THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Procedure 5 of Section 15 of ICAR Guidelines – Technical Data Services

Procedure 5 – Technical Data

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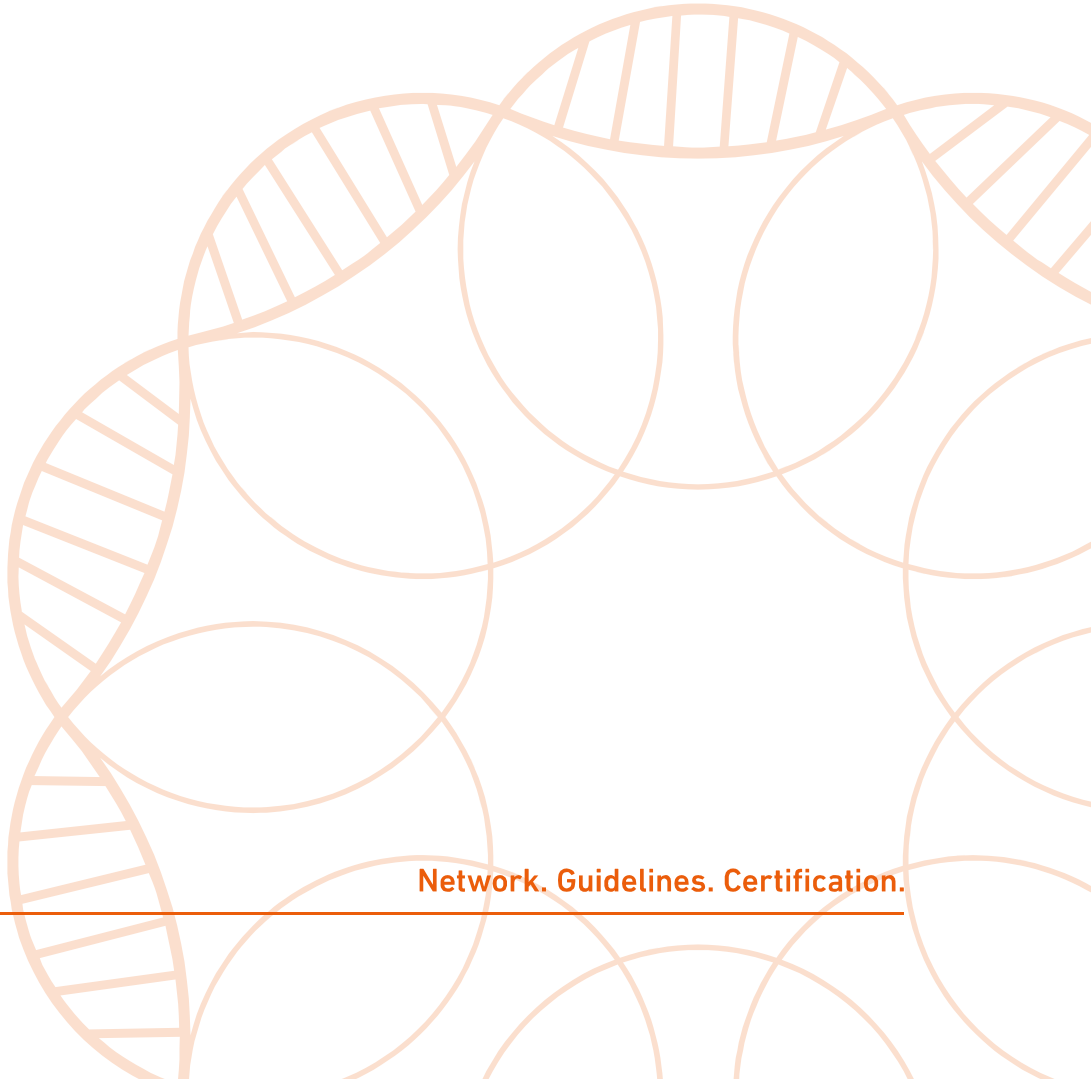

Network. Guidelines. Certification.

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Equations

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Summary of Changes

Date of Change	Nature of Change
July 2018	New procedure created from methodogy chapter in Section 15 Overview. Replaced by new version from ADE-WG. Template applied.
February 2019	Prepared for consideration by General Assembly. Approved on the basis of Procedures and Appendices being updated periodically under control of ADE WG.

1 Introduction

Technical services are used to support the correct functionality of data exchange software.

