YANG Models for MPLS-TE Topology

TEAS WG, IETF118, Prague

draft-busizheng-teas-yang-te-mpls-topology-06

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History

- IETF 104: initial proposal
  - Presented as draft-busizheng-teas-mpls-tp-yang
  - Feedback from TEAS WG: TP is a profile of TE, not its own thing. It would be the best to integrate with TE models
  - Progress the draft in TEAS WG (together draft-teas-yang-te-mpls) keeping MPLS WG informed
- IETF 108 and IETF 111: updated after discussions with TE YANG
  - MPLS-TE Topology (this draft)
  - Update MPLS-TE Tunnel (draft -ietf-teas-yang-te-mpls)
  - Output of the discussion shared on TEAS and MPLS WG mailing lists on July 13, 2020
Approach

• MPLS-TE Topology augments Packet TE Topology (as discussed at IETF 106)
Changes from IETF 111

• Rev 06 published [Oct 22\textsuperscript{nd}, 2023]
  – Aligned with RFC8776-bis I-D
  – Updated authors/contributors lists
    • In compliance with RFC7322
  – Improved abstract (thanks to Tom Petch)
  – Editorial updates (thanks to Adrian Farrel)
  – Added Security and IANA Considerations (thanks to Adrian Farrel)
Open Issues & Next Step

• Github: https://github.com/tsaad-dev/te
  – Introduction and relationship with MPLS
  – Support multi-domain MPLS-TE tunnels
  – MPLS-TE tunnel record route object
• Additional comments are welcome
• Ready for TEAS WG adoption
BACKUP
Use Cases (1/2)

• MPLS-TE Topology Discovery
  – IP/MPLS network with TE enabled
Use Cases (2/2)

- MPLS-TP Topology Discovery
  - OTN and MPLS-TP multi-layer network
Applicability for MPLS-TP

• Described in section 3.2 of the draft
  – Bidirectional LSPs: inherited from TE Topology
    • All bidirectional TE links can support bidirectional LSPs and all the links can support unidirectional LSPs
  – Equal Cost Multi-Path (ECMP)
    • Report whether a LAG or TE bundled Link performs load-balancing on a per-flow or per-top-label
  – Penultimate Hop Popping (PHP)
    • Report whether an LTP is not capable to support UHP
  – Generic Alert Label (GAL)
    • OAM related: outside the scope of this draft