

Proxy-ARP/ND in EVPN networks

draft-snr-bess-evpn-proxy-arp-nd-00

Jorge Rabadan (ALU)

Senthil Sathappan (ALU)

Kiran Nagaraj (ALU)

Wim Henderickx (ALU)

Thomas King (DE-CIX)

Daniel Melzer (DE-CIX)

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Jorge Rabadan (ALU)

Senthil Sathappan (ALU)

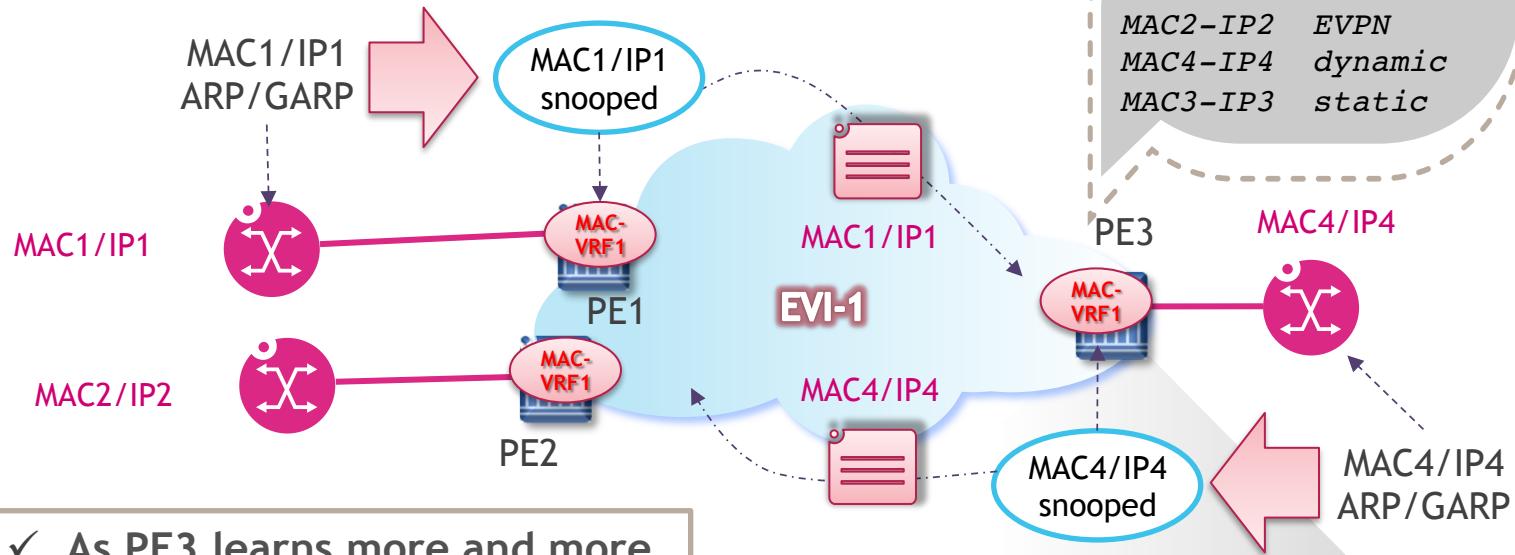
Kiran Nagaraj (ALU)

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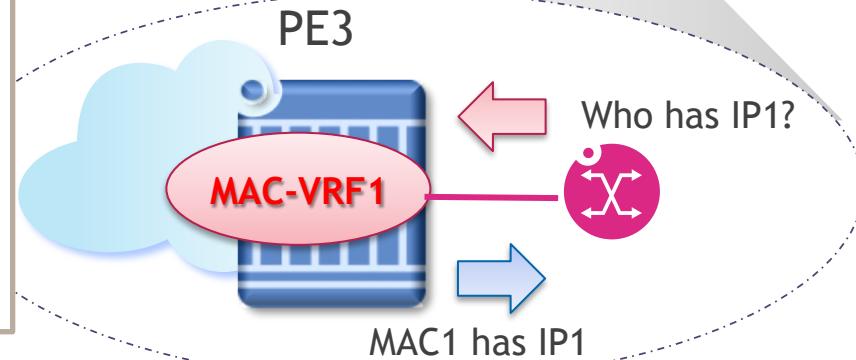
Why a Proxy-ARP/ND draft for EVPN networks?

