



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Procedure 4 of Section 15 of ICAR Guidelines – Reproduction Data Services

Procedure 4 – Reproduction Data

Version July, 2018

File Ref: 15 Procedure 4 Reproduction Data v18.01.docx

Network. Guidelines. Certification.

Table of Contents

1	Introduction	4
2	Definitions and Terminology	4
3	Scope	4
4	Exchange of Reproduction Events	5
4.1	Common Components	5
4.1.1	ReproductionEventMessage.....	5
4.2	Specific Event Component Description.....	6
4.2.1	Heat	6
4.2.2	ArtificialInsemination.....	6
4.2.3	NaturalService	7
4.2.4	PregnancyCheck	8
4.2.5	Specific component description: Abortion.....	8
4.2.6	Specific component description: Parturition	8
4.2.7	DryOff	9
4.3	Service Description: GetReproductionEvents.....	10
4.3.1	Purpose.....	10
4.3.2	Request description	10
4.3.3	Response description	11
4.4	Service Description: UpdateReproductionEvents	11
4.4.1	Purpose.....	11
4.4.2	Request description	12
4.4.3	Response description	12

Tables

Table 1. Definitions of Terms used in these guidelines.....	4
---	---

Equations

No table of figures entries found.

Figures

Figure 1. Scope of Guideline.	4
Figure 2 ReproductionEventMessage	5
Figure 3 Heat component	6
Figure 4 Artificial insemination component.....	7
Figure 5 Natural service component	8
Figure 6 Pregnancy check component	8
Figure 7 Parturition component	9
Figure 8 Overall description of GetReproductionEventRequest	10

Figure 9 Detailed description of ReproductionEventsRequest.....10
Figure 10 Overall description of GetReproductionEventResponse 11
Figure 11 Overall description of UpdateReproductionEventRequest 12

Summary of Changes

Date of Change	Nature of Change
July 2018	New procedure created from methodology chapter in Section 15 Overview. Replaced by new version from ADE-WG. Template applied.

1 Introduction

Monitoring and controlling reproduction is a key issue for livestock farming. It is based on the registration and the analysis of the following events:

- a. Heat
- b. Artificial insemination
- c. Natural service
- d. Pregnancy check
- e. Abortion
- f. Parturition
- g. Dry off

Farmers need:

- h. to retrieve any types of events to allow the AMS to control precisely milking
- i. to retrieve heats and parturitions which may be captured by reproduction monitoring devices
- j. to send part or all the reproduction events they have captured manually on the farm
- k. Precise reproduction monitoring requires to transmit the hour in addition to the date of the event.

The service descriptions follow the principals described in “Guideline A Methodology” and reuse the basic elements defined there.

The complete description of the codelists referenced here can be found in the Annex document.

2 Definitions and Terminology

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

Table 1. Definitions of Terms used in these guidelines.

Term	Definition
CBD	Central Database

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.

