

RSVP-TE Based MPLS-TP LI & LB

draft-dong-ccamp-rsvp-te-mpls-tp-li-lb-02

J. Dong, M. Chen (Huawei), Z. Li (China Mobile)

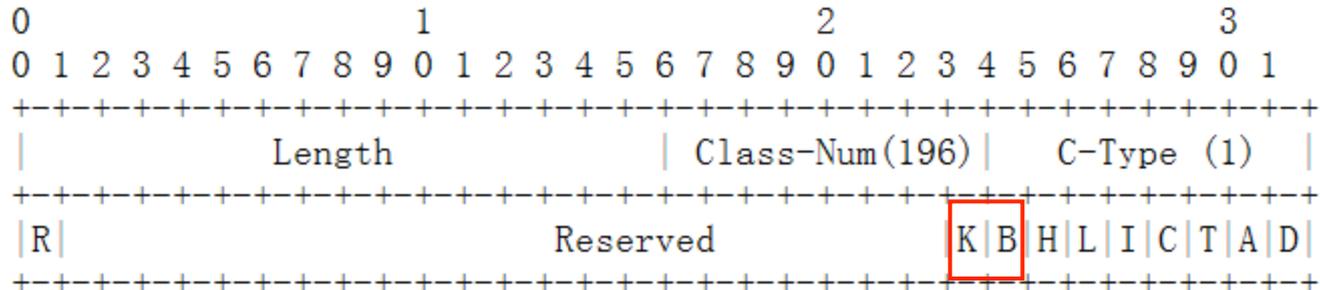
IETF83 Mar. 2012 Paris

Background

- In-band/NMS based LI & LB is defined in RFC 6435
- Unlike other OAM functions (CC, CV, LM, DM), LI and LB would affect the data plane of the LSP/PW
 - More like an enabler for some other OAM functions
- When dynamic control plane is used, it is reasonable to change data plane through control plane signaling
 - Otherwise control plane can be inconsistent with data plane
- Control plane based LI & LB is needed
 - Ensure control plane & data plane consistency
 - Control plane signaling does not rely on TTL expiration

RSVP-TE Based LI & LB

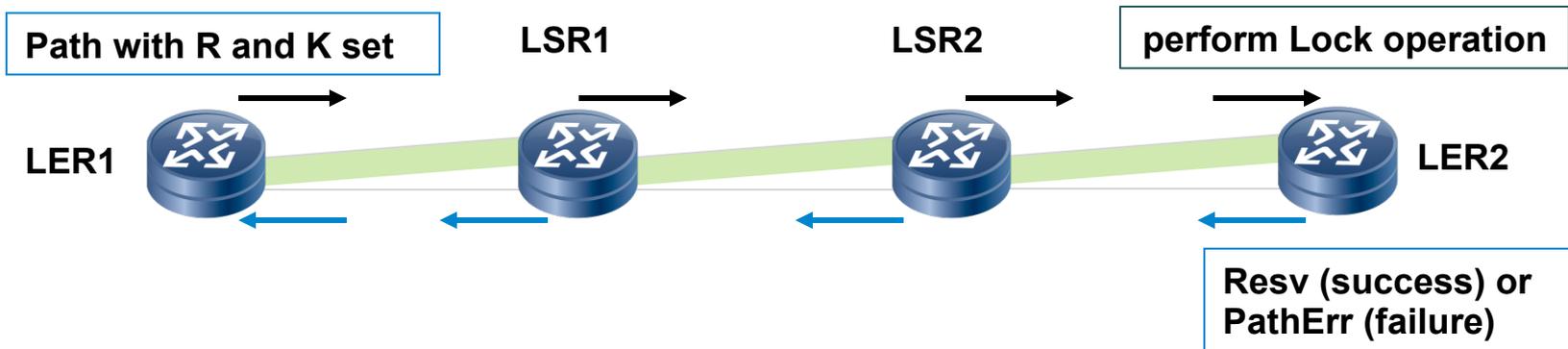
- Two new flags in ADMIN_STATUS Object



- K: Lock
- B: Loopback
- Lock Instruct is signaled using Path/Resv message
 - MEP to MEP
 - Intermediate nodes can update status of the LSP accordingly
- Loopback is signaled using Notify message
 - MEP to MIP or MEP to MEP

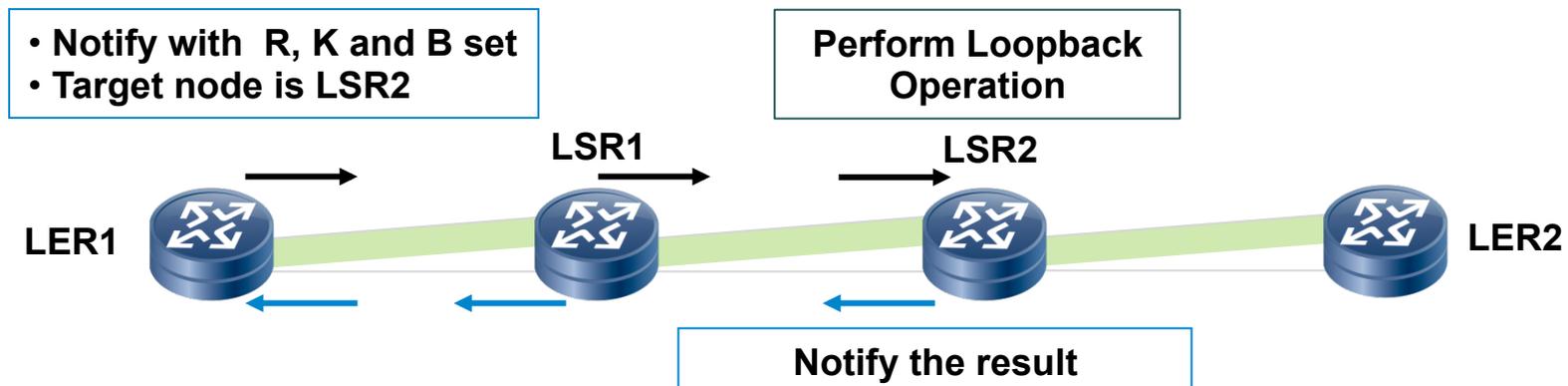
Operations – Lock Instruct

- Lock
 - Sending MEP: Path message with R (Reflect) and K (Lock) bit set
 - Receiving MEP:
 - Success: Resv message with K bit set
 - Failure: PathErr message with new OAM Error Value “Lock Failure”
- Unlock
 - Sending MEP: Path message with R bit set and K bit cleared
 - Receiving MEP:
 - Success: Resv message with K bit cleared
 - Failure: PathErr message with new OAM Error Value “Unlock Failure”



Operations – Loopback

- Enter Loopback
 - Sending MEP: Notify message with R, K and B bit set
 - Receiving MIP/MEP:
 - Success: Notify message with K and B bit set and Error Code “0”
 - Failure: Notify message with new OAM Error Value “Loopback Failure”
- Exit Loopback
 - Sending MEP: Notify message with R, K bit set and B bit cleared
 - Receiving MIP/MEP:
 - Success: Notify message with K bit set and B bit cleared and Error Code “0”
 - Failure: Notify message with new OAM Error Value “Exit Loopback Failure”



Next Steps

- Solicit comments & feedbacks