- RFC7432 (EVPN) section 10: “the PE SHOULD perform ARP proxy” but it does NOT indicate HOW.
- There are other documents explaining proxy-ARP/ND functions but they are not specific to EVPN networks and do NOT solve the REQUIREMENTS for certain use-cases (e.g. IXP networks).
- Solution requirements:
 - Flexible LEARNING of proxy-ARP/ND entries
 - FLOODING suppression/reduction of ARP/ND messages
 - Network TRANSPARENCY
 - Efficient MAINTENANCE of the entries to avoid unnecessary control plane overhead
 - DUPLICATE IP detection and optional protection

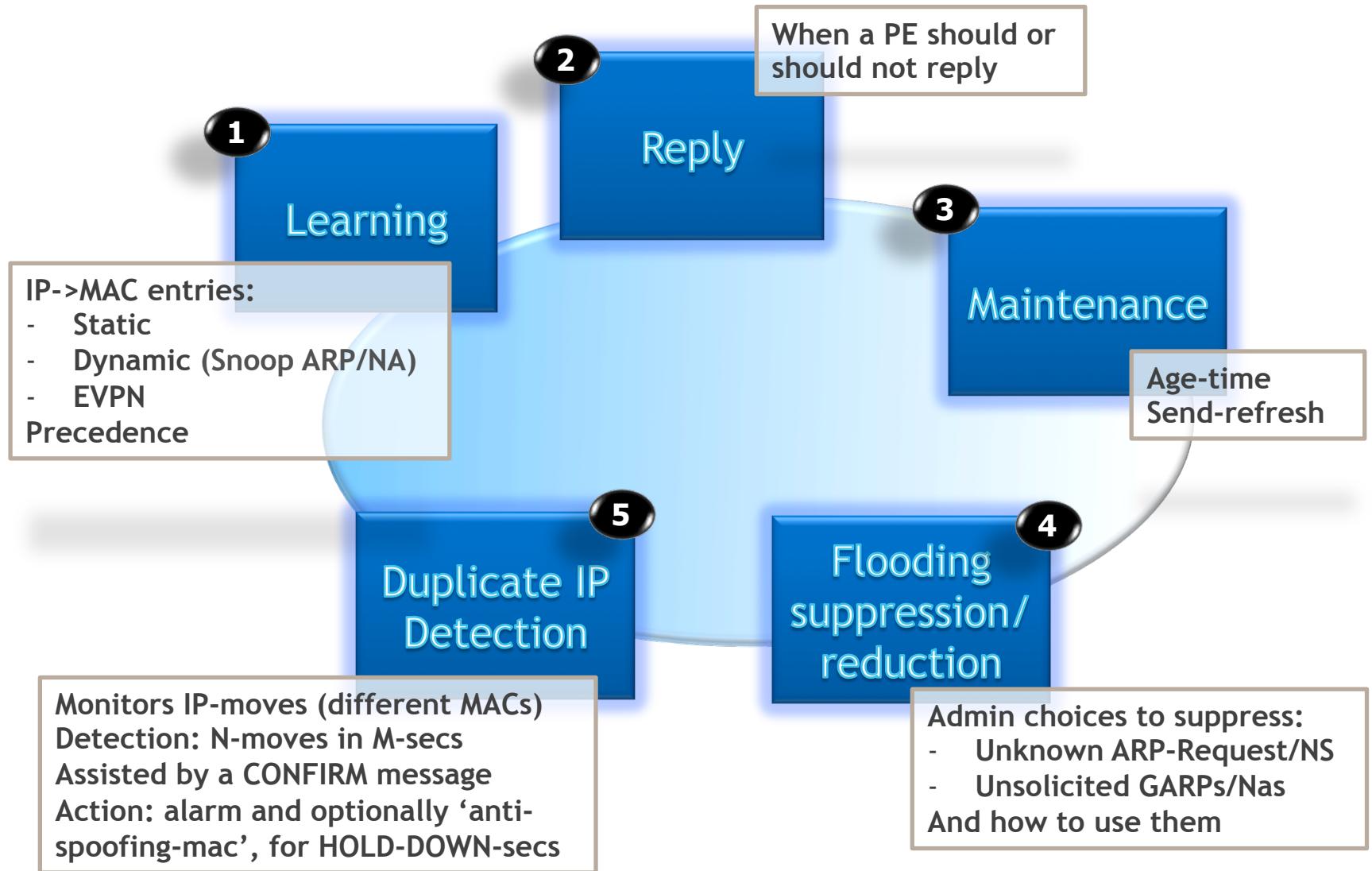
The Proxy-ARP/ND concept in EVPN



- ✓ As PE3 learns more and more IP->MAC entries it will progressively reduce the ARP/ND flooding to the remote PEs
- ✓ When PE3 knows all the hosts in the EVI it will no longer flood ARP/ND/unknown unicast (IXP use-case)