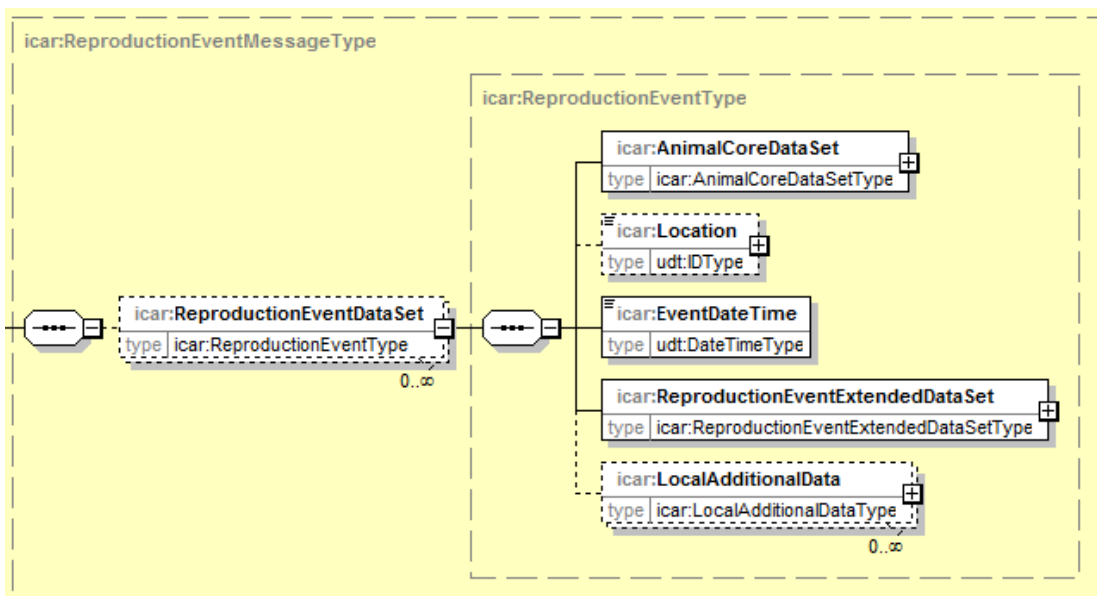
4. Exchange of Reproduction Events

4.1 Common Components

4.1.1 ReproductionEventMessage

A **ReproductionEventMessage** (see diagram below) may be transmitted by the on-farm device to be recorded by the CBD or retrieved from CBD.

Figure 2 *ReproductionEventMessage*



The component includes:

- a. **AnimalCoreDataSet**: mandatory; (see General specifications / Common component)
- b. **Location**: mandatory; (see General specifications / Common component)
- c. **EventDateTime**: mandatory; date time when the event occurred.
- d. **ReproductionEventExtendedDataSet**: mandatory, it must be one the following components which are described below:
 - e. Heat
 - f. ArtificialInsemination
 - g. PregnancyCheck
 - h. Abortion
 - i. Parturition
 - j. DryOff
- k. **LocalAdditionalData**: (see General specifications / Common component)

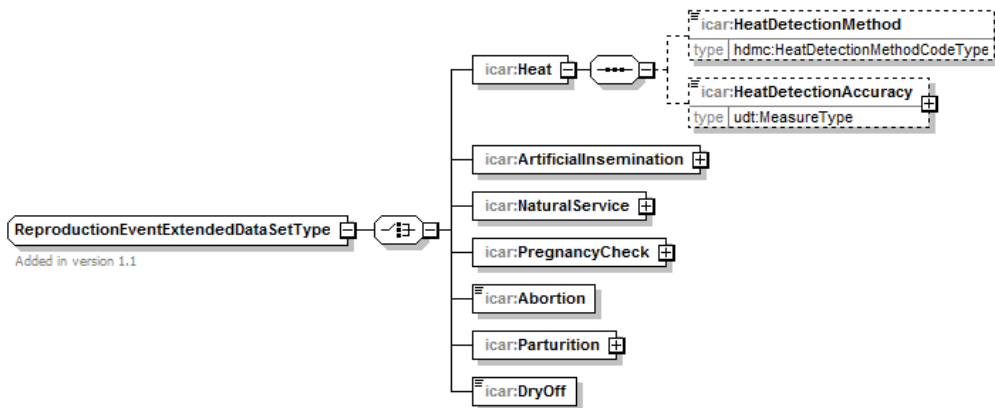
4.2 Specific Event Component Description

4.2.1 Heat

The component includes:

- a. **Method**: mandatory; Chemical, Visual, Spectral Pedometers and Other; see ADE code list.
- b. **Accuracy**: optional.

