Bidirectional Forwarding Detection (BFD) for EVPN Ethernet Segment Failover Use Case
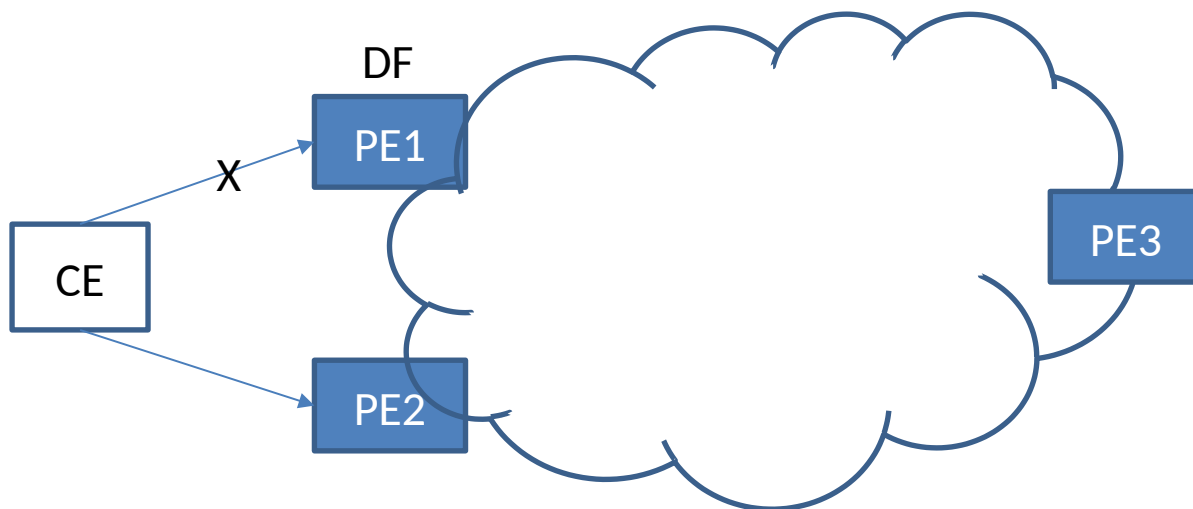## draft-zwm-bess-es-failover-00

BESS WG

IETF104# Prague

Sandy Zhang

Yubao Wang

Greg Mirsky

Problem Statement

- The CE is multihomed to PE1 and PE2.
  - PE1 is elected as DF.
  - All BUM flows are forwarded by PE1 when the link between PE1 and CE is operational.
- When the link between PE1 and CE fails, PE1 advertises the change to other PEs by BGP.
- After receiving the BGP advertisement, PE2 starts the process of electing the new DF.
- After PE2 is elected as the new DF, PE2 starts to forward BUM flows.
- Before PE2 is elected as the new DF, the BUM flows are discarded.

Solution
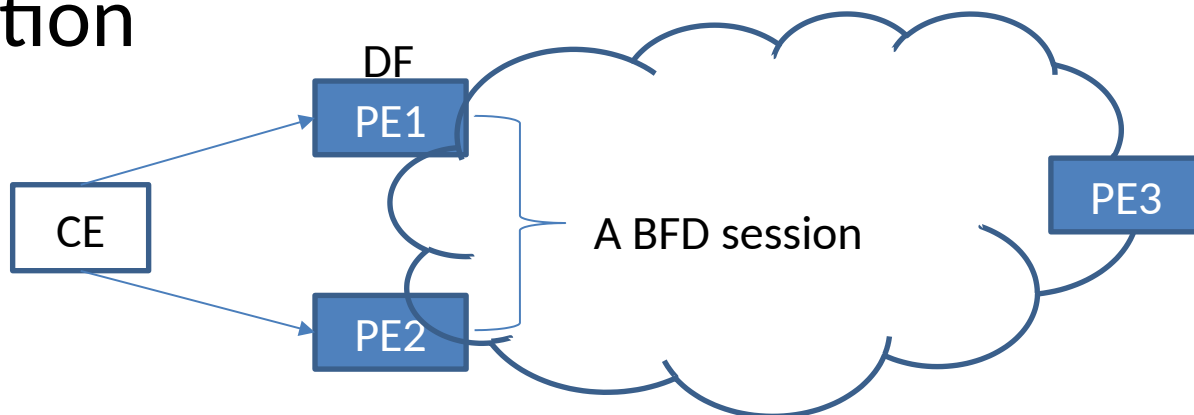
Mechanism defined in RFC5884 and sub-TLV defined in [I-D.jain-bess-evpn-lsp-ping] are used here:

- Backup DF (BDF) generates an LSP-Ping Echo request message to bootstrap a BFD session between B DF and DF.
- The EVPN Ethernet Auto-Discovery (AD) sub-TLV defined in [I-D.jain-bess-evpn-lsp-ping] is carried in the LSP-Ping message.
- A local BFD Discriminator assigned by BDF is also carried in the message.
- DF responds with the BFD control packet with 'Your discriminator' set to the Discriminator value rec eived in the Echo request message from the BDF.
- After the BFD session is built, BDF detects the fault between PE1 and CE by receiving a BFD control p acket with the value of state field set to AdminDown or the detection timer expires for the establish ed BFD session.
  - PE1 sets the state of the BFD session to PE2 to AdminDown when it detects the connection to CE has failed (may use additiona l BFD session)
- BDF becomes DF immediately and will forward BUM flows to CE.

- Any comment ^^

Thanks!