draft-sajassi-l2vpn-evpn-inter-subnet-switching-01.txt

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Florida

Objectives

- This draft describes how E-VPN can be used as part of an IRB solution to perform both intra-subnet as well as inter-subnet switching
- The solution provides optimum unicast and multicast forwarding both within a DC as well as between DCs (East-West traffic)

E-VPN PE Model for IRB

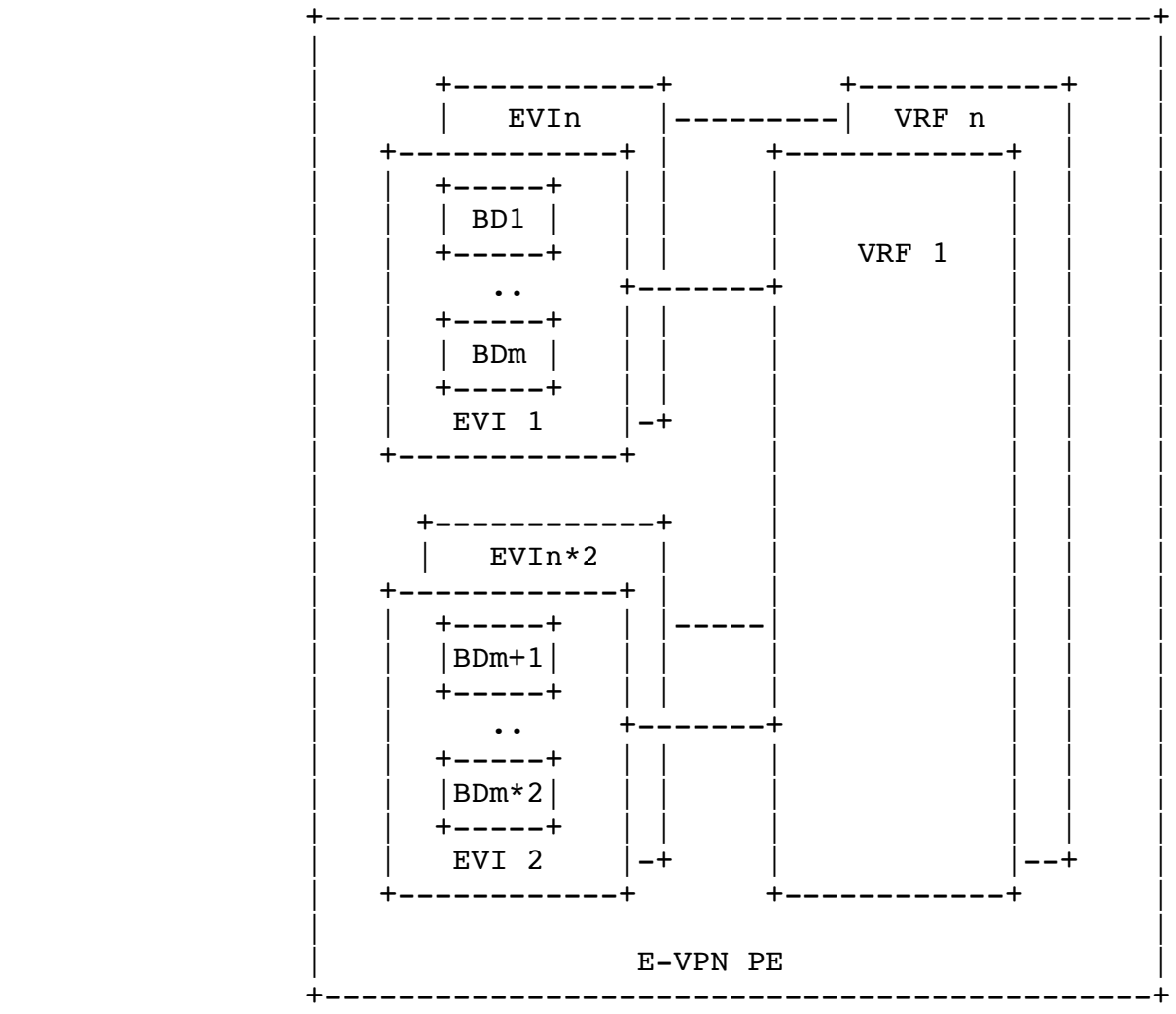


Figure 3: E-VPN PE Model for Seamless Interoperability with IP-VPN