Figure 3 Heat component

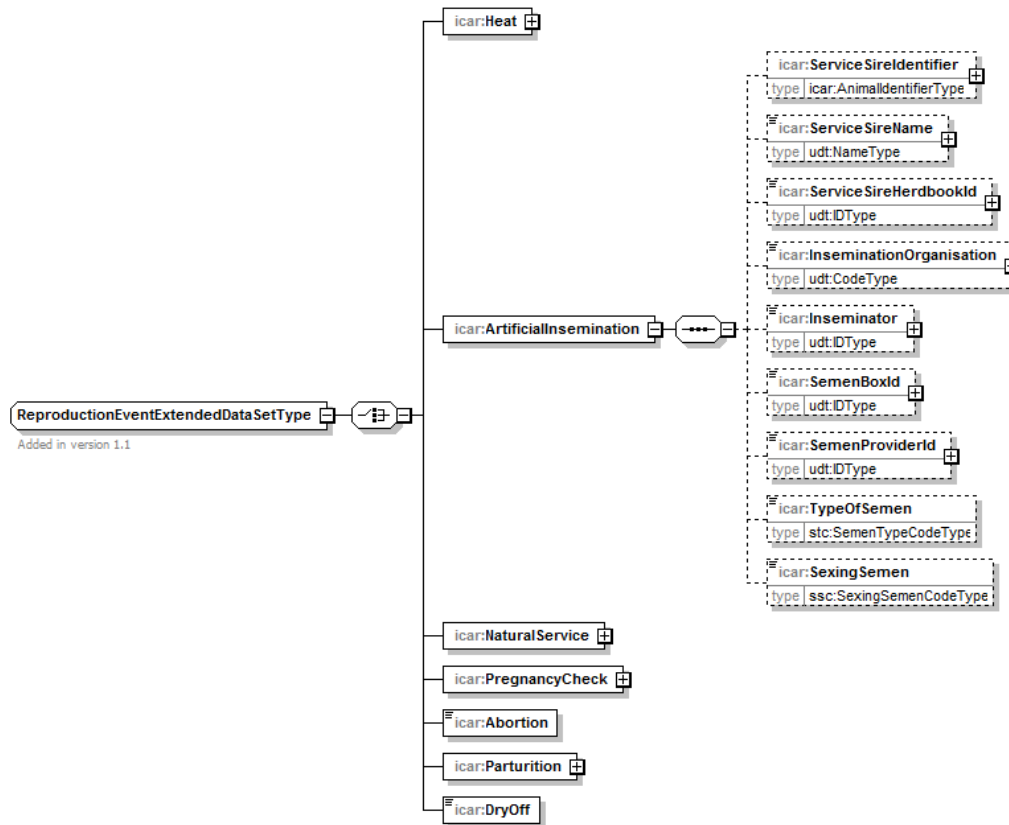


4.2.2 ArtificialInsemination

The component includes:

- a. **ServiceSireIdentifier**: mandatory; official identifier of the sire used to produce the semen.
- b. **SireName**: optional
- c. **SireHerdBookID**: optional; only if different from ServiceSireIdentifier
- d. **InseminationOrganisation**: optional; only when the artificial insemination is performed by a service provider; locally defined.
- e. **Inseminator**: optional; only when the artificial insemination is performed by a service provider; locally defined.
- f. **SemenBox**: optional; the number of the box where the straws of semen are stored; locally defined.
- g. **SemenProvider**: optional; the identifier of body which produced the straws: locally defined.
- h. **TypeOfSemen**: optional; Fresh or Frozen; see ADE code list.
- i. **SexingSemen**: optional; sexing male, sexing female; see ADE code list.

