draft-sajassi-l2vpn-evpn-etree-01.txt
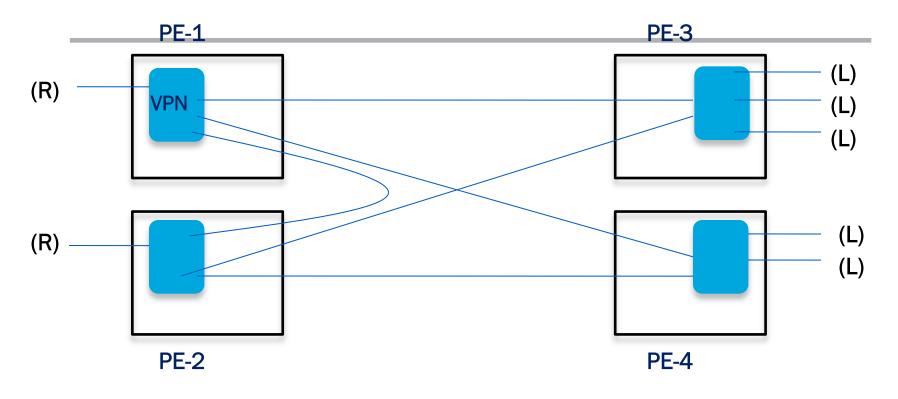
A. Sajassi (Cisco), S. Samer (Cisco), Wim Henderickx (Alcatel-Lucent), Jim Uttaro (AT&T)

IETF 85, November 2012

Atlanta

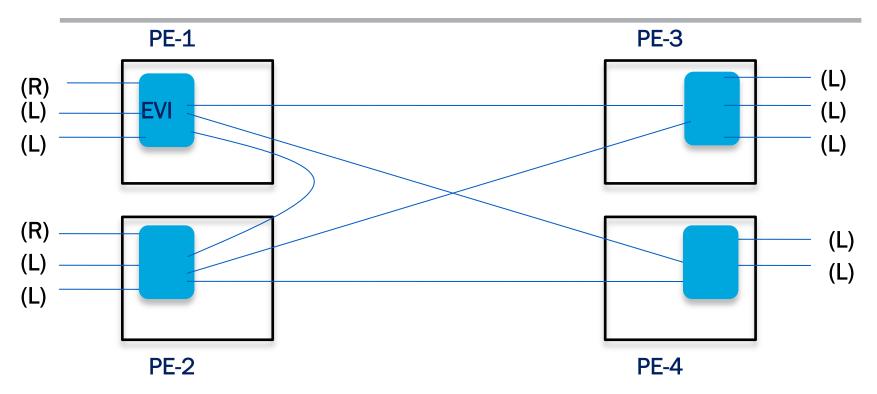# To Refresh our Memory: Three E-TREE Scenarios of Interest

1. Leaf OR Root site(s) per PE

2. Leaf AND Root site(s) per PE

3. Leaf AND Root site(s) per Ethernet Segment

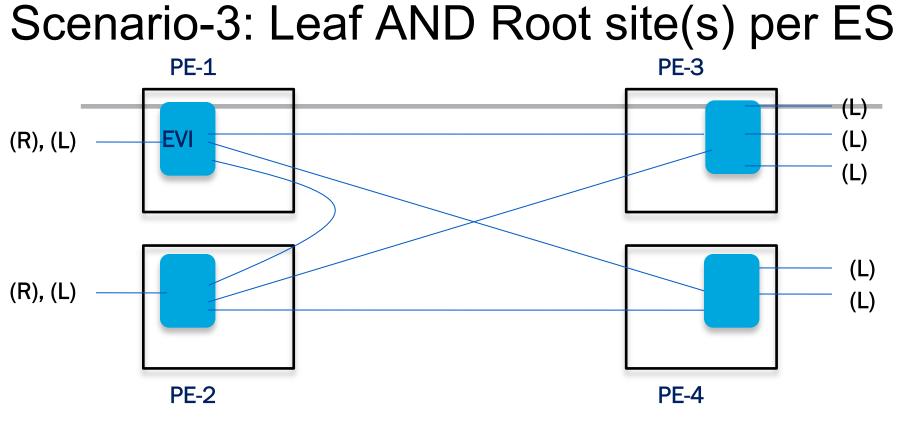# Scenario-1: Leaf or Root per VPN per PE

- This scenario can be addressed by using RT to constrain topology
- This requires two RTs per VPN

Scenario-2: Leaf AND Root site(s) per PE

- In this scenario an AC (Ethernet Site) can be either root OR leaf (but not both)
- The packets originated from a site, will need to carry site's roof or leaf indication (e.g., policy needs to be applied per site basis)
- Egress PE must use the root/leaf indication in the packet to perform appropriate filtering

➔ This scenario in E-VPN is addressed by using per-AC (per-site) policy

Scenario-3: Leaf AND Root site(s) per ES

PE-1

PE-3

(L)

(R), (L)   EVI

(L)

(L)

(R), (L)

(L)

(L)

PE-2

PE-4

- In this scenario an AC (Ethernet Site) can be both root AND leaf
- Each packet originated from a site, will need to carry site's roof or leaf indication (e.g., policy needs to be applied per MAC address basis)
- Egress PE must use the root/leaf indication in the packet to perform appropriate filtering

➔ This scenario in E-VPN is addressed by using per-MAC policy

Changes in Rev01

- Consolidated the operations for all three E-TREE scenarios into a single section

- Replaced the new Extended Community BGP Attribute (EVI-Import) with RT

Discussions on the mailing list

- Many exchanges on the mailing list – both public and private

- Public: Application of Split-Horizon filtering capability of EVPN for E-TREE application was not clear to some

- Private: Some argue that we should NOT mandate the use of SH filtering for all scenarios

Action Items for Rev02

- Clarify that egress filtering operation needed for E-TREE is the same as provided by SH filtering of E-VPN

  - Clarify SH filtering for BUM messages are identical to that of E-VPN

  - Clarify SH filtering for known unicast frames is similar to that of ingress replication (with downstream assigned MPLS SH label)

- Described the operation for each scenario separately (as done in Rev00)

  - For scenario-1, the use of SH filtering should not be mandated

Next Step

- Publish Rev02 incorporating the above AIs

- Solicit more comments on the mailing list