

IP over LAN Service (IPLS)

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“IPLS Service”

- “IPLS Service”: IP-Only LAN Service
 - Ethernet
 - Multipoint
 - Supports IP devices only
 - Subset of VPLS service
- “IPLS Service” is sufficient for many customers:
 - Vast majority of traffic is IP
 - Routers commonly used at MAN/WAN edge
- “IPLS Service” has benefits for SP:
 - Transparent to customer routing, easy service provisioning
 - Scalable: eg. isolated from high nb of customer MAC addr.
 - Stable: eg isolated from loops, MAC storms,...

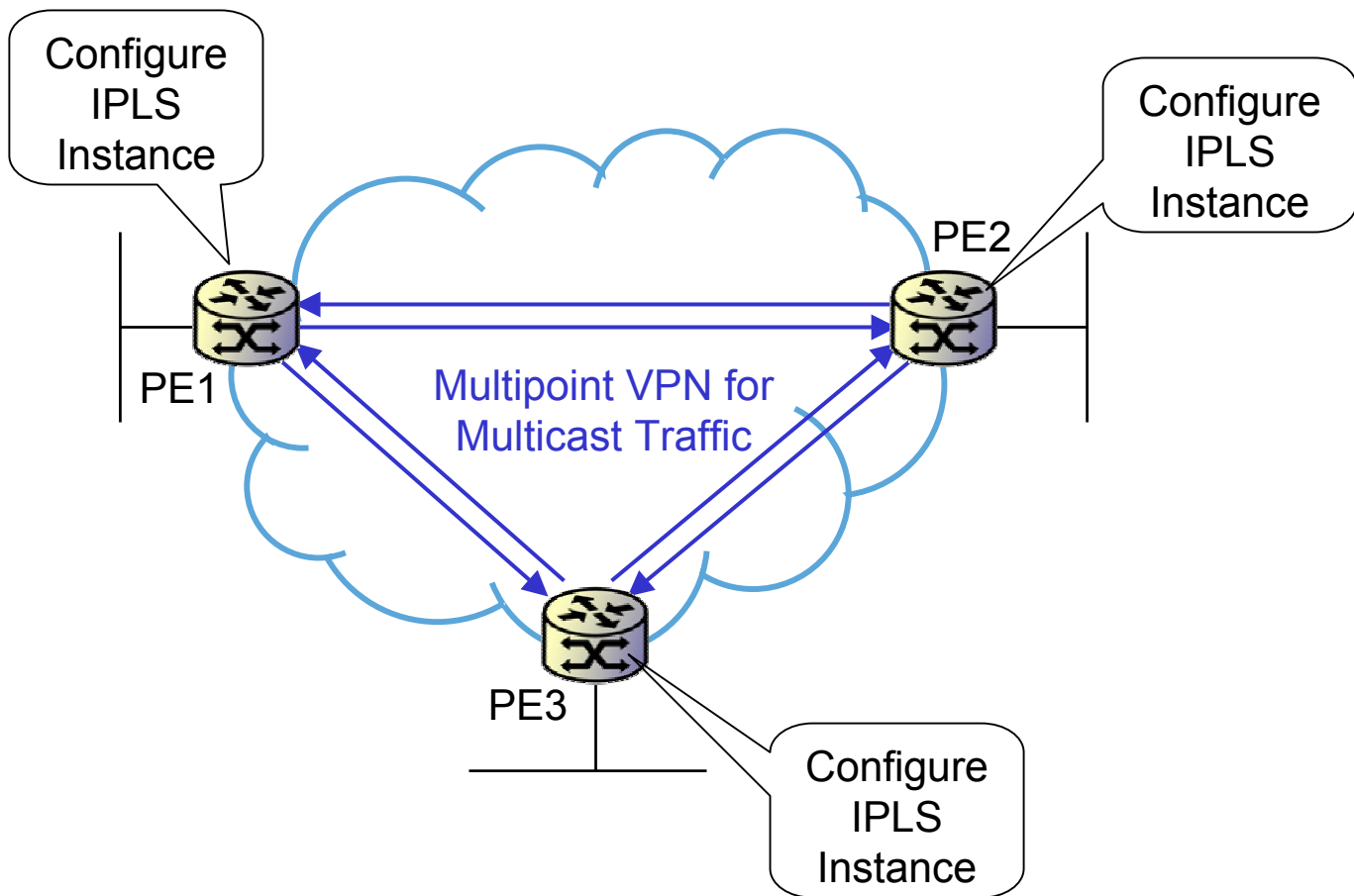
IPLS Solution

- Deployed PE devices today are essentially routers that are “challenged” when it comes to supporting all bridging functions (particularly data path MAC learning)
- “IPLS Solution” is an optimisation of VPLS which facilitates router PE support for “IPLS Service”
- “IPLS Solution” is not a replacement for VPLS (ie IPLS Solution does NOT support LAN Switch interconnect) but darn good alternative for router-interconnects

