

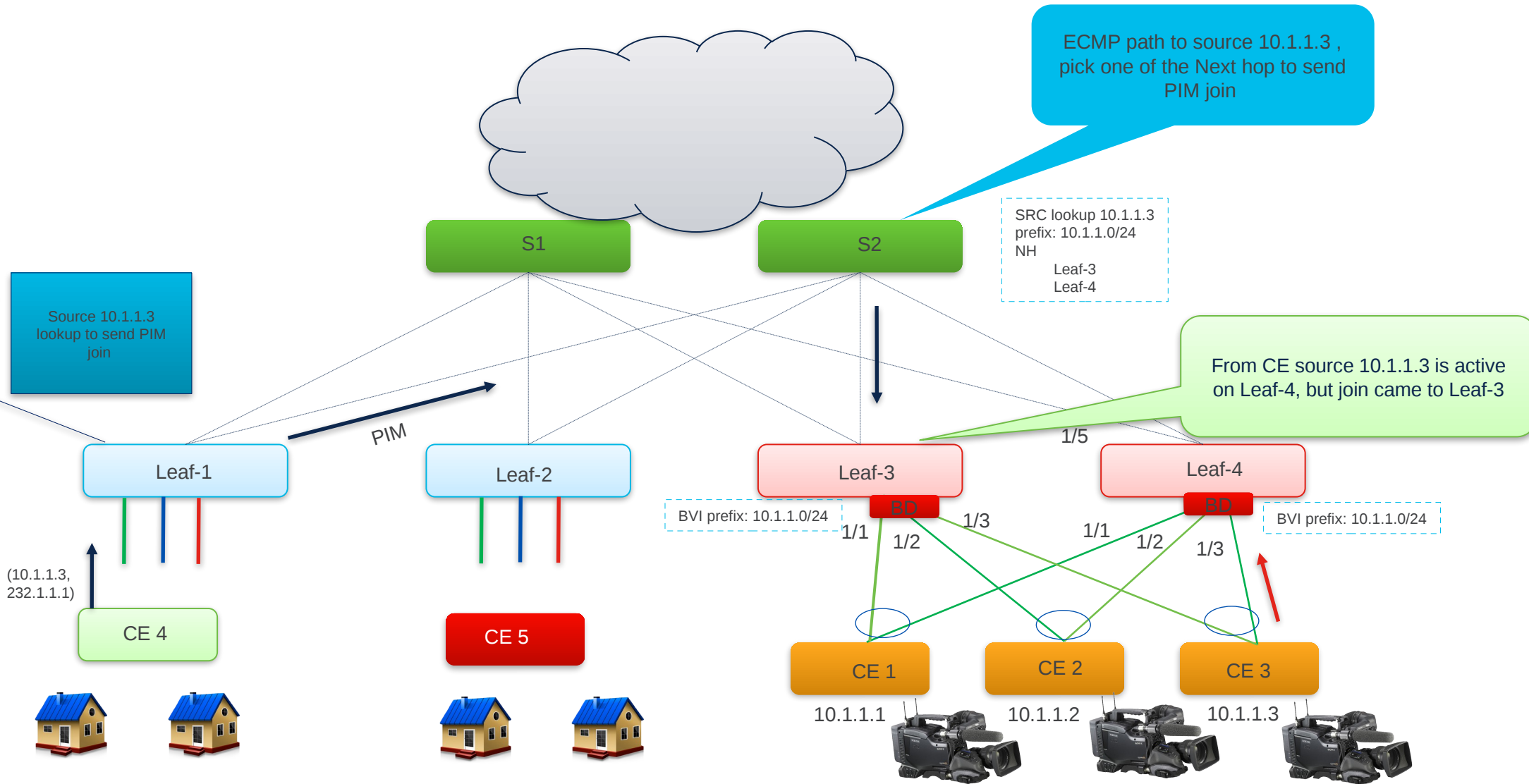
PFM-SD extension for EVPN multihoming

[draft-mankamana-pim-pfm-sd-extension-evpn-mh](#)

