

Framework of Operations, Administration
and Maintenance (OAM) features for
DetNet
draft-ietf-detnet-oam-framework

Greg Mirsky
Fabrice Theoleyre
Georgios Papadopoulos
Carlos Bernardos
Balazs Varga
Janos Farkas

IETF-112, November 2021

Updates

- Welcome Balazs Varga and Janos Farkas
- Bi-weekly calls discussing DetNet OAM – thanks to Janos for leading
- The most significant updates in sections:
 - Integrated OAM requirements for DetNet Service Sub-layer from draft-varga-detnet-service-sub-layer-oam based on the WG decision
 - DetNet OAM Requirements section:
 - General
 - DetNet Forwarding Sub-layer
 - DetNet Service Sub-layer

General Requirements for DetNet OAM

- OAM session between DetNet MEPs
- Proactive and on-demand monitoring and measurement OAM methods
- Support unidirectional OAM methods, e.g., continuity check, packet delay and packet loss measurement
- Support OAM for bi-directional DetNet flows

Requirements for DetNet OAM at the Forwarding Sub-layer

- Support PMTUD
- Support RDI
- Support monitoring levels for resources allocated to the given DetNet flow. For example, buffer allocation, transmit scheduler calendar
- Support monitoring of any sub-path traversed by the particular DetNet flow

Requirements for DetNet OAM at the Service Sub-layer

- OAM functions for the DetNet service sub-layer
- Support the discovery of DetNet relay nodes
- Support the discovery of Packet Replication, Elimination and Order preservation sub-function locations in the DetNet domain
- Support the collection of DetNet service sub-layer specific information
- Support the ability exercising functionality of Packet Replication, Elimination, and Order preservation functions
- Support the use of Alarm Indication Signal between DetNet relay nodes
- Support performance monitoring in a DetNet service sub-layer with PREOF in use

Issues found with the latest version

- Hybrid OAM [RFC7799] is often represented by on-path telemetry methods like the IOAM and Alternate Marking. Telemetry information can be collected and transported in-band and out-of-band relative to the monitored data flow. Currently, the relevant requirement is:
 - DetNet OAM MAY support hybrid performance measurement methods.
 - Proposal - make the support of hybrid measurement methods mandatory.
- Propose splitting the following requirement into two – proactive and on-demand OAM:
 - DetNet OAM MUST support proactive and on-demand OAM monitoring and measurement methods
- It seems that general requirements related to unidirectional performance measurement methods, #4 and #10, are duplicates.
 - Proposal – remove the first sentence in #11

Next steps

- Continue bi-weekly discussions on DetNet OAM and the framework draft in particular
- Your comments, suggestions are always welcome
- The draft is stable - WG LC?

Thank you