In order to minimize the data transfer size often just a reference is transferred in the messages described above e.g. the location identifier or the device identifier. The describing details of the referenced object have to be transferred in the context of creation or changes by using specific technical services.

Furthermore the equipment must be enabled to retrieve the current content of locally used code lists in order to be able to react to changes.

A number of services has been designed to meet these requirements:

a. **UpdateDevice**: transfer details of a device
b. **UpdateLocation**: transfer details of a location or sub location
c. **GetLocalCodeList**: retrieve local code lists from local service providers

2 Definitions and Terminology

Table 1 contains a list of important definitions for terms and abbreviations used in these guidlelines.

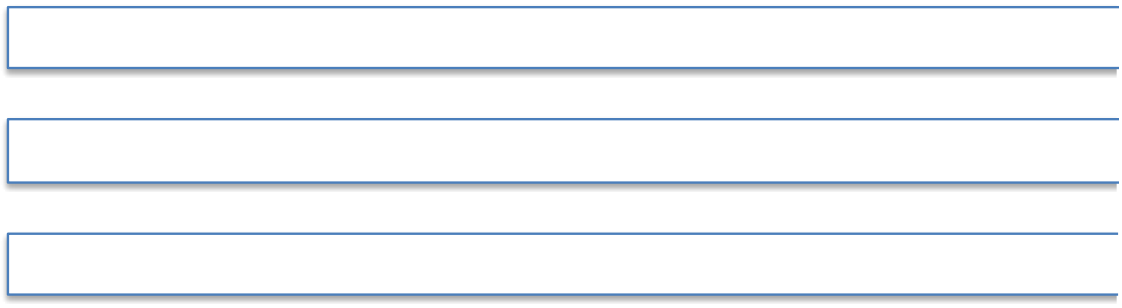
Table 1. Definitions of Terms used in these guidelines.

Term	Definition

3 Scope

Figure 1 gives a pictorial summary of the main elements of this guideline. The numbers in this figure refer to the section numbers of this guideline.

Figure 1. Scope of Guideline.



4 Service GetLocalCodeList

4.1 Purpose

The service **GetLocalCodeList** is designed to retrieve local code lists from local service providers. It is the responsibility of

d. the service provider to provide the correct set of codes as well as a description

e. the equipment manufacturer to retrieve the local code lists and maintain a correct mapping to internal code lists

f. the equipment manufacturer to make sure that local code lists are kept up-to-date on the operational equipment

4.2 Request description

Message **GetLocalCodeListRequest** (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications).
It is used to request the list of local codes for all code list or for a specified code list name from the local service provider.

Figure 2 GetLocalCodeListRequest

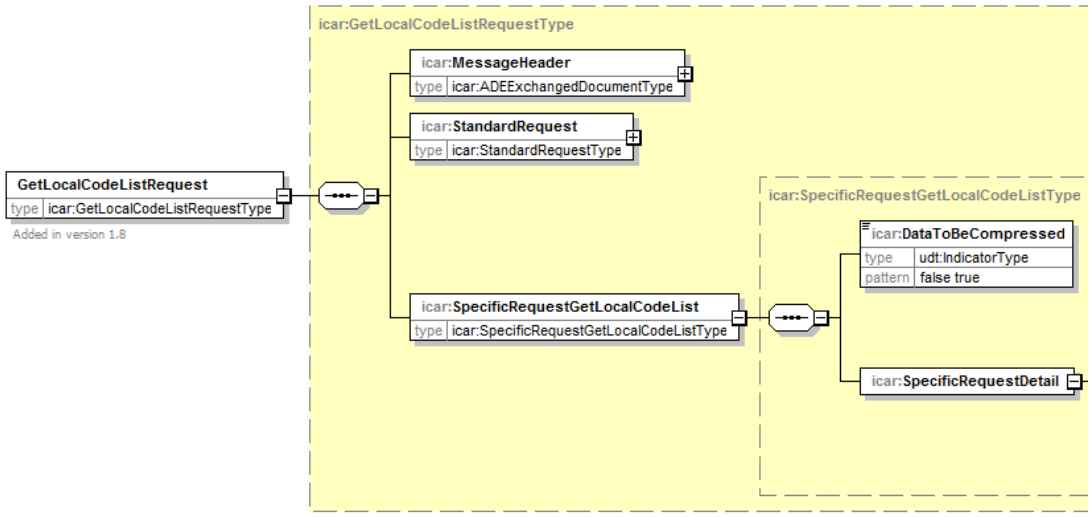
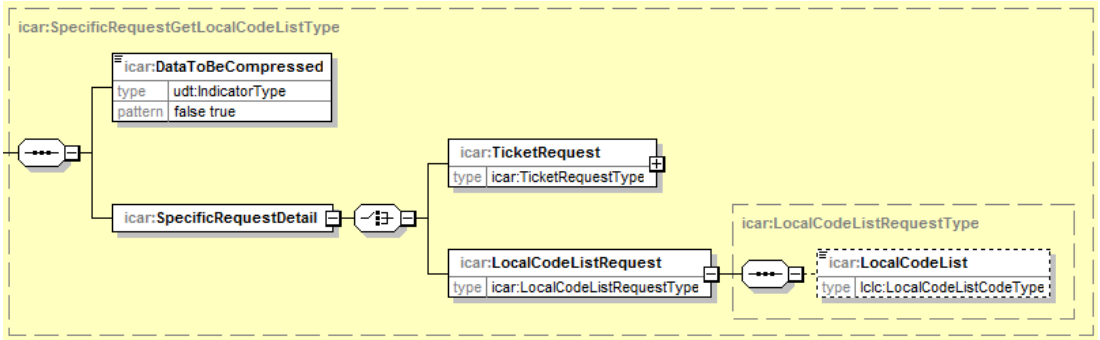