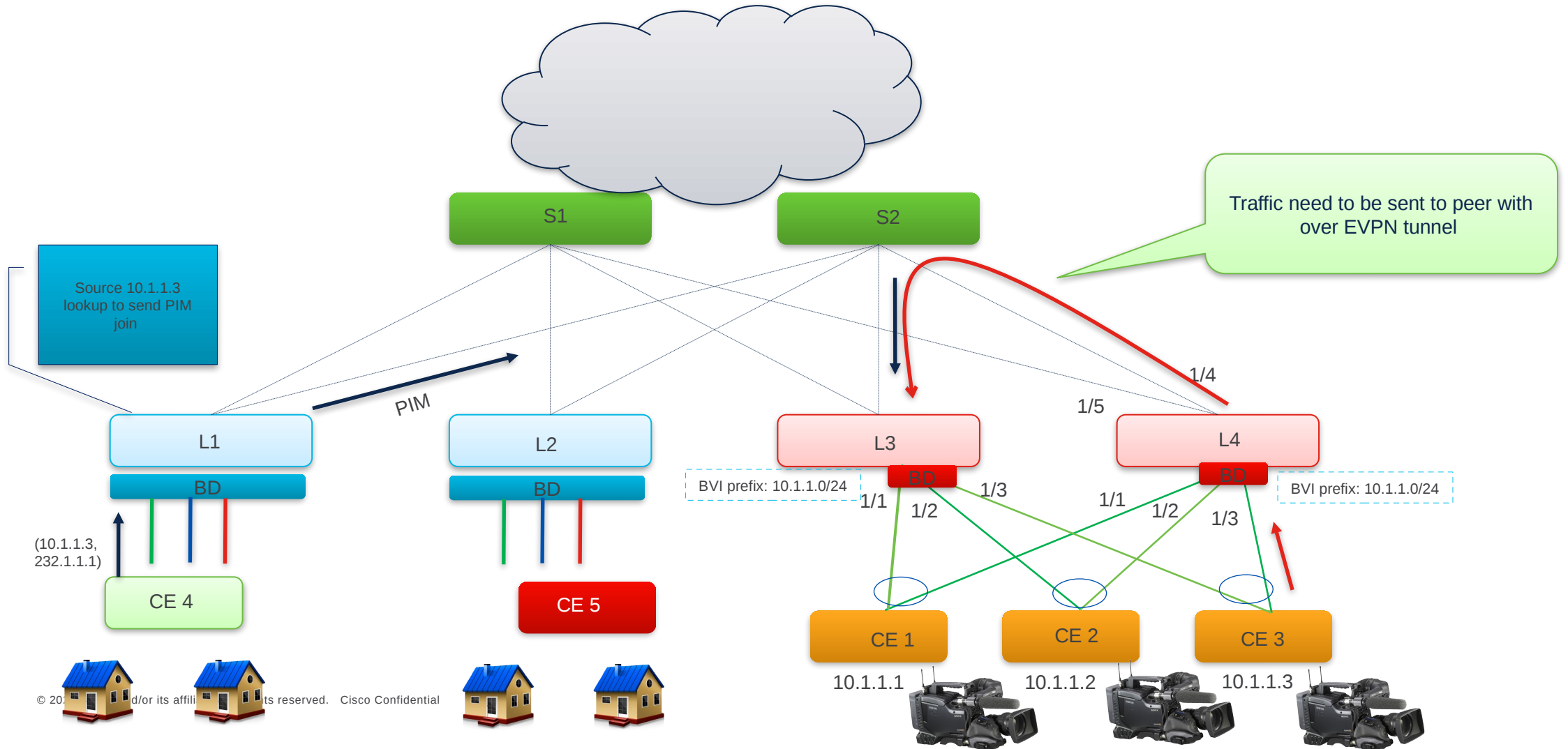
Mankamana Mishra, IJsbrand Wijnands, Ryan, Hooman Bidgoli, Zhaohui (Jeffrey) Zhang

