BIER Source Protection
## draft-zhang-bier-source-protection-00

BIER WG

IETF105# Montreal

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Background

- Multicast source connects two ingress router (BFIRs) to avoid single node failure.

- BFIRs advertise the source information to all the BFERs.

- BFER selects a BFIR as UMH and signals to the selected BFIR.

- When the selected BFIR fails, BFER selects a new UMH and signals to the new UMH.

- The sooner the BFER detects the failure of the UMH, the quicker the multicast flow recovers.
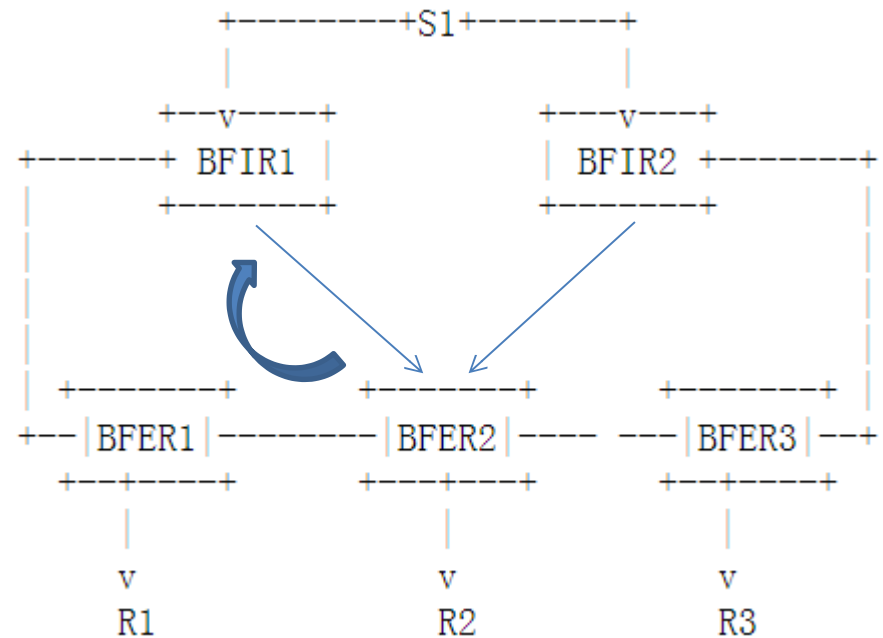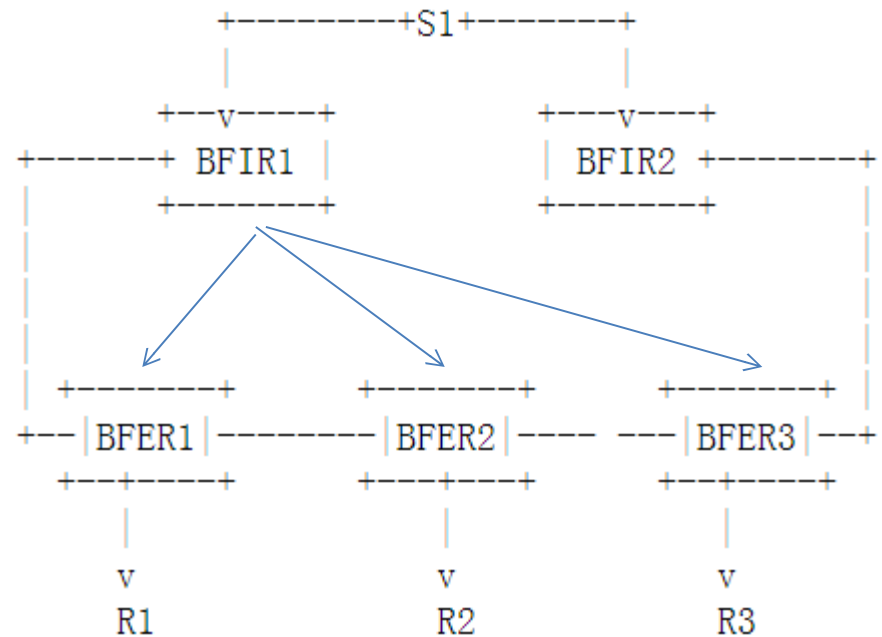
BIER ping

- BFER sends periodical ping packet to the selected UMH.

- If BFER cannot receive reply from the UMH for a period of time, BFER will treat the UMH as a failed UMH and select a new UMH.

- Not only the node failure can be detected, the path from the selected UMH to BFER can also be monitored.
  - ICMP ping or ping defined in [draft-ietf-bier-ping] can be used.

  - If the path from BFER to the selected UMH is different from the path from the UMH to the BFER, the ping result may be incorrect (false negative or false positive) and the unnecessary switchover may be triggered.
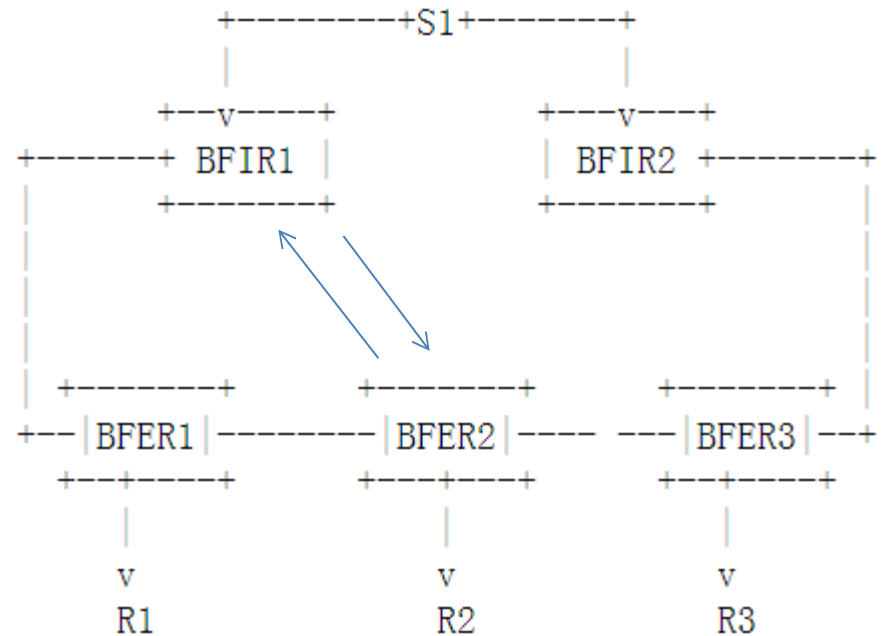
BIER BFD

- The selected UMH (BFIR) sends periodically P2MP BFD control packets to all the BFERs which select the BFIR as UMH.

- BFER uses the BFD packets to monitor BFIR. If BFER cannot receive the packet for a period of time, BFER selects a new BFIR as the UMH.

- Not only the node failure can be detected, the path from the selected UMH to BFER can also be monitored.

- BIER ping packet defined in [draft-ietf-bier-ping] is used to bootstrap the P2MP BFD session.

- Comments are welcome ^^

Thanks!