Reference Diagram

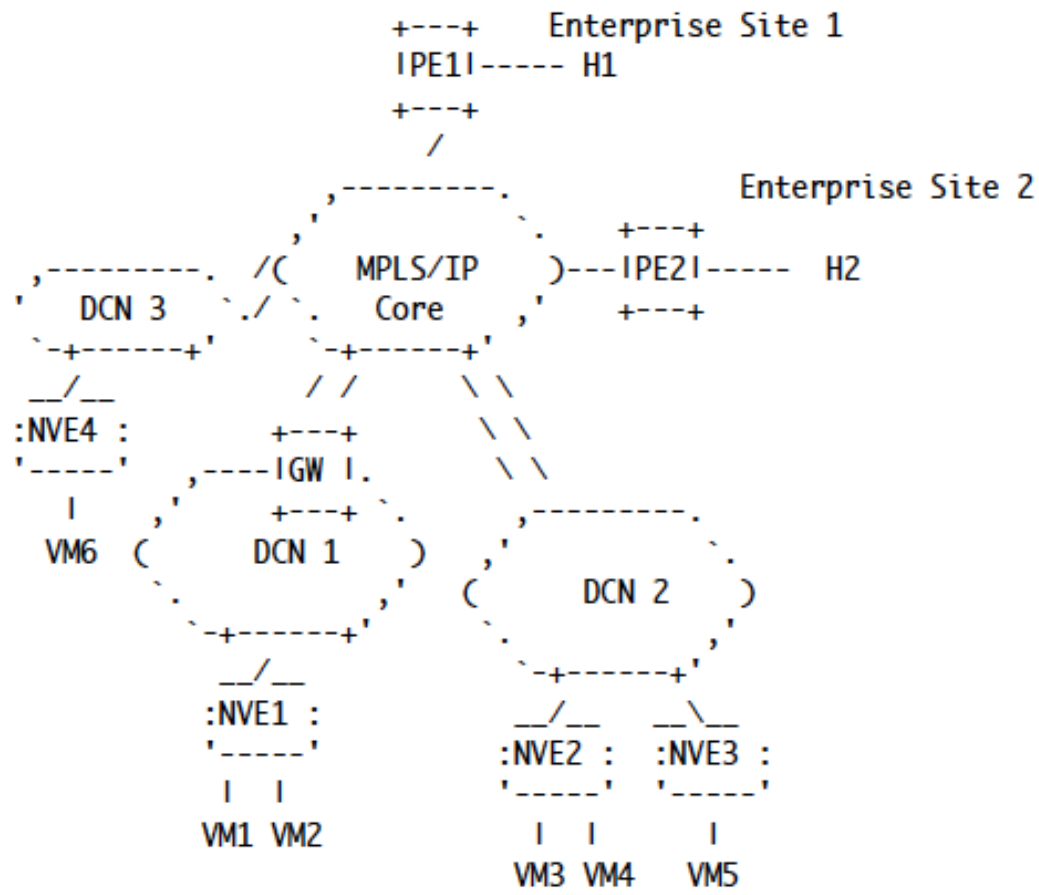


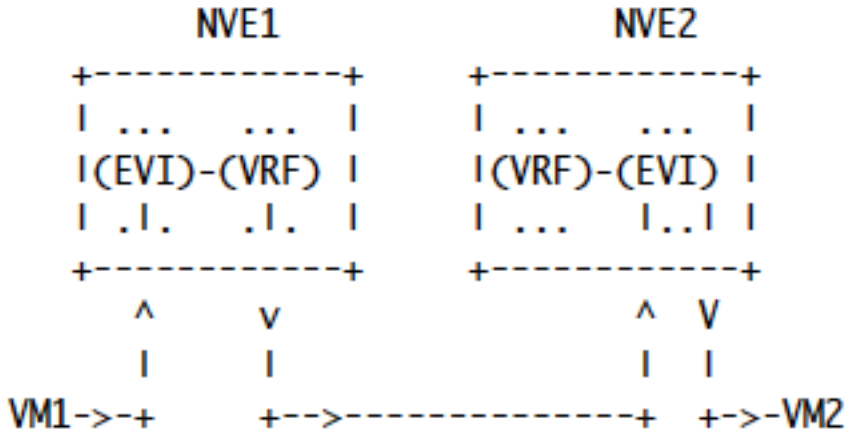
Figure 2: Interoperability Use-Cases

Scenarios of Interest

1. Connecting E-VPN sites within a DC
2. Connecting E-VPN sites in different DCs without route aggregation
3. Connecting E-VPN sites in different DCs with route aggregation
4. Connecting IP-VPN sites and E-VPN sites with route aggregation
5. Connecting IP-VPN sites and E-VPN sites without route aggregation

