

DetNet

OAM for the DetNet Service Sub-Layer

[draft-varga-detnet-service-sub-layer-oam](#)

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DetNet

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DetNet OAM Functions for The Service Sub-Layer

- Intended status:
 - Informational
(text is targeted to be moved to WG drafts)
- Actual version:
 - draft-varga-detnet-service-sub-layer-oam-01

This draft has been submitted as an individual contribution to OAM discussions, in particular, to kick-off Working Group discussions on introducing OAM functions for the DetNet service sub-layer. It is also up to the Working Group discussions to which draft parts of this contribution may go, if any.

- Abstract:
 - Operation, Administration, and Maintenance (OAM) tools are essential for a deterministic network. The DetNet architecture [RFC8655] has defined two sub-layers: (1) DetNet service sub-layer and (2) DetNet forwarding sub-layer. OAM mechanisms exist for the DetNet forwarding sub-layer, nonetheless, OAM for the service sub-layer requires a new mechanism. This draft introduces OAM related procedures for the DetNet service sub-layer functions.

Updates

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OAM for The Service Sub-Layer

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- DetNet Service Sub-layer Specifics for OAM

- The service sub-layer graph is segmented into multiple parts, as forwarding sub-layer paths are terminated at DetNet relay nodes.
- Characteristics of DetNet PW:
 - PREOF acts as per-packet protection. PEF is a brand-new functionality at network layer, due to the per-packet merge action.
 - All paths are active and forward traffic. These paths may have a different number of hops.
 - Mandatory usage of a sequence number.

- Requirements on OAM for DetNet Service Sub-layer

- Discover DetNet relay nodes in a DetNet network.
- Collect DetNet service sub-layer specific information from DetNet relay nodes, e.g.: configuration/operation/status
- Applicable to both DetNet data planes: (i) MPLS and (ii) IP.

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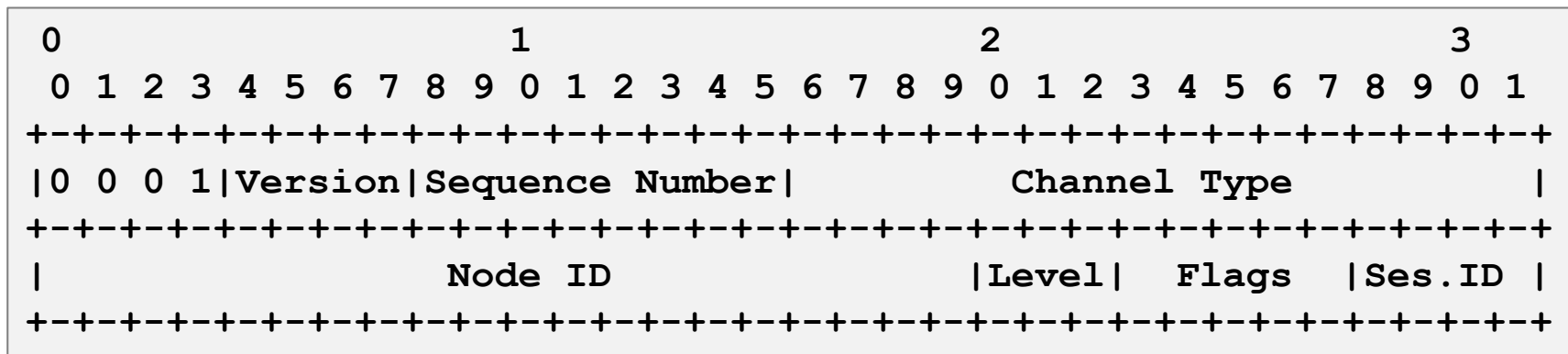
OAM packets MUST follow precisely the same path as the packets of the corresponding DetNet data flow. All paths are active and forward traffic.

OAM for The Service Sub-Layer

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DetNet OAM packet:
First nibble is 0x0001

- DetNet Associated Channel Header (d-ACH)
 - First nibble: MUST be 0b0001
 - Version = 0x1
 - Sequence number: OAM session specific
 - Channel Type: DetNet Associated Channel Type
 - Node ID: Originator node
 - An active DetNet OAM packet MUST include d-ACH immediately following the S-label.



Summary – Next Steps

- Discussion on the list / bi-weekly OAM calls:
 - Proposed changes/clarifications (thanks!)
- Next Steps
 - Looking for further comments, discussions
 - Targeting common understanding of d-ACH, DetNet PING (candidates to be moved to a WG document – draft-ietf-detnet-mpls-oam)

Thanks ...