Figure 4 Artificial insemination component

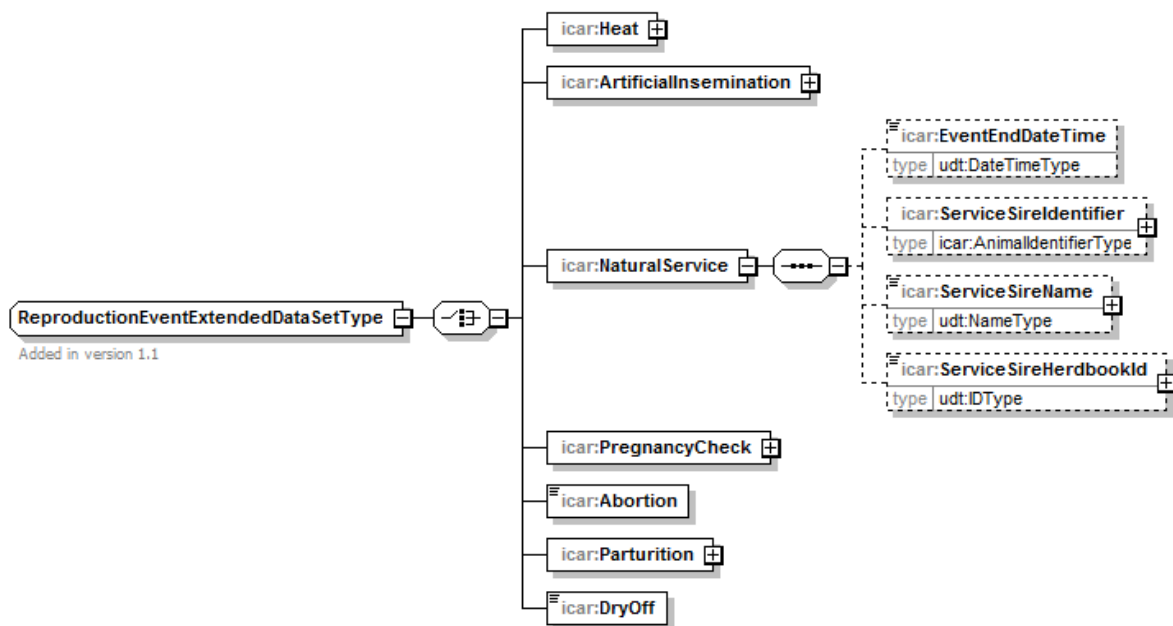


4.2.3 NaturalService

The component includes:

- a. **EventEndDateTime**: optional; only in case of mating period.
- b. **ServiceSireIdentifier**: mandatory; official identifier of the sire used to produce the semen.
- c. **SireName**: optional
- d. **SireHerdBookID**: optional; only if different from ServiceSireIdentifier

Figure 5 Natural service component

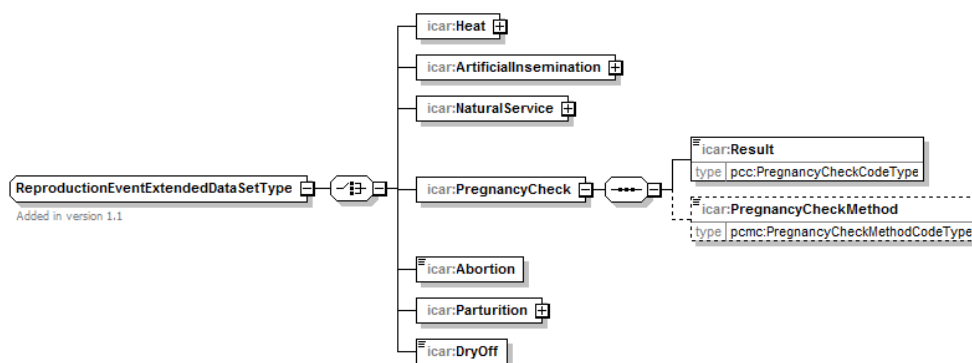


4.2.4 PregnancyCheck

It includes.

- a. **Result**: mandatory, see ADE code list.
- b. **PregnancyCheckMethod**: mandatory; Palpation, Echography, Other; see ADE code list

Figure 6 Pregnancy check component



4.2.5 Specific component description: Abortion

To be used in case of loss of embryos. No specific information.

4.2.6 Specific component description: Parturition

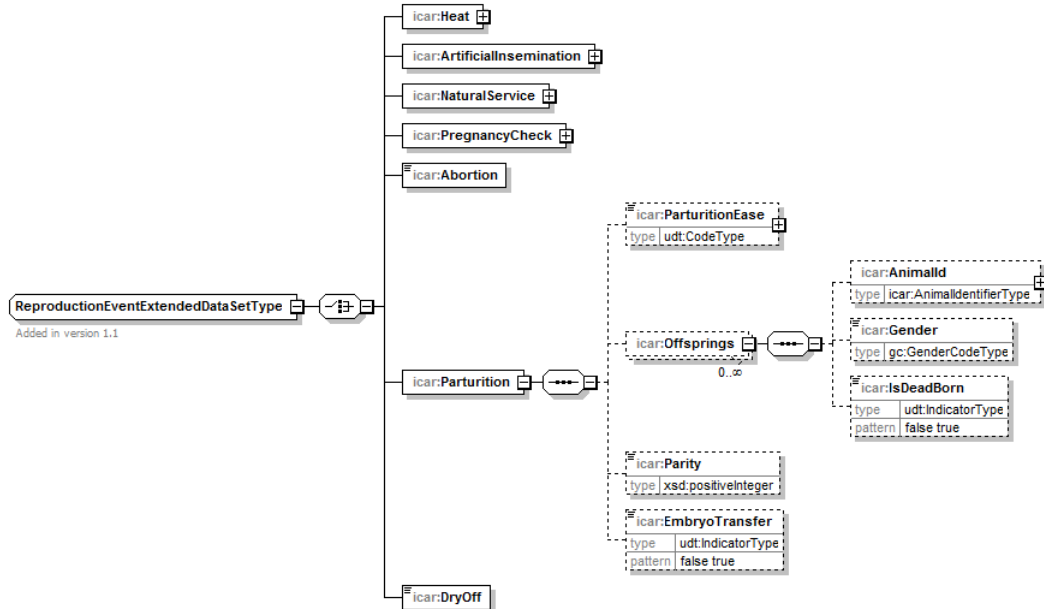
To be used when the result of the gestation is not embryos whatever live or dead.