Figure 3 SpecificRequestGetLocalCodeList



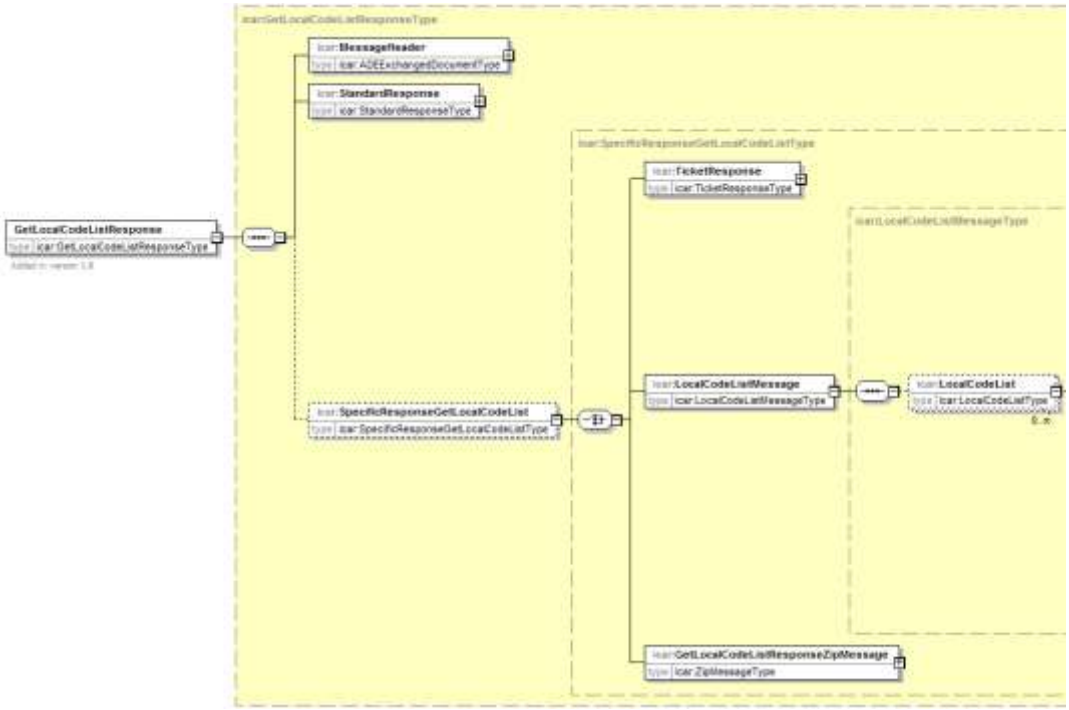
a. **LocalDodeList**: Conveys the code of the LocalCodeListCode according to the code list **LocalCodeListCodeType** for which the local code list is requested. If missing the content of all local code lists will be returned.

4.3 Response description

Message **GetLocalCodeListResponse** (see diagram below) is in compliance with the general specifications for results (see General specifications / Response specifications).

