BFD in Demand Mode over Point-to-Point MPLS LSP

draft-mirsky-bfd-mpls-demand

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BFD Demand mode

- RFC 5880 defined BFD Demand mode
- BFD node controls mode of its peer, i.e. the BFD node MAY switch its peer into and out of the Demand mode
- To verify bi-directional continuity the node in Demand mode MAY initiate Poll sequence by simply setting Poll (P) bit in BFD control messages sent periodically to its peer
- BFD node

Theory of operation

- Ingress LER A bootstraps the BFD session to LER B using LSP Ping
- BFD session between A and B in Async mode reaches Up state
- BFD node A switches mode to Demand using Poll sequence
- Node B ceases transmission of periodic BFD packets
- Node B detects failure
  - Node B initiates Poll sequence with Diagnostic code set to Control Detection Time Expired
  - Because Node A received failure notification from the node B (RDI) it sends BFD control packet with Final bit set over IP network as following:
    - destination IP address MUST be set to the destination IP address of the LSP Ping Echo request message
    - destination UDP port set to 4784
    - Final (F) flag in BFD control packet MUST be set
    - Demand (D) flag in BFD control packet MUST be cleared
  - Node A moves BFD session state to Down
  - Node A switches the BFD session to Async mode
  - Node A transmits BFD control packets periodically at slow rate
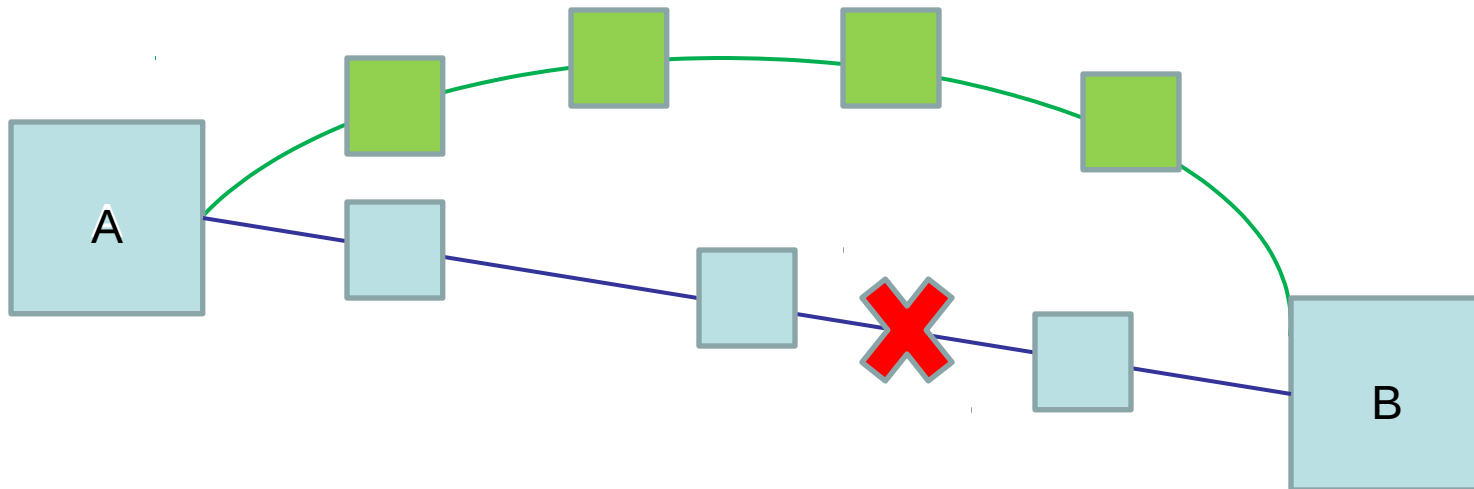
Next steps

- Your comments, suggestions, questions always welcome and greatly appreciated
- WG adoption