

Anycast Affiliation Advertisement

draft-zzhang-lsr-anycast-affiliation-00

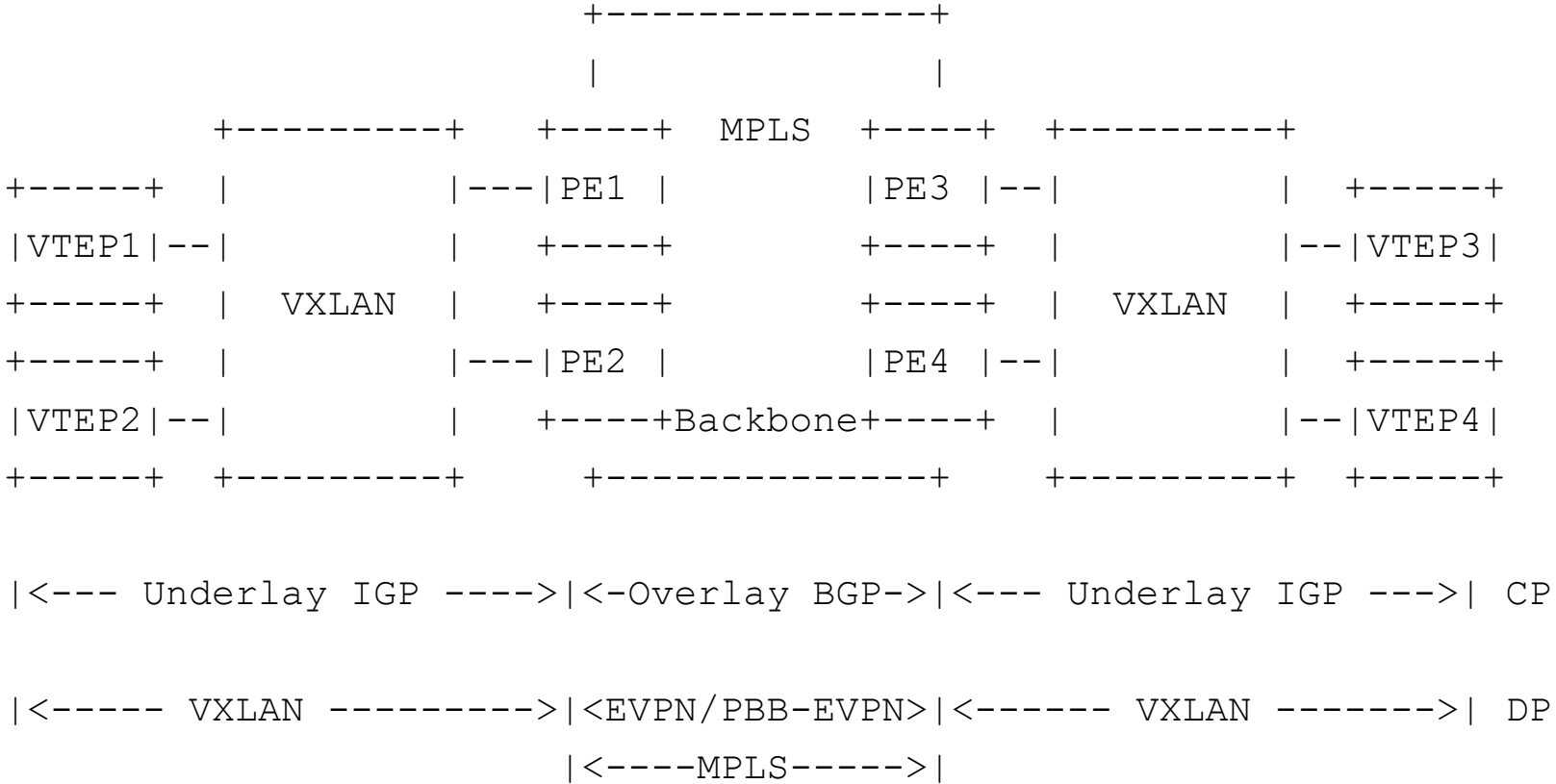
Zhaohui (Jeffrey) Zhang

IETF113, Vienna

Purpose

- Advertise which local addresses are affiliated with an anycast address
 - Traffic destined to the anycast address may be explicitly addressed or tunneled to an affiliated address instead of the anycast address
 - E.g. for load-balancing even when there is no ECMP
 - Maybe some other use cases as well

[I-D.boutros-bess-vxlan-evpn] Use Case



ISIS N-flag Not Enough

- RFC7794 - N-flag: Node Flag (Bit 2)

Set when the prefix identifies the advertising router, i.e., the prefix is a host prefix advertising a globally reachable address typically associated with a loopback address.

- N-flag only identifies host addresses belonging to a router
 - No other semantics are conveyed
- Explicit anycast affiliation need to be advertised

Why Explicit Anycast Affiliation

- Just because a node advertises two local addresses A and B it does not mean A and B are exchangeable.
- The affiliation may have to be one-way
 - Traffic destined to an anycast address may use an affiliated address, but the other way may not be desired or allowed at all (e.g., if a transit node changes anycast address to an affiliated address it must not be changed back later)
- A node may have different anycast addresses, each with a different affiliated address
- A node may need to withdraw the affiliation advertisement even when all the relevant addresses are still reachable

IGP: Anycast Affiliation sub-TLV

- Attached to the following of an anycast host prefix
 - ISIS Extended Reachability TLV
 - OSPFv2 Extended Prefix TLVs
 - OSPFv3 Intra/Inter-Area-Prefix TLV
- Includes a list of affiliated addresses

BGP: Anycast Affiliation Extended Community

- For an anycast prefix advertisement, an Anycast Affiliation EC may be attached for each affiliated address
- It is an IPv4/IPv6 Address Specific EC
 - Sub-type or type being “Anycast Affiliation”
 - Global Administrator field: the affiliated address
 - Local Administrator field: 0

Comments Appreciated!