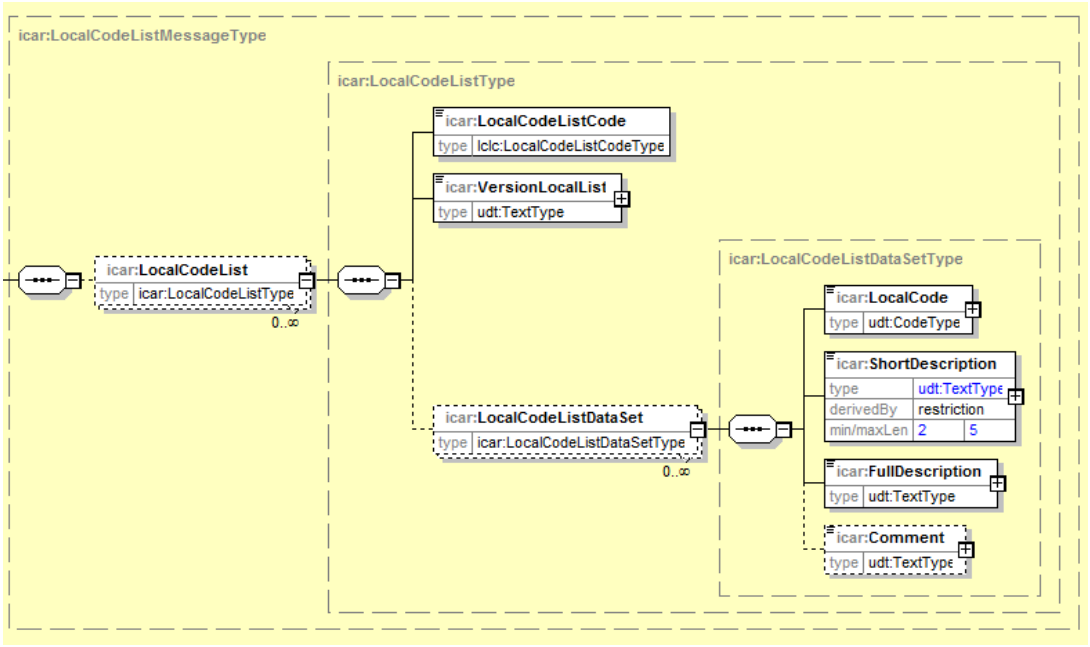
It provides the content of one or all local code lists depending on the request parameter **LocalCodeList**.

Figure 4 GetLocalCodeListResponse



The component **LocalCodeListMessage** conveys a list of **LocalCodeLists** with each of it representing the content of a single local code list.

Figure 5 LocalCodeList



a. **LocalCodeListCode**: The identifier of a local code list according to the ICAR code list **LocalCodeListCodeType** (see section "Code Lists")

b. **VersionLocalList**: Version identifier of the provided local code list in order to detect changes and assure compatibility

c. **LocalCodeListDataSet**: the list of code details of the code list

- **LocalCode**: the unique code of a code list record
- **ShortDescription**: Abbreviation of the code description e.g. to be displayed as a small label
- **FullDescription**: Full code description e.g. to be displayed in wider display components
- **Description**: Description of a code e.g. used by developers for a better understanding