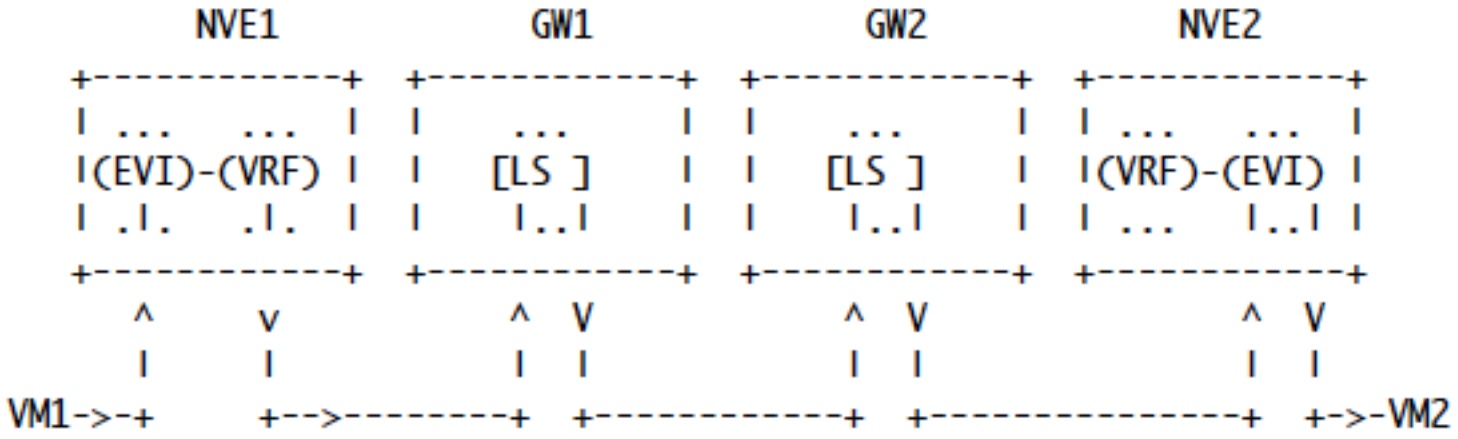
Scenario-1

Inter-Subnet Forwarding Among E-VPN NVEs within a DC



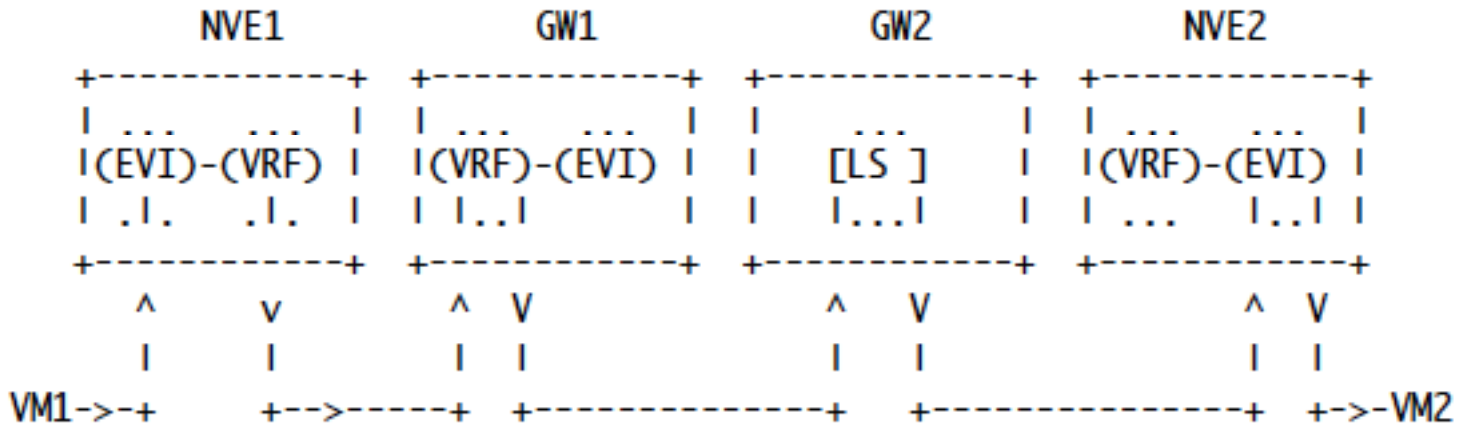
Scenario-2

Inter-Subnet Forwarding Among E-VPN NVEs in Different DCs without Route Aggregation



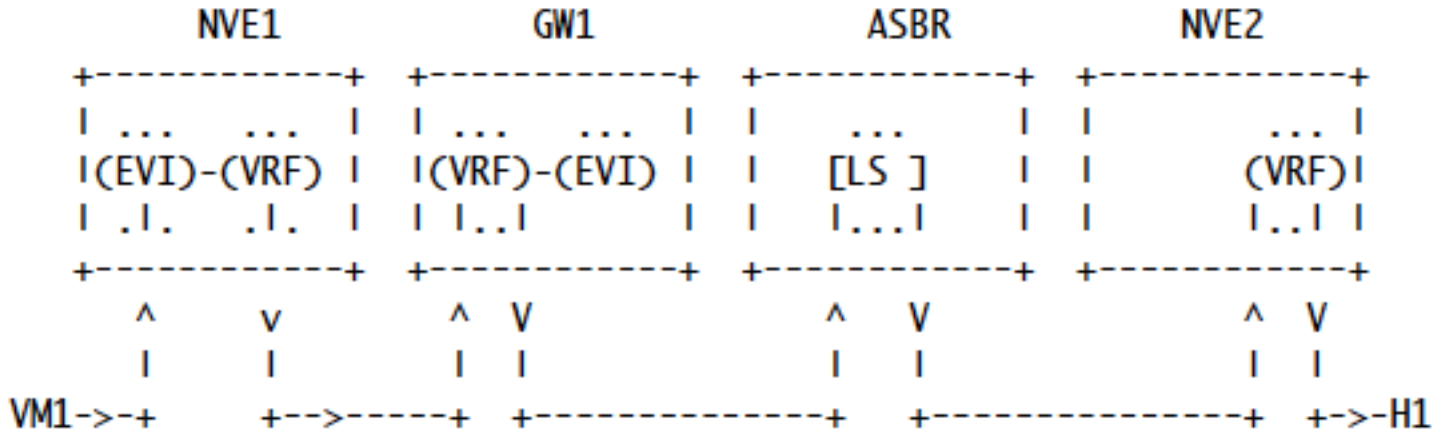
Scenario-3

Inter-Subnet Forwarding Among E-VPN NVEs in Different DCs
with Route Aggregation



Scenario-4

Inter-Subnet Forwarding Among IP-VPN Sites and E-VPN NVEs with Route Aggregation



E-VPN based IRB Solution provides

- Optimal forwarding for intra-subnet (L2) traffic
- Optimal forwarding for inter-subnet (L3) traffic
- Support for both ingress replication as well as P2MP tunnels for multicast traffic
- Support for multi-homing with active/active redundancy and per-flow load balancing
- Support for network-based as well as host-based overlay models
- Support for consistent policy-based forwarding for both L2 and L3 traffic

Next Steps

- Solicit comments from WG