Nov 7th 2023 , IETF 118

Problem Statement



How we handle source with EVPN multi-homing



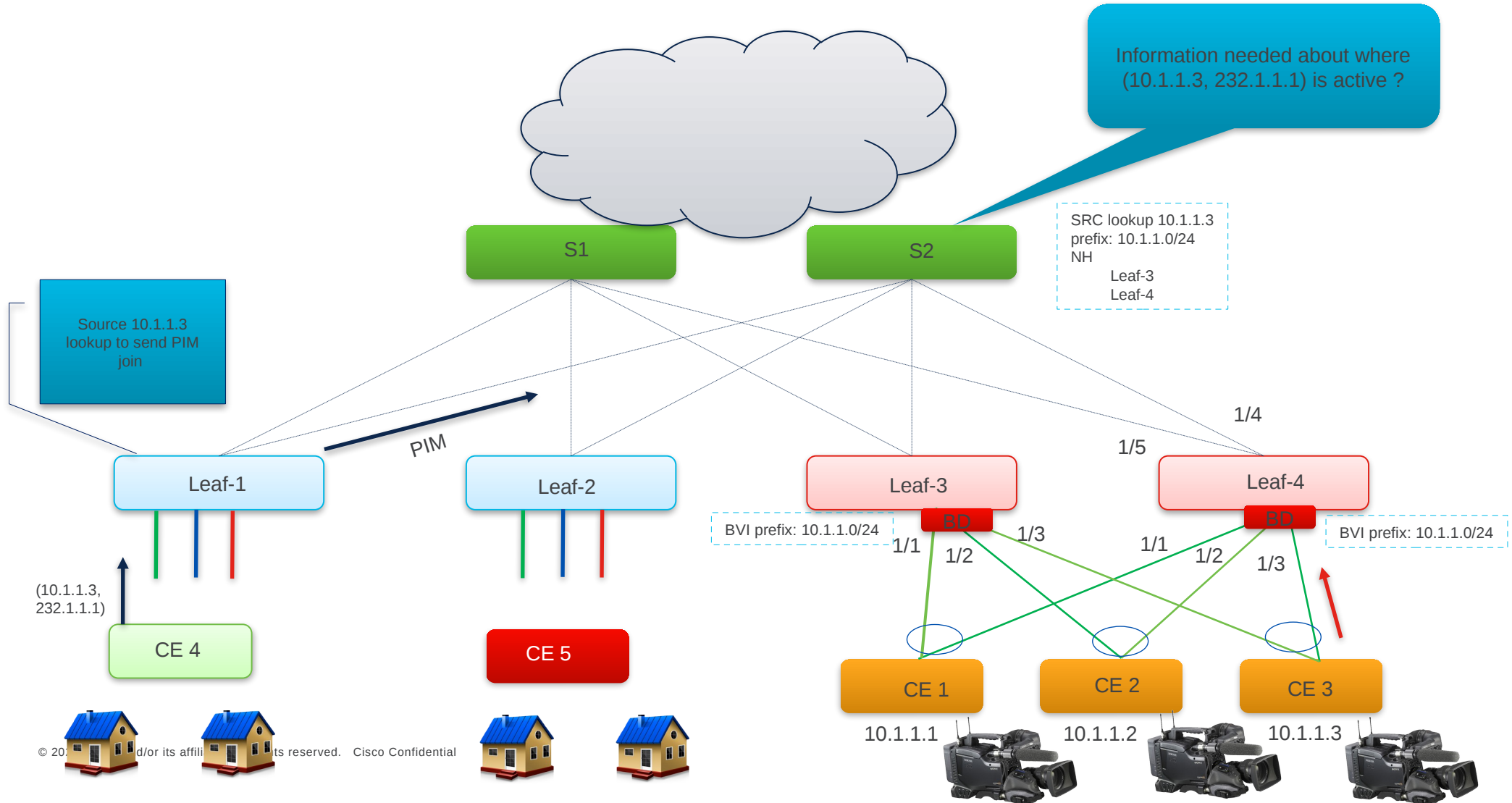
Deployment challenge with current approach

- Spine to leaf traffic is flowing two times using same link. It requires to provision extra bandwidth
- Need to provision device which can process double the traffic , sending over EVPN tunnels and routing at same time

PFM-SD Quick recap

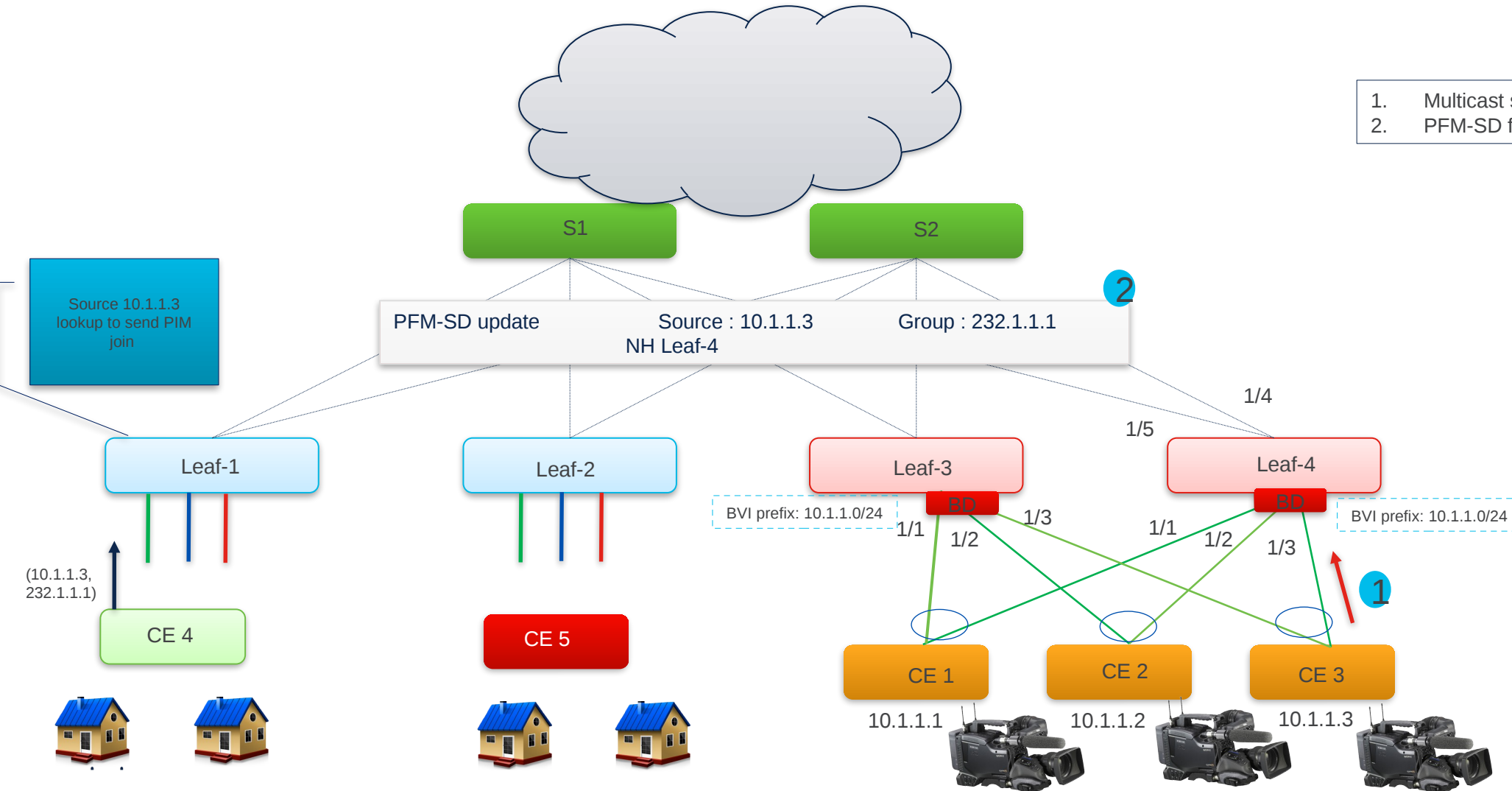
- RFC 8364 defines defines flood mechanism in PIM network for source discovery
- As soon as new source is learnt, PFM-SD protocol extension takes care of flooding the source and group information in PIM domain