5 Service UpdateDevice

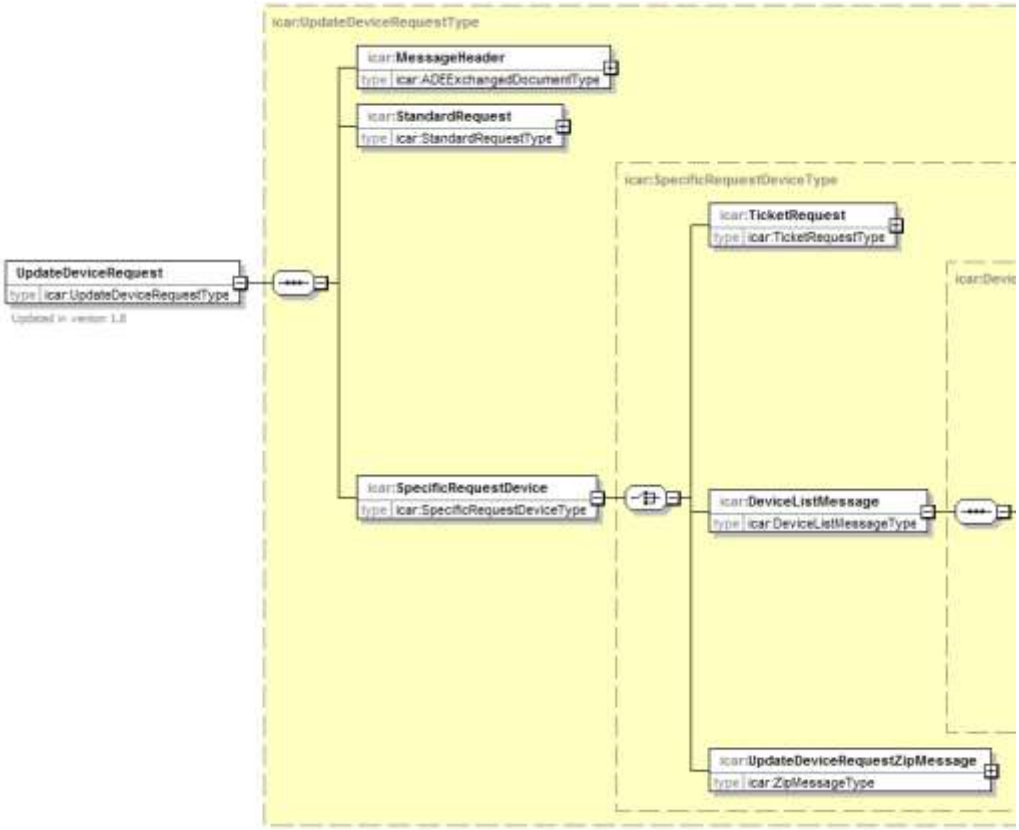
5.1 Purpose

The service **UpdateDevice** is designed to inform the farm management system about details of a milking or analysis device reverenced by device id in the services described above. The details might be useful for correct interpretation of the data produced on this device. Updates should be transmitted as soon as devices are referenced or relevant information of referenced devices has changed.

5.2 Request description

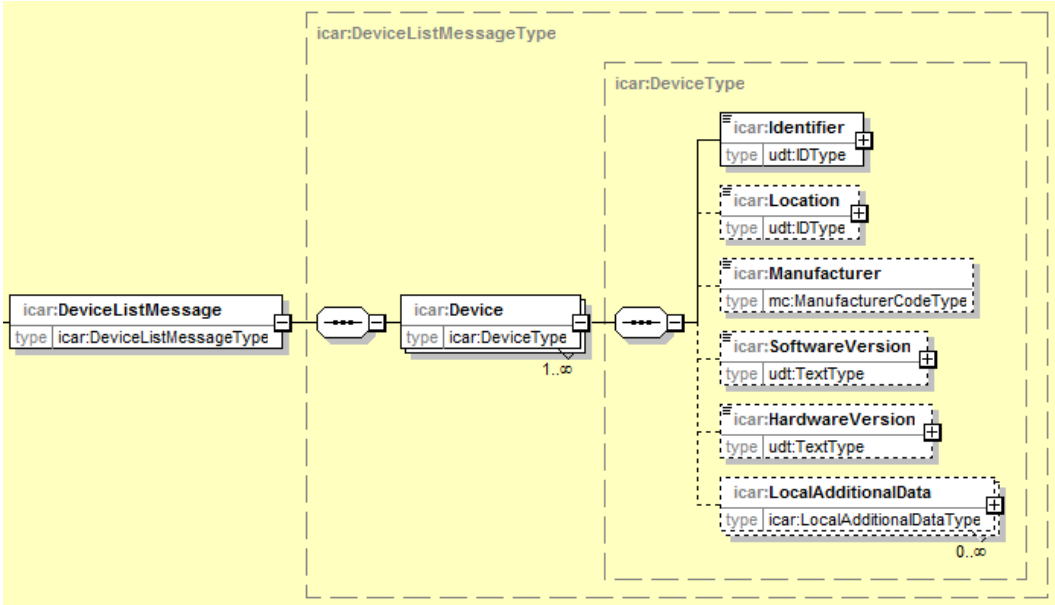
Message **UpdateDeviceRequest** (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications).

Figure 6 UpdateDeviceRequest



DeviceListMessage: A list of components of type **DeviceType** describing devices referenced by device id in the messages described above.