The parturition includes:

- a. **Parturition ease**: optional; a local code list should be provided.
- b. **Offspring**: optional; the list of animals further to that parturition.

- c. **Parity**: optional; number of parturitions for that female since its birth.
- d. **EmbryoTransfer**: yes or no.

Figure 7 Parturition component



4.2.7 DryOff

No specific information.

4.3 Service Description: GetReproductionEvents

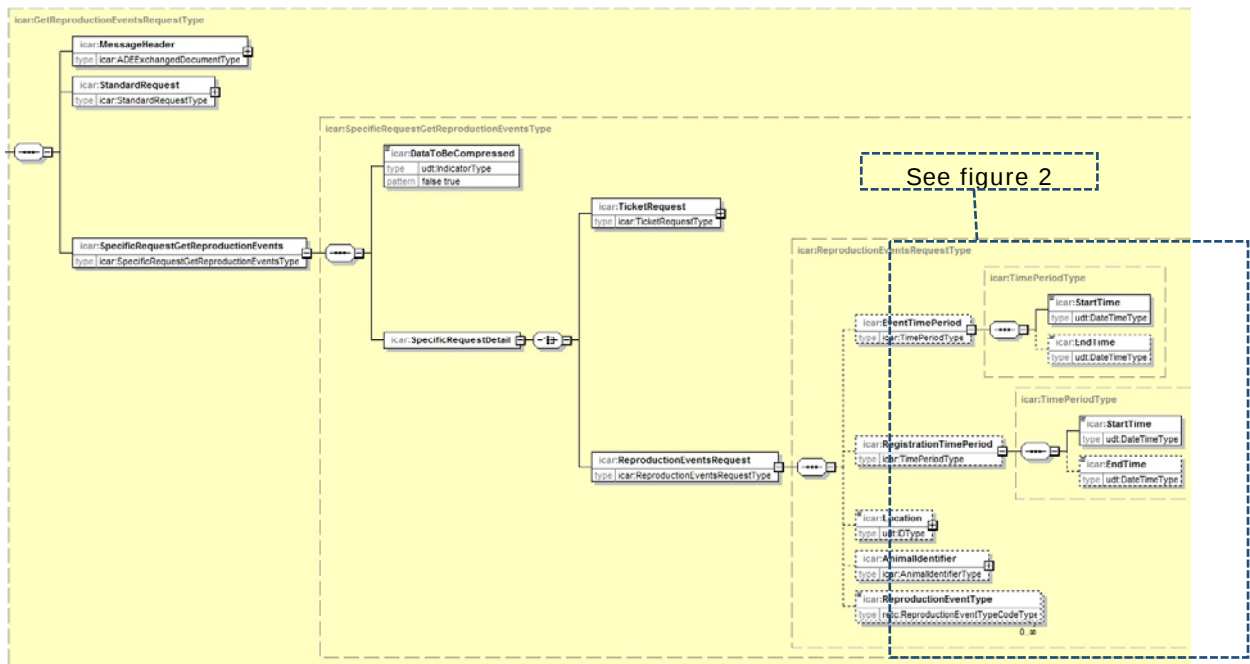
4.3.1 Purpose

To retrieve reproduction events.

