

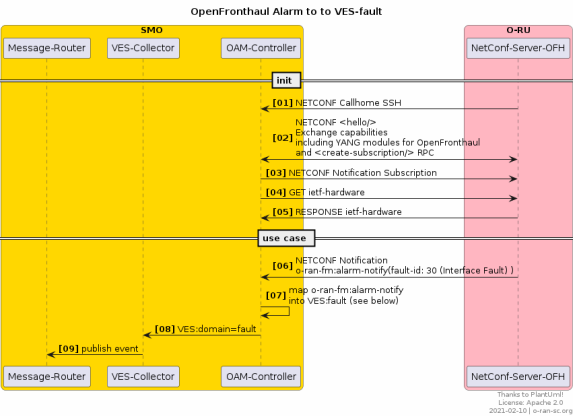
o-ran-fm:alarm-notif to ves:fault

- Objective
- Sequence Diagram
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- Mapping to VES fault fields

Objective

In order to process O-RU NetConf alarm-notif events in a common way on SMO level, the OAM controller converts such NetConf Notification into a VES:alarm message..

Sequence Diagram



Implementation

It is assumed that the existing generic NetConf-Notification to ves:notification service could be enhanced for a specific fault notification implementation.

Mapping to VES fault fields

The following mapping table bases on the capabilities of OpenDaylight version Aluminum and maps them to the VES 7.2.1 fields for domain 'fault'.

VES:commonEventHeader

domain

eventId

eventName

eventType

internalHeaderFields

lastEpochMicrosec

nfcNamingCode

nfNamingCode

nfVendorName

priority

reportingEntityId

reportingEntityName

sequence

sourceId

sourceName

implementation of OpenDaylight Aluminium (link)

Static text "fault"

Value of 'nt:network-topology/nt:topology/nt:node/nt:node-id'.

Value of 'nt:network-topology/nt:topology/nt:node/nt:node-id'.

Static text: "O-RAN-RU-Fault"

not mapped

TimeStamp represented by <eventTime> field in NetConf notification header in unix time format - as microseconds elapsed since 1 Jan 1970 not including leap seconds.

always ""

always ""

The value of ietf-hardware (RFC8348) /hardware/component[not(parent)][1]/mfg-name or empty string if not found.

Under discussion: how to identify the "root" component?

Answer: /ietf-hardware:hardware/component[not(parent)][1]/mfg-name

Static text "Normal"

The OAM-Controller identifier with in the SMO - e.g. the fully qualified domain name or IP-Address.

as configured by helm charts for the OpenDaylight cluster name

As per NetConf notification increasing sequence number as unsigned integer 32 bits. The value is reused in the eventId field.

Value of ietf-hardware (RFC8348) /hardware/component[not(parent)][1]/uid or 'nt:network-topology/nt:topology/nt:node/nt:node-id' if ietf component not found.

Value of 'nt:network-topology/nt:topology/nt:node/nt:node-id'.

startEpochMicrosec	Current OAM-Controller Node timestamp in unix time format - as microseconds elapsed since 1 Jan 1970 not including leap seconds.
timeZoneOffset	Static text: "+00:00" - Please note, the time format in all related OAM controller times is in UTC time format - a mapping to other time formats happens in presentation layer only (e.g. on user settings, browser settings, ...)
version	Static text: "4.1"
vesEventListenerVersion	Static text "7.2.1"
VES:fault	If an ietf-hardware component is not identified for the mapping into VES:fault or an optional leaf is not provided, then the VES:fault should be part of the message with its default value (e.g. empty string "") The ietf-hardware component must not have the 'parent' leaf.
alarmAdditionalInformation	not mapped
alarmCondition	Value of "o-ran-fm:alarm-notif/fault-id"
alarmInterfaceA	Value of "o-ran-fm:alarm-notif/fault-source"
eventCategory	Static text "O-RU failure"
eventSeverity	Value of "o-ran-fm:alarm-notif/fault-severity"
eventSourceType	but if "o-ran-fm:alarm-notif/is-cleared" then "NORMAL"
	The value of ietf-hardware (RFC8348) /hardware/component[not(parent)][1]/model-name or "O-RU" if not found.
faultFieldsVersion	Static text: "4.0"
specificProblem	A mapping of the fault-id to its description according to O-RAN OpenFronthaul specification.
vfStatus	Static text: "Active"