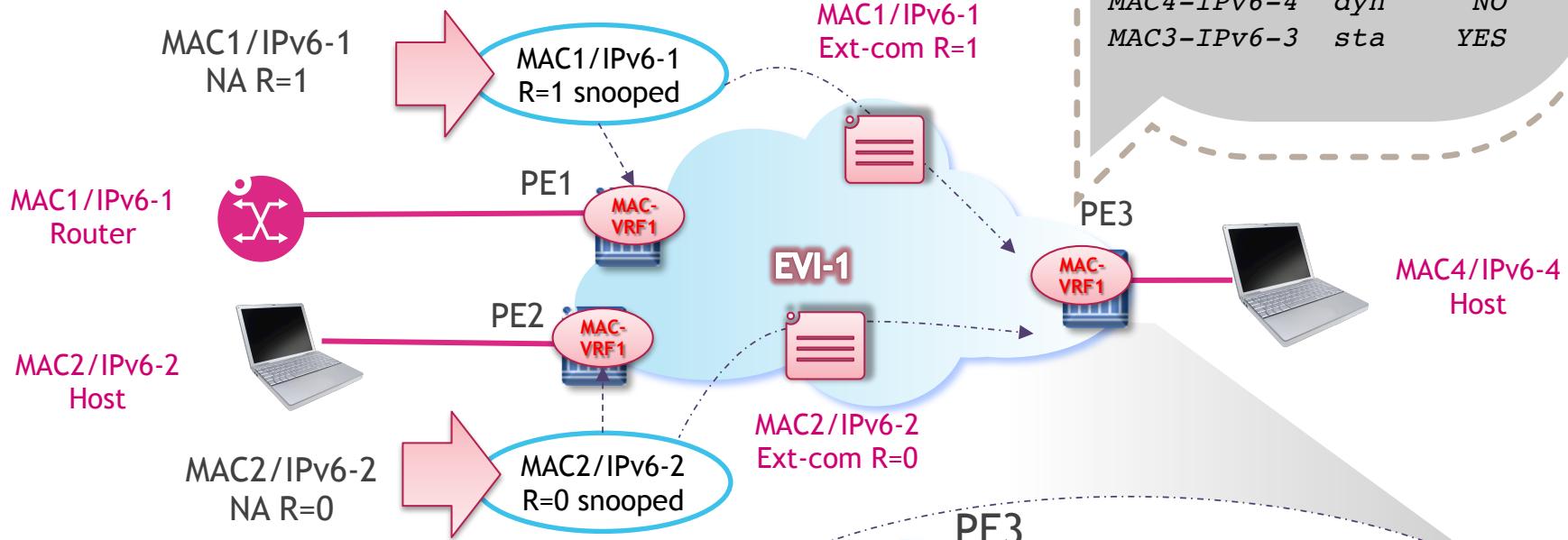


EVPN Proxy-ARP/ND sub-functions

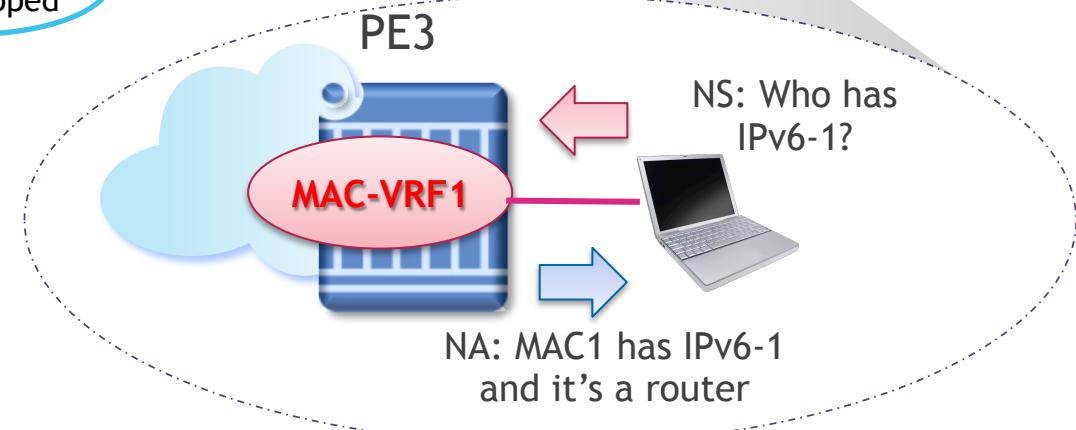


Proxy-ND and NA R-bit flag

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- ✓ R-bit has an impact on how hosts send packets off-link
- ✓ EVPN entries must learn the R-bit in the control plane
- ✓ ND ext-comm propagates the R-bit



Conclusions and next steps

- WG feedback requested

THANKS!