LDP Behavior in link-down scenario

draft-aa-mpls-ldp-link-shut-00

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All the nodes are LDP enabled. We have the following LDP LSPs to prefix ‘E’ at node ‘B’

**Primary LSP**(PR\(_E\)) : **B-A-E**

**Backup LSP**(BK\(_E\)) : **B-C-D-A-E**
**OBSERVED INTEROP ISSUE**

The sequence of events at LDPd on node ‘B’

- **t0**: physical link between node ‘A’ and ‘B’ is shut

- **t1**: ‘B’ receives LDP ‘shutdown’ notification from peer ‘A’. *(Messages over tcp session can reach router ‘B’ from ‘A’ as long as some reachability exists from ‘A’ to ‘B’)*
t2: ‘B’ tears down LDP lsp to prefix ‘E’. Both PR$_E$ and BK$_E$ (which is tied to PR$_E$) are deleted.

L2VPN/L3VPN services (on node B) using LDP LSP to node ‘E’ see traffic loss till PR$_E$ reconverges (post IGP convergence, t4)

t3: ‘B’ receives link down event for B-A physical link

t4: LDP LSP (PR$_E$) reconverges over ‘B-C-D-A-E’ path and traffic resumes
Possible Solutions

• Relax requirement of flushing labels immediately on receiving ‘shutdown’ notification.

• LDP needn’t reset session to peer immediately on link ‘down’ event (i.e. when physical connectivity to LDP peer is down). It would be reasonable to wait for LDP hello adjacency timeout.
Next Steps

• Review, questions, suggestions are most welcome
• WG adoption – post discussion

Thank you!