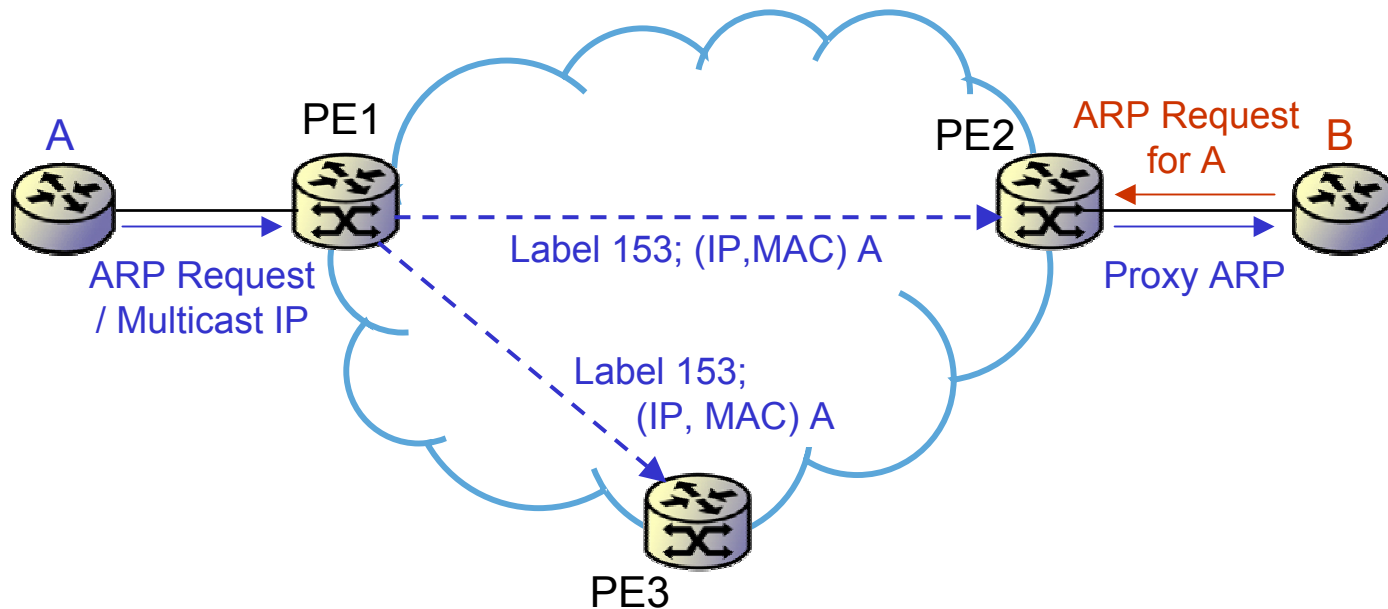
IPLS Solution

- Egress PE learns IP address and MAC address of local CE
- Egress PE signals this information to all Ingress PEs and establish a Multipoint-to-point PW for each CE
- Ingress PEs program FIB with MAC addr <-> PW
- Egress PE program FIB with PW <-> CE
- Ingress PEs proxy ARP for remote CEs
- IP data forwarded based on MAC DA at Ingress PE
- Data forwarded based on PW label at Egress PE

Multicast



Unicast MP-Pt Pseudowire



“IPLS Solution” Advantages

- No data plane learning/aging of MAC addresses neither on Ingress PE nor Egress PE (MAC entry in FIB populated via signaling)
- Forwarding at Egress PE is regular label lookup
- Easier support on existing PE routers
- Efficient core b/w utilization – payload consists only of L3 (IP) data, ARP Proxy

Next steps

- Identify “IPLS Service” as a useful Ethernet Multipoint L2VPN service
 - in “L2VPN requirements” draft?
<draft-augustyn-ppvpn-l2vpn-requirements>
- Requesting comments on the draft and expecting the “IPLS Solution” to evolve to a WG item