Proxy LSP Ping

<draft-lim-proxy-lsp-ping-01.txt>

IETF-86

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History

- First draft October 2006
draft-swallow-mpls-remote-lsp-ping-00.txt

- Accepted as a WG document by April 2007
draft-ietf-mpls-remote-lsp-ping-00.txt

- Intension was to go to last call after IETF-73
  November 2008 (rev -03)

- Three things occurred
  Decided to complete p2mp ping first (RFC in Nov 2011)
  Largest usecase is for mLDP which is currently being rolled out
  Wanted implementation experience
Proxy Ping Motivation

- Scalability for P2MP LSPs
  - Control
    - number of replies
    - network wide processing of MPLS Echo Requests
  - Reply scoping can limit the number of replies but still requires processing at the receiving node

- mLDP support
  - Trace from leaf to root
  - Previous Hop Information
Proxy LSP Ping

- **Proxy Echo Request**
  
  Out of band message to a “proxy” node presumably a node on the path of the LSP of interest
  Requests node to insert an inband MPLS Echo Request
  Or asks for a Proxy Echo Reply for details on outgoing ports or upstream neighbor

- **Proxy Echo Reply**
  
  Verifies that FEC was valid
  Supplies PHOP information, downstream mapping, downstream neighbors
Multicast LDP Tracing

- mLDP LSPs are initiated by the leaf nodes
- Root node may not know the tree topology
- Failure is most likely to be detected at leaf
- Leaf is a logical place to begin tracing
Previous Hop Address Object

- Needed to communicate the address by which the upstream node knows this node.
- Generally this would be the address used in the protocol by which the label for the bottom most FEC was exchanged.
- This address would be used to specify the next hop when doing a reverse trace.
mLDP Traceroute

- Tree is traced from leaf to root
- PHOPs are learned as trace progresses
Changes from previous draft-00

- Added Sam Aldrin as a co-author
- Added text about mLDP since that is the driving usecase
- Extensive edits
- Expanded some procedures where text was not sufficiently clear
- Added an acknowledgement for Nobo Akiya for his detailed review and comments
Next Steps

- Not anticipating further functional changes
  Fairly stable (this is the 8th revision)
- Would like WG review
- Request (re-)adoption as a WG document