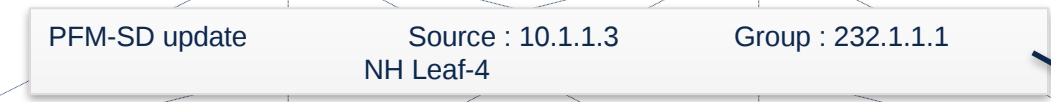
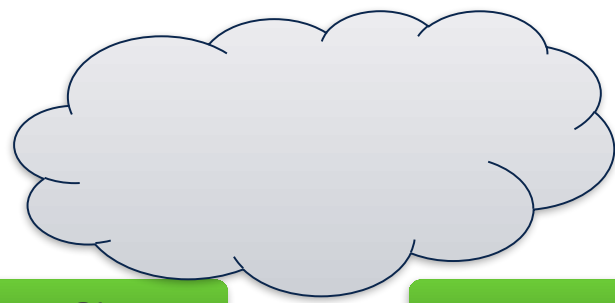
Optimal solution, what is needed ?



Achieving Optimal solution First Step

1. Multicast source becomes active
2. PFM-SD floods in whole domain



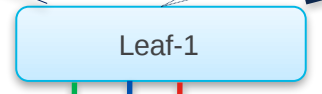


Look at PIM DB to find where the group is active

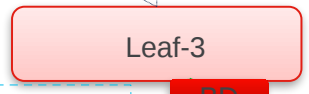
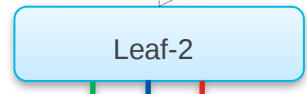
1. Membership request for {S,G}
2. PIM join initiated based on information flooded
3. Spine knows exactly which next hop traffic is active

Source 10.1.1.3 lookup to send PIM join

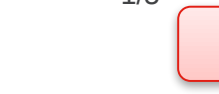
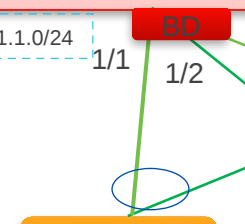
(10.1.1.3, 232.1.1.1)



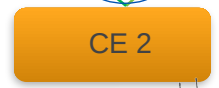
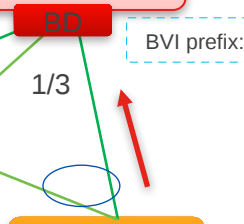
2



BVI prefix: 10.1.1.0/24



BVI prefix: 10.1.1.0/24



1/4, 1/5

1/1, 1/2, 1/3

1/1, 1/2, 1/3

10.1.1.1

10.1.1.2

10.1.1.3

3

Next step optimization

- Using flood mechanism to whole network unnecessary produce huge amount of data across big PIM doing
- We need further extension to make sure flood are not going beyond the fork point where final ECMP decision is to be made.
- This extension would come in next revision .