Figure 7 DeviceListMessage



a. **Device:** conveys the identifier and the characteristics of a device used to get a set of given results

b. **Identifier**: unique identifier of the device
Best practice proposals on the creation of unique device identifiers:

- The device could be identified by the MAC address of its network interface which is globally unique
- In case two and more devices share one network interface, a local unique postfix should be added to the MAC address

c. **Location**: current location of the device

d. **Manufacturer**: manufacturer of the device according to code list **ManufacturerCode**

e. **SoftwareVersion**: current version of the device software

f. **HardwareVersion**: current version of the device hardware

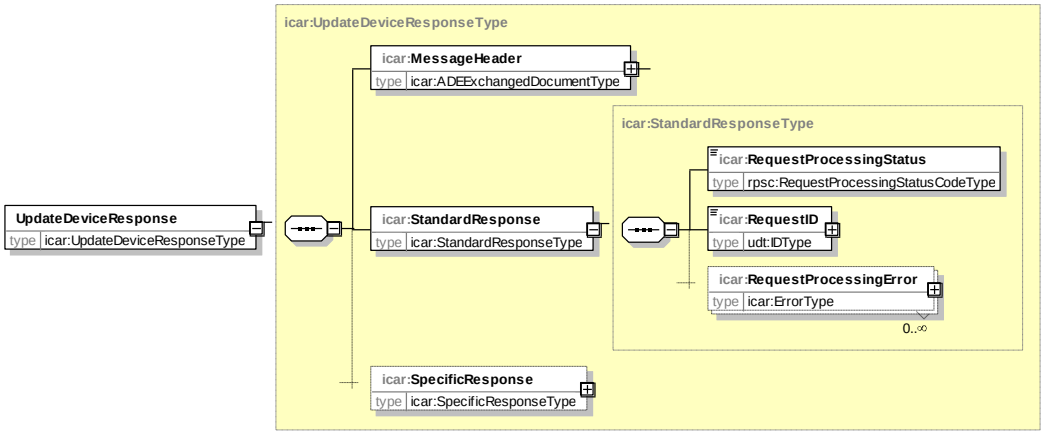
g. **LocalAdditionalData**: List of locally defined code/value pairs

5.3 Response description

Message **UpdateDeviceResponse** (see diagram below) is in compliance with the general specifications for requests (see General specifications / Response specifications)

It is used to receive the status of device detail processing by the service provider.

Figure 8 UpdateDeviceResponse



6 Service UpdateLivestockLocation

6.1 Purpose

The service **UpdateLivestockLocation** is designed to inform the farm management system about details of a locations reverenced by Location id in the services described above. Updates should be transmitted as soon as locations are referenced or relevant information of referenced locations has changed.

A livestock location is an identified place where an information system can localize the animals.

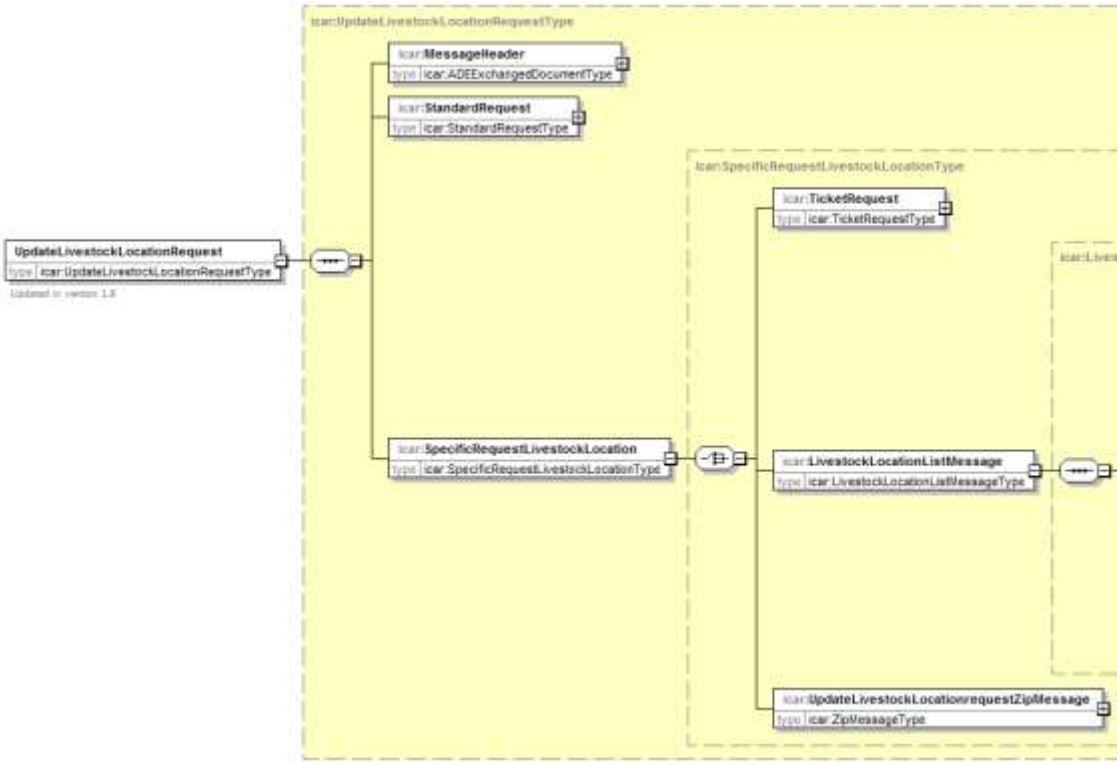
It is not possible to define a concept which may be usable everywhere. Different types of livestock location exist: farm, barn, holding, premise... Moreover for given type of location, a farm for example, different identifiers may exist: that given by the milk recording organization, that given by the government... For the European Union, in most cases, the holding identifier as defined by the EU regulation for animal traceability is used. The type of livestock location as well as its identifier depends on the business context. Hence before starting data exchange, the sender and the recipient should agree on the

