Global vpnid advertisement in BIER overlay

draft-pengzhang-bier-global-vpnid-00

BIER WG

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Problem Statement

Client1, Client4, Client5 belongs to Group1
Client2, Client3, Client6 belongs to Group2

Requirement:
• L3 network
• Isolation
• BUM
• Simple

Candidate solutions:
• MVPN (BGP/RD/RT...) ---- many configurations
• Controller --- unavailable in some situations
Solution

• An unique identifier is used to indicate the “group” --- global vpn-id.

• BIER overlay protocols advertise the global vpn-id.

• A new protocol type which indicates global vpn-id should be defined in BIER header.

• Like VNI-VSID usage in [draft-ietf-bier-evpn].

• Extended BIER overlay protocol: MLD/ PIM/ BGP.
• Global vpn-id1 indicates group1; global vpn-id2 indicates group2.
• GWs advertise the associated global vpn-ids to each other.
• Ingress router, like GW1, encapsulates BUM packets from client1 with global vpn-id 1, then encapsulates outer BIER header BitString with GW2/GW4.
• When packets reach GW2/GW4, egress router removes BIER header and find the group1 according to the immediate global vpn-id.
• Then egress router forwards packet to associated client4/client5.
• Any comment is welcomed ^^

Thanks!