

Domain Path (D-PATH) for Ethernet VPN (EVPN) Interconnect Networks

draft-sr-bess-evpn-dpath-02

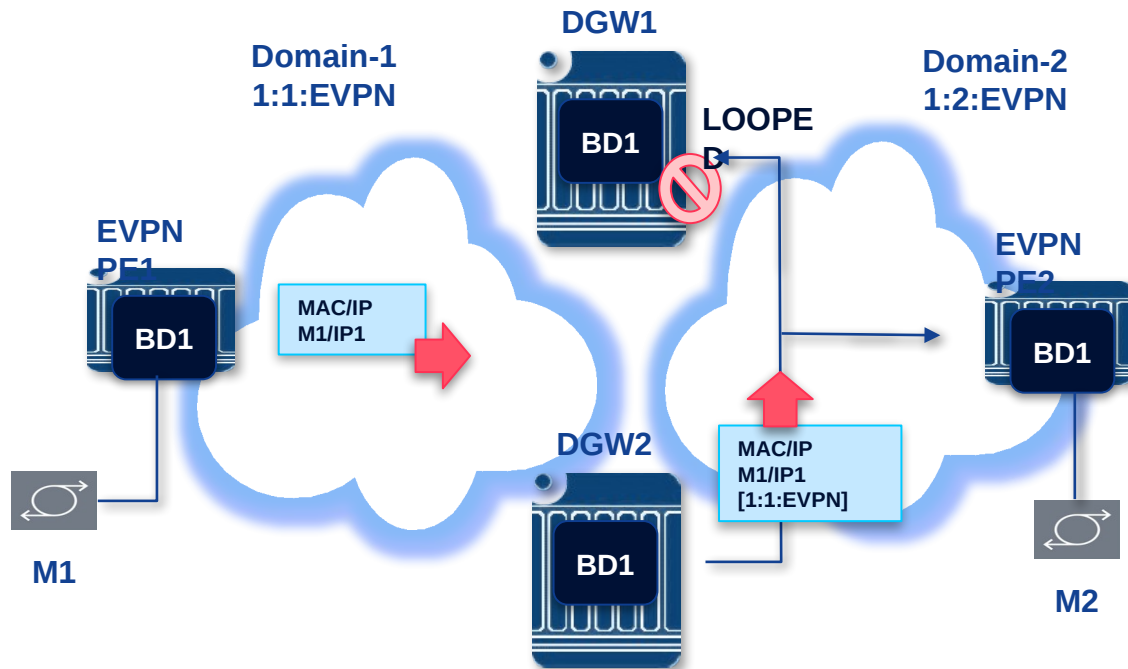
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Agenda

1. Refresh
2. What's new
3. Next-steps

Use of D-PATH (I-D.ietf-bess-evpn-ipvpn-interworking) In EVPN Interconnect Networks (RFC9014)



Loop Protection on the DCGWs

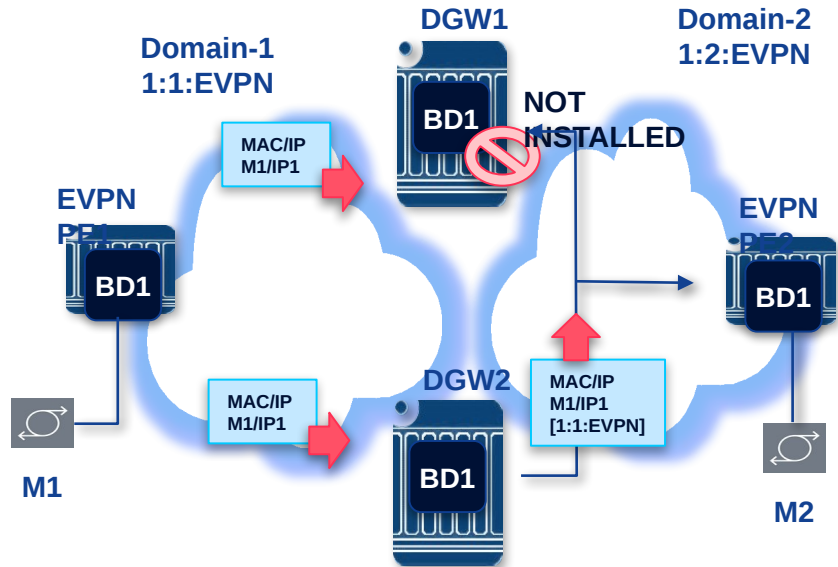
- DGW1 and DGW2 can compare the D-PATH of the incoming routes with their local list of Layer2-Domain-IDs and detect a loop if any of the local Layer2-Domain-IDs matches a domain in the received D-PATH.
- This procedure prevents the re-advertisement of the route back into Layer2-Domain-1.

Traceability and best path selection on PE2

- PE2 has the visibility of the Layer2-Domains through which the route has gone, and
- PE2 can also use the D-PATH for best path selection in case PE2 receives a MAC/IP Advertisement route for M1/IP1 by some other means.

