

EVPN Multi-Homing Extensions for Split Horizon Filtering

draft-nr-bess-evpn-mh-split-horizon-02

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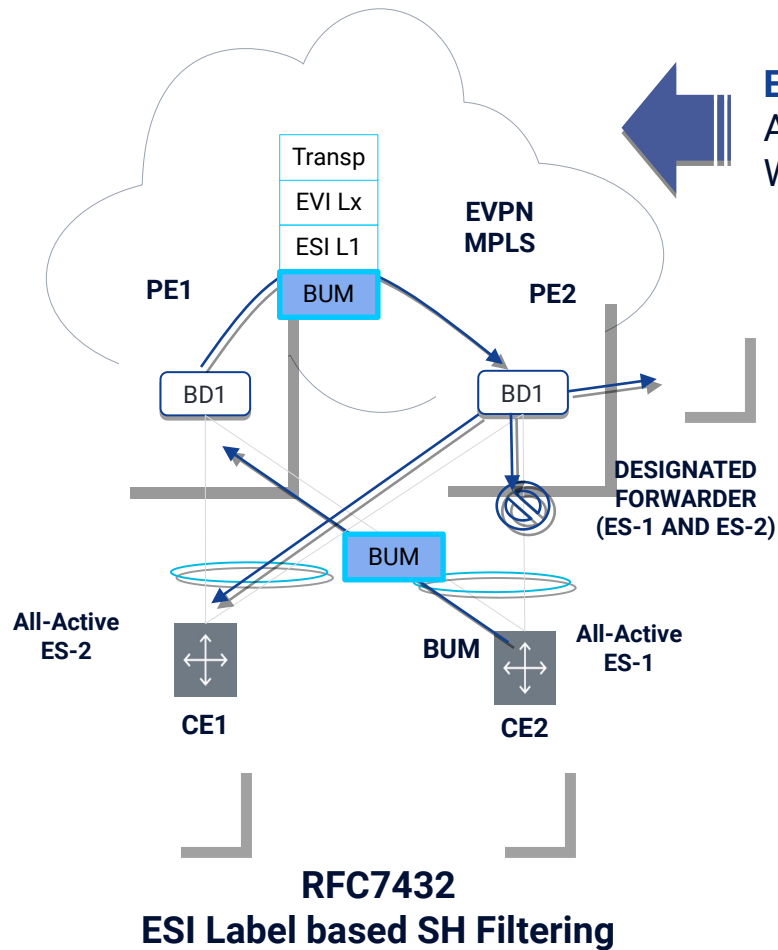
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Singapore

