

EVPN-VPWS Seamless Integration with Legacy VPWS

draft-brissette-bess-evpn-vpws-interop-01

Authors:

P. Brissette (Cisco Systems, Inc.)

A. Sajassi (Cisco Systems, Inc.)

L.A. Burdet (Cisco Systems, Inc.)

J. Uttaro (AT&T)

D. Voyer (Bell Canada)

I. Ghamari (Telus)

E. Leyton (Verizon Wireless)

Background information

RFC 8560 :

Seamless Integration of Ethernet VPN (EVPN) with Virtual Private LAN Service (VPLS) (...)

- does not apply to VPWS (by definition)
- excludes all-active (explicitly in s 2.6)

draft-sajassi-bess-evpn-vpls-all-active-00 :

(PBB-)EVPN Integration with (PBB-)VPLS in All-Active Mode

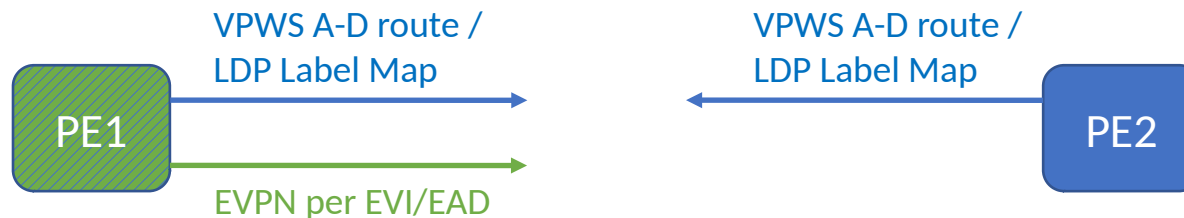
- addresses the All-Active gap and exclusion above

Gap for VPWS.

Goal of this draft is to address EVPN-VPWS interoperability, for both LDP and BGP-AD

Solution

- PE1 is “Hybrid PE”
 - Discovery phase: advertise **EVPN**, **LDP**, **BGP-AD** local endpoint information
 - Capability discovery of each VPWS remote: LDP, BGP-AD, (EVPN)
- PE2 is “Legacy PE”
 - Advertises and discovers to **LDP**, **BGP-AD**



- All the logic for seamless integration resides on the Hybrid PEs.
 - EVPN-VPWS ‘preferred’ over Legacy PW endpoint
 - The Legacy VPWS matching EVPN-VPWS segment kept operationally down

Migration Legacy PW = EVPN-VPWS/FXC

As straightforward as you would expect

- Legacy-to-Legacy PW



- Hybrid-to-Legacy PW

- EVPN configured, routes advertised



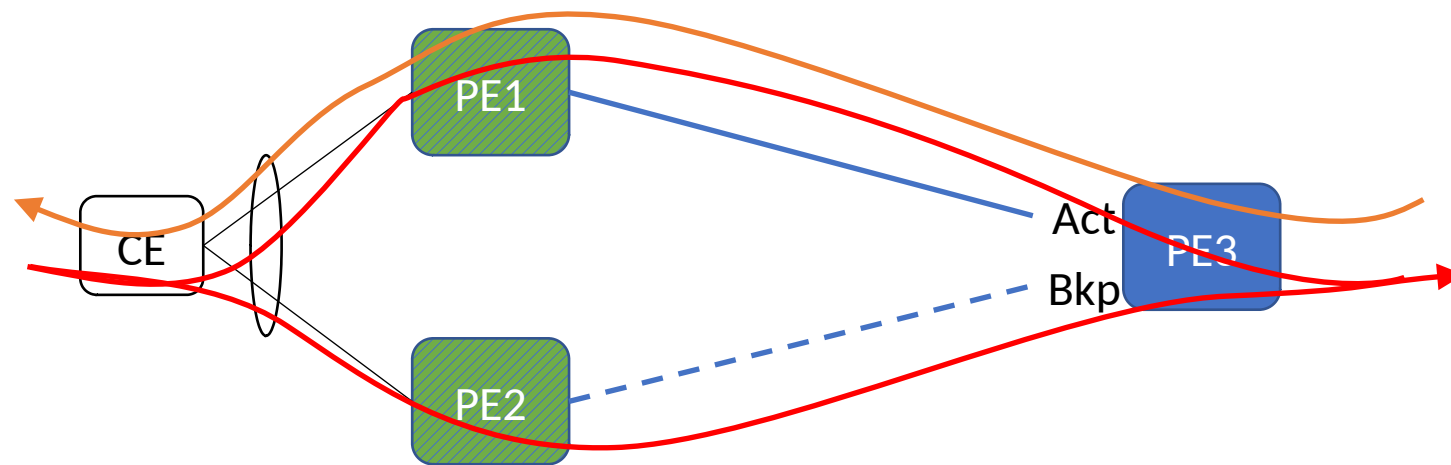
- Hybrid-to-Hybrid PW:

- EVPN is preferred ;
- Legacy PW brought down (Label Wdw, Status TLV, etc.)
- Unconfiguration of legacy PW endpoints now possible



Multi-homing: All-Active

- For PE3 running pseudowire redundancy, PE2 may leverage the existence of standby/backup PW with PE3.



Multi-homing: All-Active

- PE3 backup PW *may not* support disposition on Backup PW
 - Asymmetric forwarding using aliased PW label synchronized between peering PEs

