

EVPN

① Extension to BGP

EVPN shares their learnt MAC addresses

Problems in data center netw. :-

① In spine-leaf Architecture the STP will block one of the links

② East-west traffic is more

4 when we need to stretch those traffic we needed to physically add new devices which takes alot of time

③ Allows enterprise to make use of group-based policies to deploy a common set of policies and services across campus.

④ Same V-Lan can be stretched easier to apply ACL/Firewall Filters.

⑤ Group based policies also enable micro-segmentation to provide better control to enterprise customer.

OSPF — equal cost multipath means when we have two links to the same destination ospf can load balance the traffic

Why we have STP on Layer 2 is because we don't have TTL values in Layer-2 and that is the reason that we need STP.

VXLAN

- virtual extensible LAN

— A tunneling protocol that tunnels Layer 2 traffic via Layer 3 network.

Why?

① To remove spanning tree problem

② VLAN has limited amount 4094

VLANs VXLAN has 16 million

VLAN is 12 bit — 4094 first and last one reserved

③ Large MAC address tables to manage

VNI — VXLAN network identifier

24 bit — 16 million

VTEP — Encapsulates & de-encapsulates the L2 traffic

Each VTEP has two interfaces

① VTEP IP interface

② VNI interface.

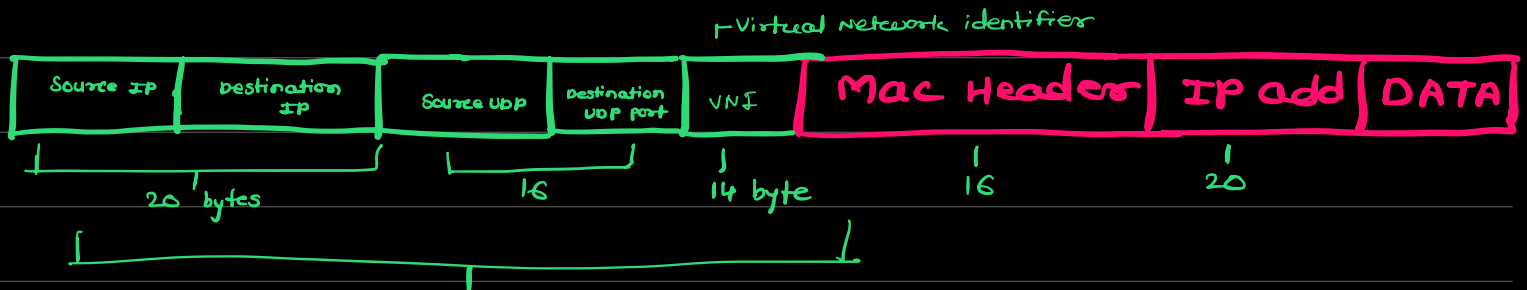
① → software

↳ VMware ESXi

• Microsoft Hyper-V

② Hardware — Router, Firewall, switch

VXLAN frame format



Extra 50 bytes are added to our normal headers.
for this to work we need to increase our MTU size because our current MTU size is 1550.

VXLAN Mapping tables are used at control plane by vtep devices

- VXLAN with MP-BGP Evpn is used to learn with vtep device is mapped to which Mac Add.

Control plane — Flood & Learn

- ① Each VNI Maps to a multicast group
- ② The VTEP devices join the multicast group
- ③ Flood to multicast group

so to learn the destination vtep device in that case
The message is sent via Multicast group

Multicast group sends — ① Multicast

② Broadcast

③ unknown unicast