EVPN Multi-Homing Split-Horizon mechanisms

In current specifications

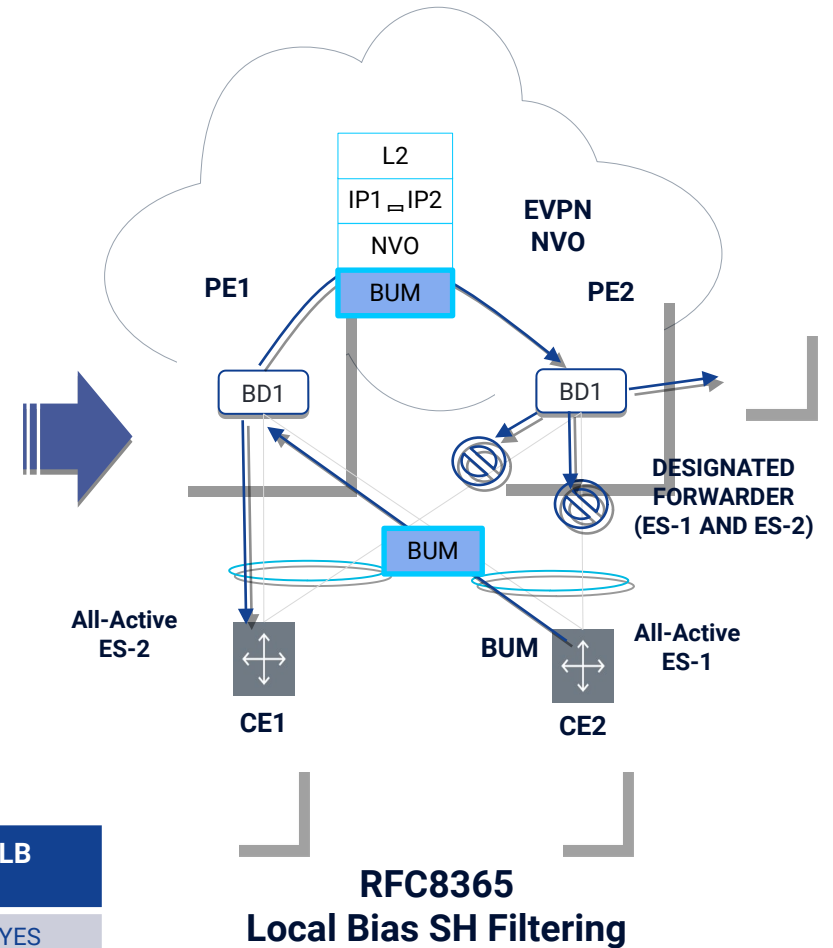


ESI Label SHT
All-Active and Single-Active
Works Inter-AS/domain

Local Bias SHT
All-Active only
No Inter-AS/domain

BUT: less resources, no extra labels, ingress NVE always forwards locally

Encapsulation	Default SHT	ESI Label	LB
VXLAN, NVGRE	LB	NO	YES
MPLS	ESI Label	YES	NO
MPLSoX (x=GRE, UDP, IP)	ESI Label	YES	YES
GENEVE	LB (if no ESI option) ESI L (if option)	YES	YES

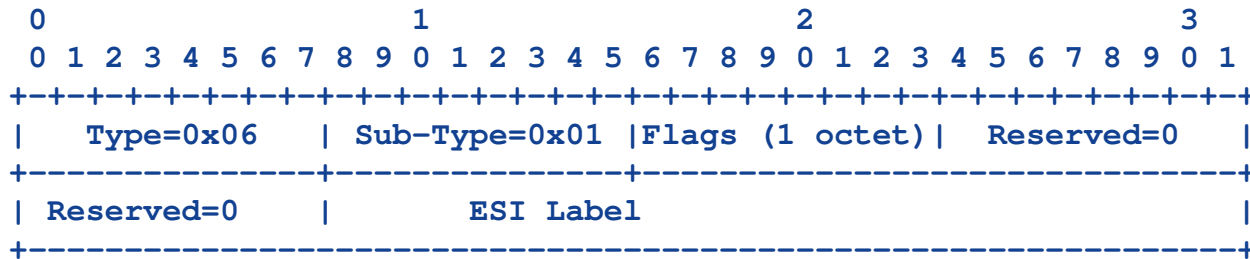


BGP EVPN extensions

For network encapsulations that support both SHTs

ESI Label extended community

Advertised with A-D per ES route (type 1)



Flags Octet Bits:

- 0 = Single-Active bit
- 7-6 = SHT (Split Horizon Type)

SHT bit 7 6

- | | | |
|-----|---|--|
| 0 0 | = | Default SHT. Backwards compatible with [RFC8365] |
| 0 1 | = | Local Bias |
| 1 0 | = | ESI Label based filtering |
| 1 1 | = | reserved for future use |

Signaling of the Split Horizon Type (SHT)

Allows NVE/PEs attached to the same ES to agree on the SHT to be used in the ES.

SHT is different than 00 only for tunnels that can support both SHTs

Backwards compatibility with RFC8365: inconsistency in the ES reverts to the default SHT

NVEs supporting multiple encapsulations

A-D per ES routes advertise multiple encapsulations and SHT=00 if at least one of the encaps support only one SHT

A-D per ES routes advertise multiple encapsulations and SHT≠00 if all encaps support both SHTs

Different SHT may be signaled for the same ES in different A-D per ES routes for different groups of EVIs

What is new in revision 02

1) Added SRv6

The use of Local Bias along with SRv6 means no ESI Filtering argument (Arg.FE2) lookup is necessary at the egress PE for multi-homing (the space can be used for a larger LOCATOR:FUNCTION).

2) Fixed some references and typos.

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MPLS	ESI Label	YES	NO
MPLSoX (x=GRE, UDP, IP)	ESI Label	YES	YES
GENEVE	LB (if no ESI option) ESI L (if option)	YES	YES
SRv6	ESI Label equivalent (ESI filtering argument)	YES	YES

Next steps

The Authors would like to request Working Group Adoption

Thank you