4.3.2 Request description

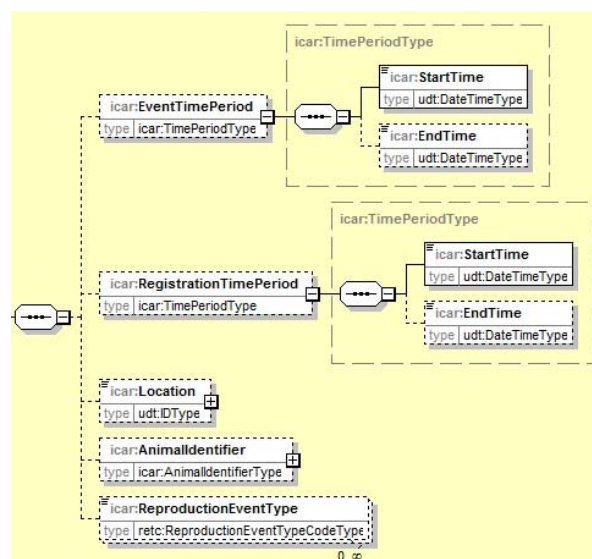
GetReproductionEventRequest (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications)

Figure 8 Overall description of GetReproductionEventRequest



The component ReproductionEventsRequest (see diagram below) contains the parameters of the request.

Figure 9 Detailed description of ReproductionEventsRequest



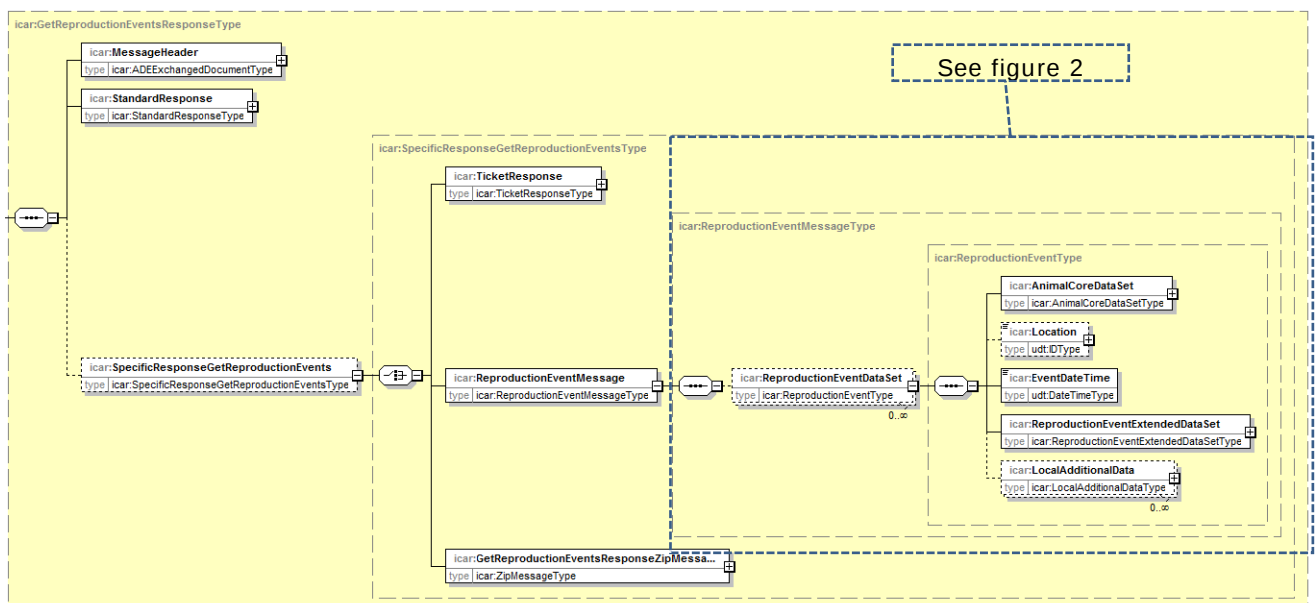
The parameters include:

- e. **A time period:** optional; if specified, only events which occurred during the specified time period are retrieved; otherwise all the events are retrieved whatever the date. A time period may be :
 - **EventTimePeriod:** the dates which are considered to select the events are the dates when the events occurred. Although event dates are recorded by all the servers, it is not the most appropriate method to retrieve data to update the equipment.
 - **RegistrationTimePeriod:** the dates which are considered to select the events are the dates when the events was registered by the server. Although registration dates are not recorded by all the servers, it is the best practice to retrieve data to update the equipment.
- f. **Location:** mandatory; to retrieve the events of a specified location.
- g. **AnimalIdentifier:** optional; if specified, only events of the specified animal are retrieved.
- h. **ReproductionEventType:** optional; a list of event types; if specified, only events whose types have been specified are retrieved.

