MLDP Signaling over BIER

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Authors:
Hooman Bidgoli, Nokia
IJsbrand Wijnands, Individual
Jayant Kotalwar, Nokia
Mankamana Mishra, Cisco
Jeffrey Zhang, Juniper

Presenter Hooman Bidgoli

The Background

- mLDP signaling over BIER via Targeted LDP [RFC 7060]
  - Extending the work of singling legacy multicast protocols over a BIER core.

- Some MNO/MSO providers are creating the Next Generation Converge Core for wireless and wireline services.
  - “Lean core”, Simplified underlay IGP and overlay BGP without any of the legacy MPLS protocols, in short relaying on Segment Routing and BIER.
  - BIER is ideal for these network but extending it to all PEs (1000s) is operationally difficult and not necessarily desired. The access networks design are proven and work.
  - Operators are concentrating with upgrade of the core historically

- Problem:
  - Gradual upgrade to BIER starting with a desired network segment (Mostly Core).
  - Minimum interruption and disruption to MLDP portion of the network from singling, services and image upgrade point of view

mLDP Signaling over BIER

- Use TLDP as per RFC 7060 to signal mLDP over BIER
- These procedures can be used for point-to-multipoint and multipoint-to-multipoint LSPs established via mLDP RFC 6388
- TLDP sessions between BIER edge routers and is used for signaling mLDP FEC over a BIER domain
- EBBRs can be discovered via the same procedures as draft-ietf-bier-pim-signaling
- On EBBRs same procedure as draft-ietf-bier-pim-signaling to build the list of IBBRs interested in the tree.
- TLDP can be pre-established manually or initiated automatically (When EBBRs are discovered) on the IBBR

Datapath Traffic Flow

- On BFIR when the MPLS label for P2MP/MP2MP LSP arrives from the source, a lookup in ILM table is perform and label is swapped with tLDP upstream assigned label.

- The BFIR will build the BIER Header base on all the BFER that are interested in this P2MP/MP2MP FEC.

- BFIR will set the BIERHeader.Proto = MPLS and forward the packet into Bier domain

- On BFER, base on the BIERHeader.Proto the BIER header will be removed and do a lookup in the ILM for the upstream assigned label is performed the corresponding action is executed.

- It should be noted as that BFIR and BFER can be ILER and ELER respectively.

Next Steps

- The solution is considered complete
- Last call was done
- Authors are open to any suggestion and comments to improve the draft?
- If not other comments, can we please move this draft forward to next stage?