Signal Degrade Indication Used in Segment Routing over MPLS Network
draft-han-mpls-sdi-sr-00

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Motivation

• To solve the problems which *draft-yang-mpls-ps-sdi-sr-00* issues
  • Signal degrade brings significant impact to the services and networks
  • Signal degrade should be noticed, detected, and reported
  • Signal degrade can be used to trigger the protection mechanism, report the fault and performance management to controller, etc.

• Two protocol extensions for MPLS networks
  • For the networks using BFD/SBFD [RFC 5880]
  • For the networks using MPLS-TP OAM [RFC 8402] [RFC 5586] [ITU-T G.8113.1]
Networks using BFD/SBFD

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BFD Diagnostic:
0 -- No Diagnostic
1 -- Control Detection Time Expired
2 -- Echo Function Failed
3 -- Neighbor Signaled Session Down
4 -- Forwarding Plane Reset
5 -- Path Down
6 -- Concatenated Path Down
7 -- Administratively Down
8 -- Reverse Concatenated Path Down
9-31 -- Reserved for future use
Networks using MPLS-TP OAM/BFD

• For the networks using MPLS-TP OAM:

• For the networks using MPLS-TP BFD: extension could be done based on RFC 6428.

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Discussion

• Questions
  • For the BFD part in the draft, whether the work should be done in MPLS WG or BFD WG?
  • Collect the interests, especially from operators and equipment vendors.

• Address the issues related to signal degrade
  • How to measure it on equipment?
  • If new parameters should be defined to indicate? (related to draft-mirsky-ippm-epm-00)
  • If the signal degrade should be accumulated along the path?
  • More thoughts about performance measurement
Next steps

• Absorb the comments and suggestions from previous and today’s meetings
• Collaborate with authors of other topic-related drafts
• Comments and questions are greatly welcome
Thank you!