a. The type of location
b. The type of identifier

6.2 Request description

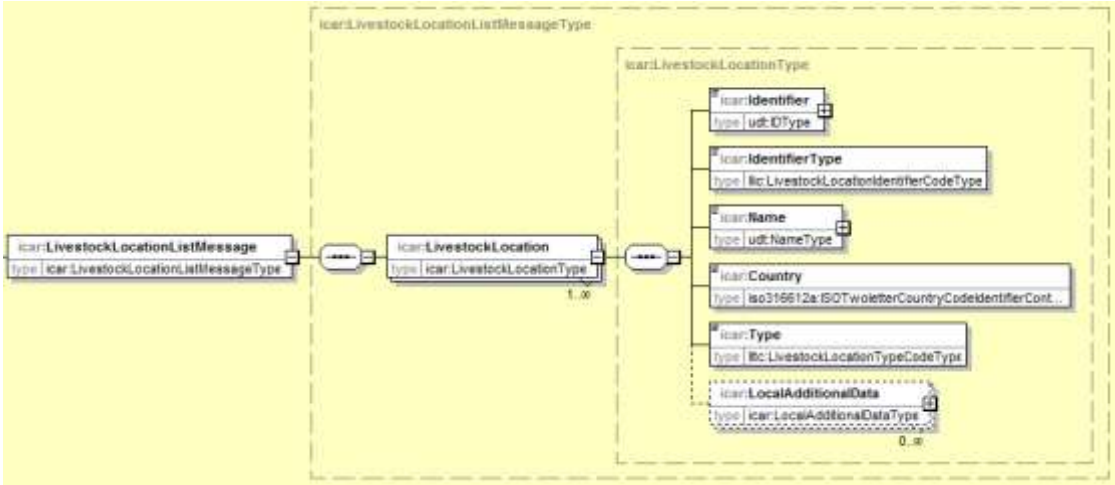
Message **UpdateLivestockLocationRequest** (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications).

Figure 9 UpdateLivestockLocationRequest



LivestockLocationListMessage: A list of components of type **LivestockLocationType** describing locations referenced by **Location id** in the messages described above.

Figure 10 LivestockLocationListMessage



a. **Identifier**: Identifier of a livestock location according to the locally defined schema of location id creation

b. **IdentifierType**: Type of location identifier according to code list **LivestockLocationIdentifierCode** and locally permitted identifier schemas

c. **Name**: The name of the location

d. **Country**: The country the location is belonging to according to code list ISOTwoletterCountryCode

e. **LocalAdditionalData**: List of locally defined code/value pairs

6.3 Response description

Message **UpdateLivestockLocationResponse** (see diagram below) is in compliance with the general specifications for requests (see General specifications / Response specifications)

It is used to receive the status of location detail processing by the service provider.

Figure 11 UpdateLivestockLocationResponse