

Multicast State Advertisement in EVPN

draft-li-l2vpn-evpn-multicast-state-ad

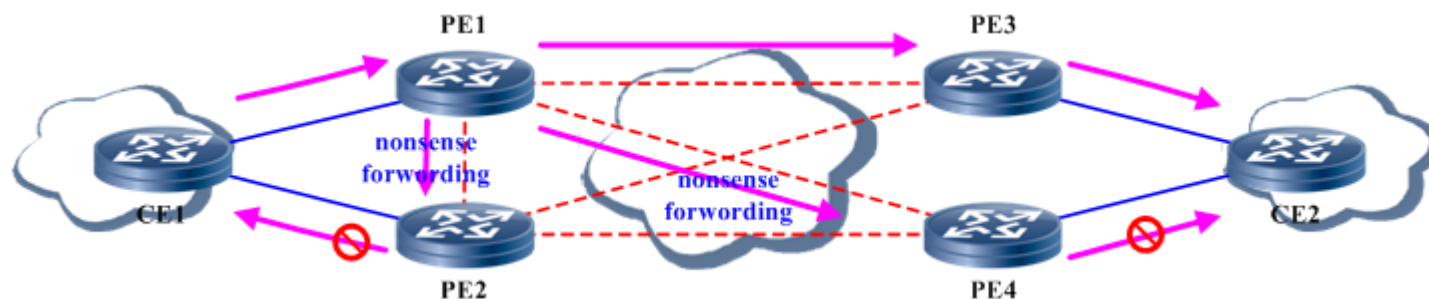
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Problem Statements



- There exist nonsense BUM forwarding in Multi-homing scenarios
 - between PE and remote multi-homed PEs
 - between multi-homed PEs

Protocol Extension

```

0                               1                               2                               3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|  Type=0x06  | Sub-Type      |  State (One Octet)  |  Reserved=0  |
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|                                     Reserved=0                                     |
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
```

- Multicast State Extended Community:
 - state: 0, multicast state is active
 - state: 1, multicast state is inactive

Operations (1)

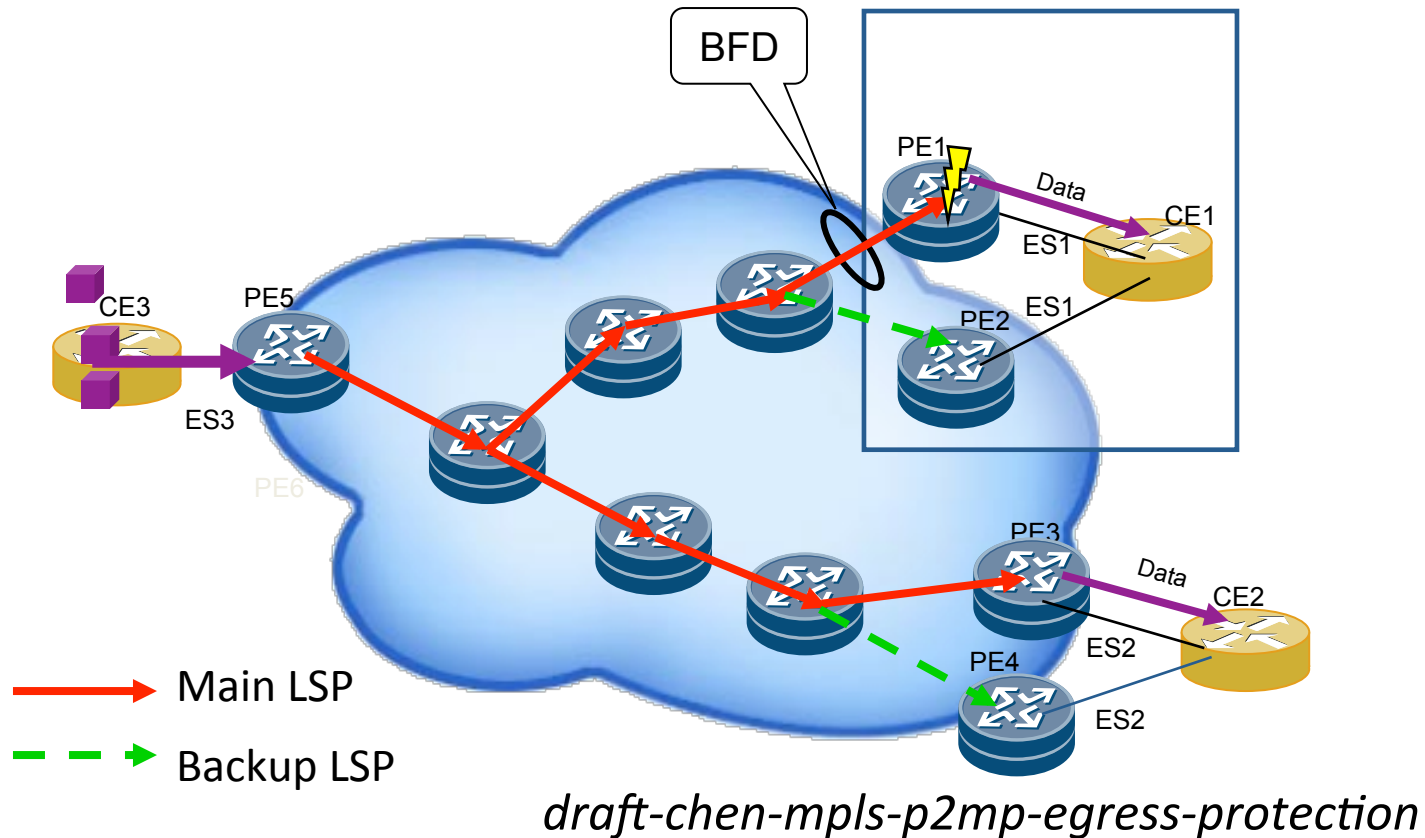
- Advertising multicast state with multicast route:
 - If the PE has receivers on a broadcast domain, include the Multicast State Extended Community with “0” state in the corresponding Inclusive Multicast Ethernet Tag Route
 - Otherwise, include the Multicast State Extended Community with “1” state in the Inclusive Multicast Ethernet Tag Route
- Receiving multicast state with multicast route:
 - Send BUM packets to the PEs advertising multicast with “0” state in multicast route

Operations (2)

- Advertising multicast state with Ethernet A-D Route:
 - If a specific ES of the EVI on the leaf PE does not forward BUM traffic, has receivers on a broadcast domain, include the Multicast State Extended Community with “0” state in the corresponding Ethernet A-D Route per EVI.
 - Otherwise, include the Multicast State Extended Community with “1” state in the Ethernet A-D Router per EVI
- Receiving multicast state with Ethernet A-D Route:
 - Determine the multicast state of the EVI on the leaf PE
 - Send BUM packets to the PEs with active multicast state

Applications

- Avoid nonsense BUM forwarding for Ingress Replication
- Egress Local Protection for P2MP LSP:



Next Step

- Seek some comments and feedbacks