draft-ietf-mpls-lsp-ping-mpls-tp-oam-conf-01

Configuration of pro-active MPLS-TP Operations, Administration, and Maintenance (OAM) Functions Using LSP Ping

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Overview

OBJECTIVE

To specify the mechanisms necessary to establish MPLS-TP OAM entities monitoring an LSP and define information elements and procedures to configure pro-active MPLS OAM functions.

Configuration via LSP-PING of:

- ***BFD CC and CV***
- ***Performance Monitoring Loss*** as specified in **draft-frost-mpls-tp-loss-delay**
- ***Performance Monitoring Delay*** as specified in **draft-frost-mpls-tp-loss-delay**
- ***Fault Management Signal***

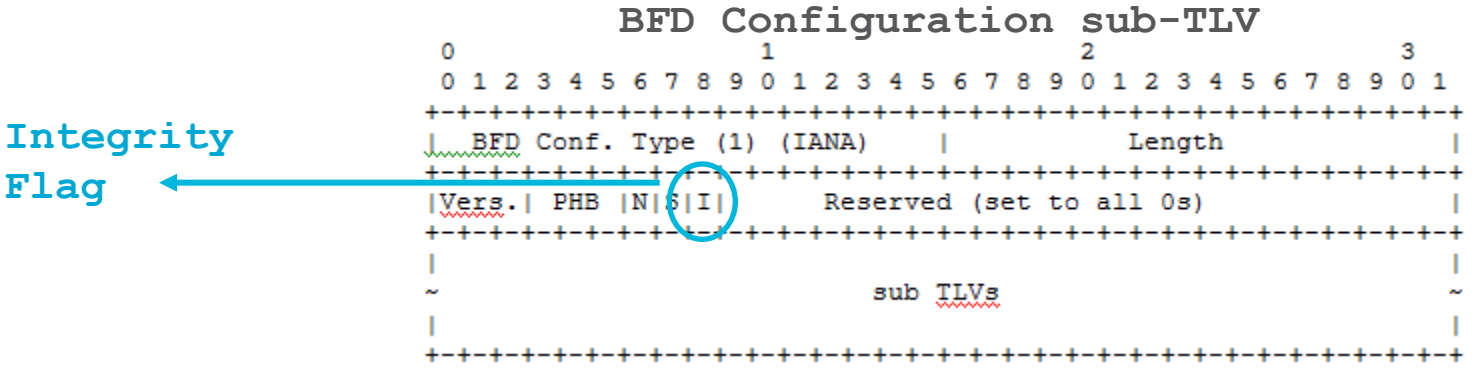
Previous Version

Changes respect to the previous version

- Adopted as WG document
- Previously the TLV structure sections were referring to ***draft-ietf-ccamp-rsvp-te-mpls-tp-oam-ext***
- The TLV structure is still aligned with ***draft-ietf-ccamp-rsvp-te-mpls-tp-oam-ext*** but is redefined here as well because of:
  - different “length” value usage in the TLV defined by CCAMP respect to MPLS (include/do not include TLV header in length)
  - different “type” value respect to CCAMP
- Added the ***Integrity flag***
- Added ***BFD Authentication sub-TLV***

Integrity Flag

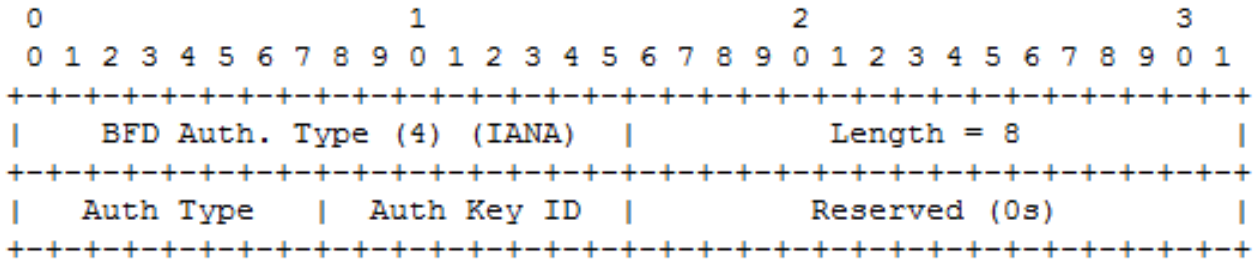
- When BFD Control packets are transported in the G-ACh they are not protected by any end-to-end checksum.
- A single bit error, e.g. a flipped bit in the BFD State field could cause the receiving end to wrongly conclude that the link is down and thus trigger protection switching.
- To prevent this from happening the "BFD Configuration sub-TLV" has an Integrity flag that when set enables BFD Authentication using Keyed SHA1 with an empty key (all 0s) [RFC5880]. This would make every BFD Control packet carry an SHA1 hash of itself that can be used to detect errors.



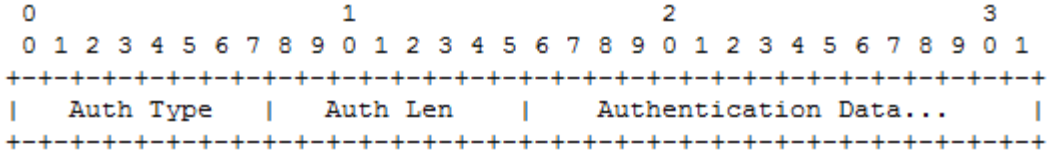
BFD Authentication sub-TLV

If BFD Authentication using a shared key / password is desired the "***BFD Authentication sub-TLV***" MUST be included in the "BFD Configuration sub-TLV". How the key exchange is performed is out of scope of this document.

BFD Authentication sub-TLV



- Auth Type: indicates which type of authentication to use. The same values as defined in section 4.1 of [RFC5880] are used.
- Auth Key ID: indicates which authentication key or password (depending on Auth Type) should be used.



optional ***Authentication Section***

BFD Control Packet Format

Next Steps

- Work in parallel with work done in MPLS-TP
  - for example including the throughput measurements configuration
- Keep these three drafts aligned
  - draft-ietf-mpls-lsp-ping-mpls-tp-oam-conf-01
  - draft-ietf-ccamp-rsvp-te-mpls-tp-oam-ext-05
  - draft-zhang-mpls-tp-pw-oam-config-04 (configuration for PW)
- Receive more comments from the Working Groups