÄ | 28.10.2015 | UsagePoint message / Service category's kind description updated for usage of "None" |
| 2.21D | HKl | 3.11.2015 | Fixed result code 2.1 to 2.10 for GetUsagePointChangeHistory operation |
| 2.22D | HKl | 5.11.2015 | Fixed examples for GetUsagePointGroup and CreateUsagePointGroup to contain description and createdBy elements |
| 2.23D | HKl | 9.11.2015 | Added result code 2.33 to CreateUsagePointEndDeviceLink and 2.34 to CreateUsagePointContractLink |
| 2.24D | HKl | 18.11.2015 | Changed updated service version to examples, fix ratedCurrent to float, fix GetEndDevice example message, clarified standard contract identifier |
| 2.25 | HKl | 18.11.2015 | Published Linkware 1.8 release version |

| | | | |
|---|---|---|---|
| 2.26D | HKl | 20.11.2015 | Added result code 2.35 to CreateUsagePoint and ChangeUsagePoint |
| 2.27D | HKl | 20.11.2015 | Removed connection state from UsagePoint data model |
| 2.28 | HKl | 20.11.2015 | Published updated Linkware 1.8 release version |
| 2.29D | HKl | 17.12.2015 | Changed result code 2.33 to 2.20 in CreateUsagePointEndDeviceLink |
| 2.30 | HKl | 17.12.2015 | Published updated Linkware 1.8 release version |
| 2.31D | HKl | 25.1.2016 | Removed Reply/Error/ID element from operation descriptions |
| 2.32D | PSa | 11.2.2016 | Added createdDateTime to GetUsagePointGroup response |
| 2.33D | HKl | 16.2.2016 | Added drafts for CreateEndDeviceComponentLink and DeleteEndDeviceComponentLink operations |
| 2.34D | HKl | 18.2.2016 | Changes to CreateEndDeviceComponentLink and DeleteEndDeviceComponentLink based on internal review |
| 2.35D | HKl | 1.3.2016 | Added "substationmonitoring" product profile |
| 2.36D | PLe | 29.3.2016 | Changed ratedCurrent type from float to int. |
| 2.37D | HKl | 12.4.2016 | Fixed ID element cardinality in GetProduct, removed result code 2.20 from CreateEndDeviceComponentLink |
| 2.38D | HKl | 13.4.2016 | Added result code 1.1 to all operations |
| 2.39D | HKl | 20.4.2016 | Fixed GetProduct example messages |
| 2.40D | HKl | 25.4.2016 | Fixed GetUsagePointGroup example response message |
| 2.41D | HKl | 27.4.2016 | Fixed EndDevice message structure and diagram |
| 2.42D | HKl | 31.5.2016 | Add example messages to CreateEndDeviceComponentLink and DeleteEndDeviceComponentLink operations |
| 2.43 | HKl | 31.5.2016 | Published Linkware 1.9 release version |
| 2.44D | HKl | 18.7.2016 | Added draft for GetUsagePointEndDeviceLink |
| 2.45D | HKl | 19.7.2016 | Added example messages for GetUsagePointEndDeviceLink |
| 2.46D | PVa | 3.8.2016 | Fixed example response for GetUsagePointEndDeviceLink |
| 2.47D | HKl | 22.9.2016 | Initial draft for EndDevice Asset (IOAdapter) |
| 2.48D | HKl | 26.9.2016 | Updated EndDevice Asset model |
| 2.49D | HKl | 13.10.2016 | Added auxiliary meter to EndDevice model |
| 2.50D | HKl | 17.10.2016 | Added possibility to link and unlink multiple metering points to/from a group |
| 2.51D | HKl | 18.10.2016 | Added note to metering point identifier that it can't be changed |
| 2.52D | PSa | 21.10.2016 | Renamed the IEC interface's contents to use "usage point" as terminology, rather than "metering point". Both terms are valid in their respective domains. Therefore this document continues to use both terms. E.x. the "metering point" term is used in description texts and remarks sections since those sections use the Aidon system terminology. |
| 2.53D | HKl | 25.10.2016 | Clarified error handling in CreateUsagePointGroupLink and DeleteUsagePointGroupLink |
| 2.54 | TPa | 15.11.2016 | Published Linkware 1.10 release version |
| 2.55D | PVa | 2.2.2017 | Added EndDeviceFunctions to UsagePoint |

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| 2.56D | PVa | 5.4.2017 | Changed product profile relay to relayControl |
| 2.57D | TPa | 7.4.2017 | Added option to select whether to set a standard contract as preconfigured to installed state when linked to a metering point in CreateUsagePointContractLink. If the standard contract is not preconfigured, contract upload is done either via scheduled job or manually. |
| 2.58D | TPa | 10.4.2017 | effectiveDateTime element in CreateUsagePointEndDeviceLink and DeleteUsagePointEndDeviceLink operations is now optional and defaults to current time. |
| 2.59D | PVa | 18.4.2017 | Added daylightsavingtime product profile |
| 2.60D | HKl | 4.5.2017 | Added draft for CreateUsagePointConfigurationLink |
| 2.61D | HKl | 5.5.2017 | Fixed result description for code 2.51 |
| 2.62D | MUU | 9.5.2017 | Added request and response examples to CreateUsagePointConfigurationLink |
| 2.63 | PVa | 11.5.2017 | Published Linkware 1.11 release version |
| 2.64D | PSa | 13.7.2017 | Revoked the limitation of max 255 A for ratedCurrent, new maximum is 999 A. |
| 2.65D | Pva | 15.9.2017 | Fixed CreateUsagePointContractLink command Contract parameter desciption |
| 2.66 | Pva | 7.11.2017 | Published Linkware 1.12 release version |