

HeartBeat



DESCRIPTION

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Contents

1	Introduction	1
2	Event Description	3
2.1	Information	3
2.2	Usage	3
2.3	Configuration	4
2.4	Subscription	5





1 Introduction

This document describes the `HeartBeat` event.





2 Event Description

The `HeartBeat` event is reported as a Simple Network Management Protocol (SNMP) notification at regular intervals.

A management system cannot assume that a “silent” Managed Element (ME) behaves properly. `Heartbeat` events are therefore used by a management system to monitor the interface over which the alarms or alerts are to be sent. `Heartbeat` events enable a management system to detect alarm and alert losses and ensure that the ME is not left unattended too long. Losing alarms or leaving the ME unattended can lead to further service deterioration or longer service unavailability.

2.1 Information

The `Heartbeat` event is defined by the `eriAlarmHeartBeatNotif` NOTIFICATION-TYPE in *ERICSSON-ALARM-MIB*. The information in `eriAlarmHeartBeatNotif` is described in Table 1.

Table 1 *HeartBeat Event Information*

Event Information	Description	Ericsson Alarm MIB
Latest alarm sequence number	Sequence number of the latest alarm that was sent over the Northbound Interface (NBI) as an SNMP notification	<code>eriAlarmActiveLastSequenceNo</code>
Latest alert sequence number	Sequence number of the latest alert that was sent over the NBI as an SNMP notification	<code>eriAlarmAlertLastSequenceNo</code>
Date and time when the latest alarm was sent	Date and time when the latest alarm was sent over the NBI as an SNMP notification	<code>eriAlarmActiveLastChanged</code>
Date and time when the latest alert was sent	Date and time when the latest alert was sent over the NBI as an SNMP notification	<code>eriAlarmAlertLastChanged</code>

2.2 Usage

This section describes how to handle the `HeartBeat` event.



2.2.1 Missing Heartbeat Event

The absence of a `Heartbeat` event from the ME can indicate the following:

- Network problems prevent the sent `Heartbeat` events from reaching the management system.
- The ME is down.

Further maintenance activities for the ME are needed. Verify the alarm status to check if any alarms have been missed. Further activities are outside the scope of this document.

2.2.2 Missing Alarm

An unexpected sequence number in the alarm indicates that the management system has missed an alarm.

The management system is to perform alarm synchronization with the ME over `NETCONF` preferably.

2.2.3 Missing Alert

An unexpected sequence number in the alert indicates that the management system has missed an alert.

The user can open or the management system can retrieve the ME alert log for more details.

2.3 Configuration

The reporting interval of the `HeartBeat` event can be configured in the following two ways:

- Over the SNMP, using object `eriAlarmHbInterval` in *ERICSSON-ALARM-MIB*. The unit is seconds and the value 0 disables the reporting of `Heartbeat` events.
- Over the Ericsson Command-Line Interface (ECLI) or `NETCONF` with attribute *heartbeatInterval* in managed object *Fm*. For the procedure over the ECLI, refer to *Change Heartbeat Interval*.



2.4 Subscription

The subscription of event `HeartBeat` is achieved over the ECLI or NETCONF through the configuration of an SNMP target for the relevant version of the SNMP. For more information, refer to the following ECLI Operating Instructions:

- *Create SNMPv1 Target*
- *Create SNMPv2C Target*
- *Create SNMPv3 Target*

Note: The configuration described in these Operating Instructions is not specific to event `HeartBeat`. All ME alarms, alerts, and events are sent over the SNMP to all the configured SNMP targets.

The RFC 2573 `SNMP-TARGET-MIB` and `SNMP-NOTIFICATION-MIB` must not be directly configured over the SNMP. All subscription configuration must be done over the ECLI or NETCONF.