YANG Models for MPLS-TE Topology

MPLS 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

Scope of this draft
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