4.3.3 Response description

GetReproductionEventResponse (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications)

Figure 10 Overall description of GetReproductionEventResponse



The response contains a list of **ReproductionEventMessage**.

There is one **ReproductionEventMessage** per event
(see **Specific Event Component Description**)

4.4 Service Description: UpdateReproductionEvents

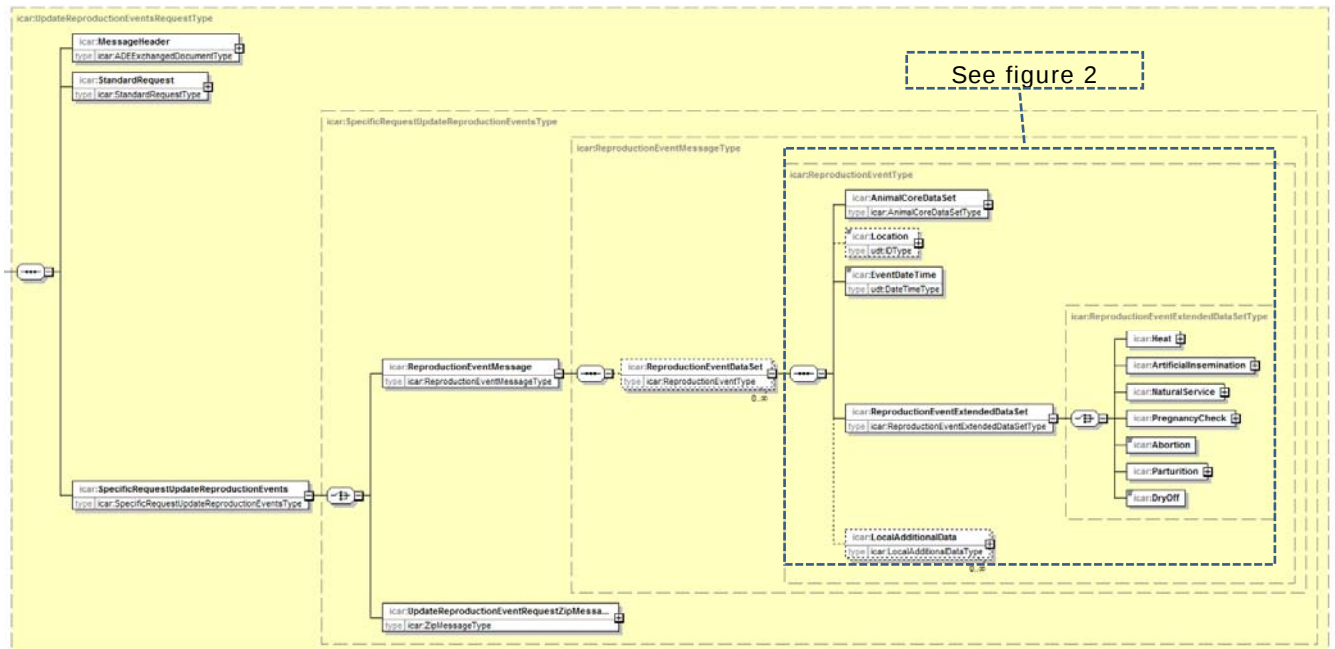
4.4.1 Purpose

To have reproduction events registered by the CDB.

4.4.2 Request description

UpdateReproductionEventsRequest (see diagram below) is in compliance with the general specifications for requests (see General specifications / Request specifications)

Figure 11 Overall description of UpdateReproductionEventRequest



The request contains a set of ReproductionEventMessage (see Specific component description) to be registered.

4.4.3 Response description

UpdateReproductionEventsResponse is in compliance with the general specifications for responses (see General specifications / Request specifications)