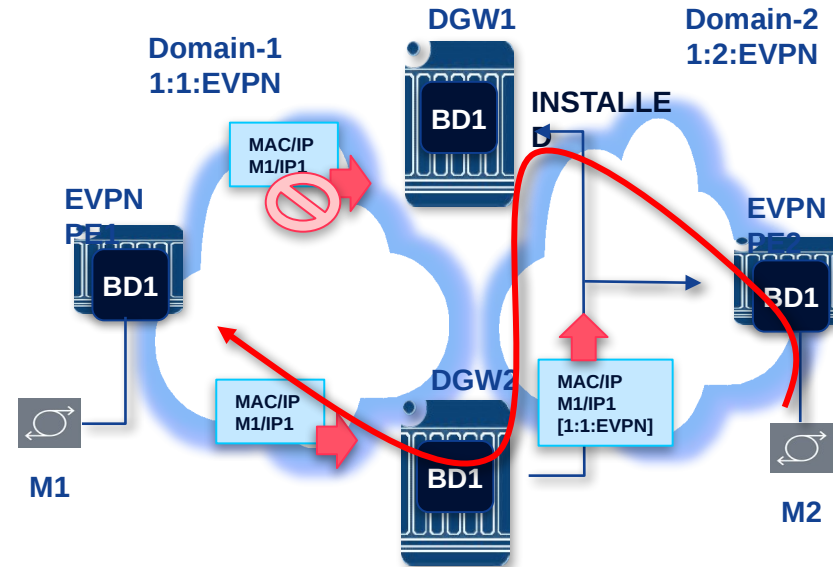
D-PATH procedures in RFC9014 Gateways

MAC/IP Advertisement routes



Loop protection

- DGW1 receives two routes for M1/IP1 – one with its own local domain and one without D-PATH
- DGW1 only installs the route without D-PATH based on best path selection

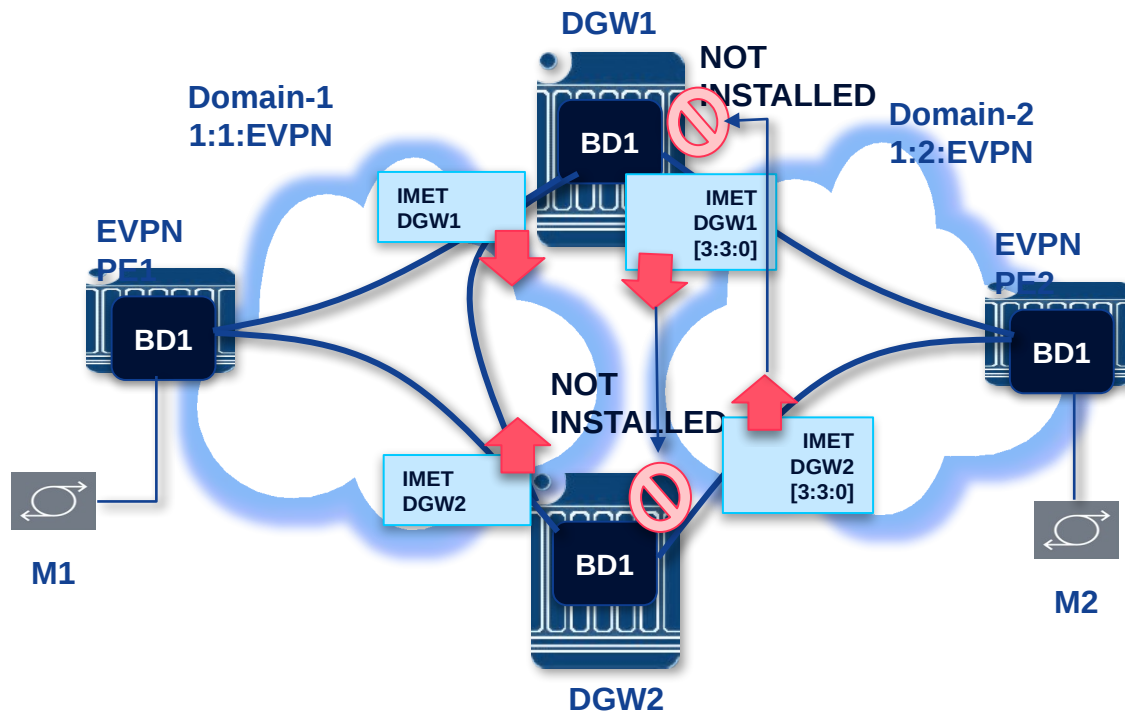


Fast convergence in case of failures

- DGW1 peer to domain-1 RR fails
- DGW1 now may install M1/IP1 with next-hop DGW2 so that in-flight packets can be forwarded

D-PATH procedures in RFC9014 Gateways

IMET routes



D-PATH avoids parallel EVPN multicast paths in an automated way

- D-PATH only added by the GWs on one domain
- Best path selection ensures only one BUM EVPN binding between the two GWs for BD1

What's New

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Best Path Selection now aligned with draft-ietf-bess-rfc7432bis

- EVPN MAC/IP Advertisement, A-D per EVI and IMET routes
- This document extends the best path selection to include D-PATH

Clarification of loop detection when RFC9014 Interconnect Ethernet Segments are used in addition to D-PATH

- D-PATH can be used along with the ESI of the received routes to detect looped routes
- An EVPN domain gateway **MUST NOT** redistribute a route with an ESI value that matches the value of a local Ethernet Segment, irrespective of the D-PATH Domain-IDs.

Other changes

- Terminology improved
- Typos fixed

Next Steps

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The authors would like to request Working Group Adoption

Thank you