

# Ethernet VPN Virtual Private Wire Services Gateway Solution

## draft-sr-bess-evpn-vpws-gateway-01

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IETF115, Nov 2022  
London

# Agenda

1. Refresh on the EVPN VPWS Gateway procedures
2. Changes in version 01
3. Next steps

# EVPN VPWS Interconnect and why Service Interworking

## When is the Service Interworking Solution Required for EVPN VPWS

Requirement	Service Interworking	Inter-Domain Option-B	Transport Interworking
Per-Domain EVPN Multi-Homing	Yes	No	No
Per-Domain Mass Withdrawal	Yes	No	Yes
Per-Domain RD/RTs	Yes	Yes*	No
Per-Domain Ethernet Tag IDs	Yes	No	No
L2 attributes per Domain (CW, FAT, MTU)	Yes	No	No
Heterogeneous Encapsulation	Yes	No	Yes**
Per-Domain EVPN Service OAM	Yes	No	No

# Service Interworking Procedures for EVPN VPWS

## Redistribution of EVPN Routes Across Domains

### “Redistribution”

All the procedures in the Gateway that involve

- a) reception and process of the (source domain) EVPN route
- b) programming of the forwarding path
- c) readvertisement of the route to a different domain (the next destination domain)

**a**

#### Reception and Process

Follows RFC8214 and I-D.sr-bess-evpn-dpath

**b**

#### Forwarding state programming

Using received Label/VNI/SID  
Allocation of the Label/VNI/SID of the next destination domain and switching operation

**c**

#### Re-advertised routes rules

Different RDs

Same or different RTs, Ethernet Tag IDs

ESI=0 unless I-ES is defined

L2 Attributes and encapsulation regenerated

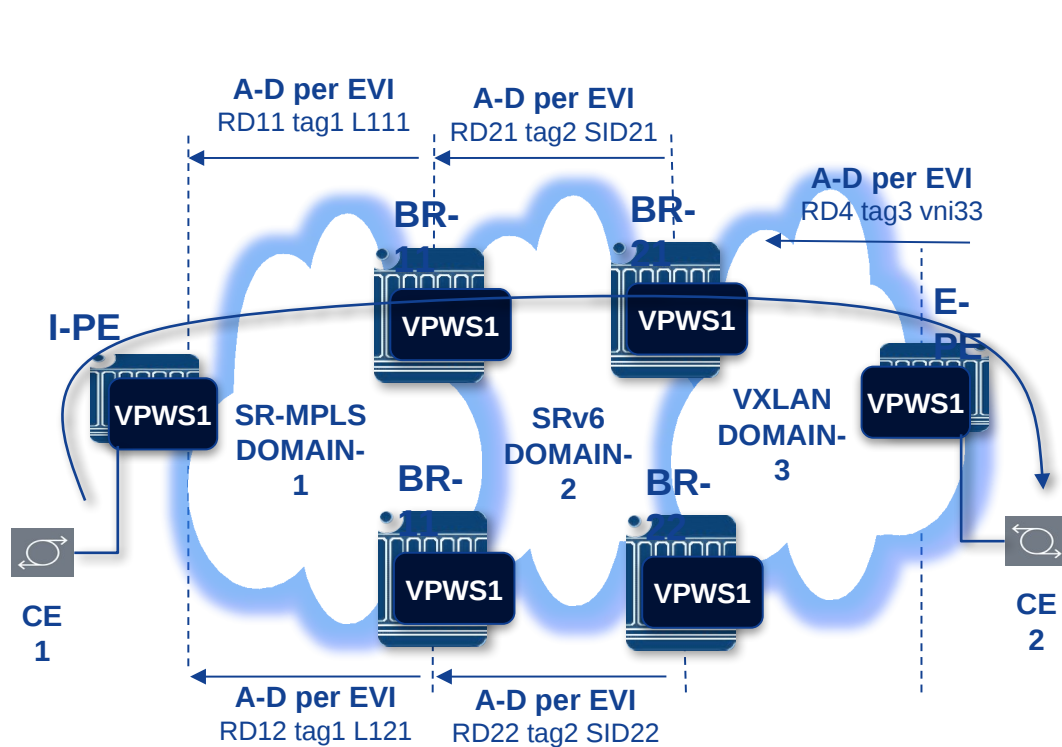
P/B flags not propagated but set based on I-ES

Communities, non-evpn extended communities, large communities propagated

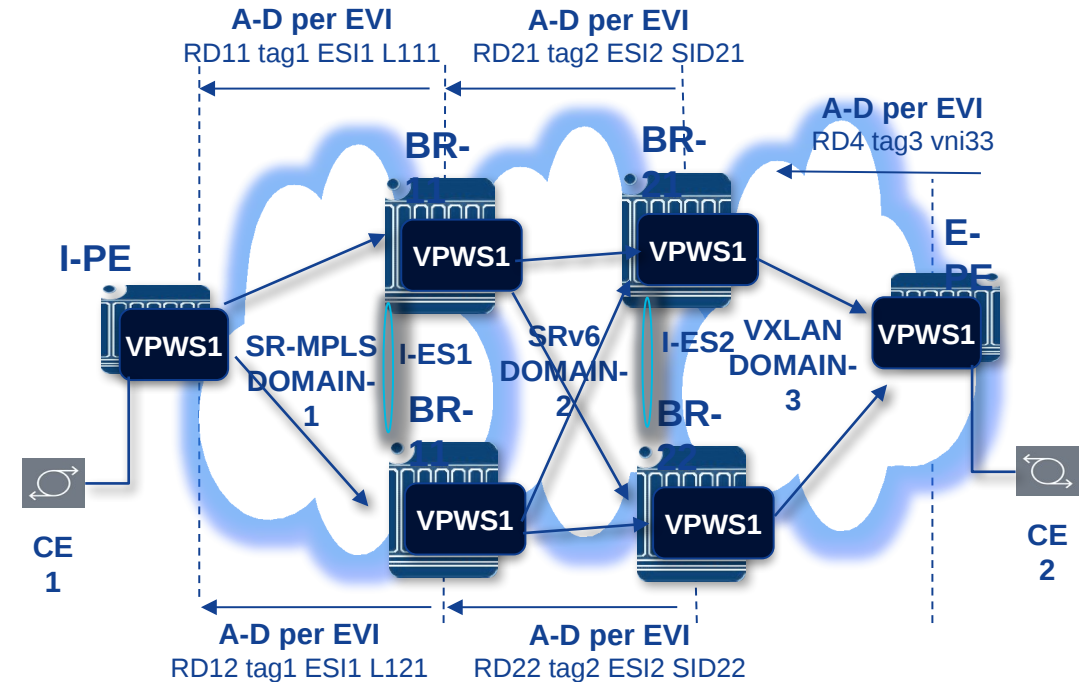
D-PATH updated

# Service Interworking Procedures for EVPN VPWS

## Service Gateway Redundancy



- 1 Anycast Gateways**  
 Each anycast pair advertise the same Tag  
 ESI=0  
 D-PATH is used to avoid loops if the same  
 tag is used across domains



- 2 EVPN Multi-Homing with I-ES**  
 I-ESI as in RFC9014 is used for EVPN  
 VPWS  
 All-active or single-active  
 Mass withdrawal

## Changes in rev 01

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Added support for EVPN FXC services (default Flexible Crossconnect mode or the VLAN-Signaled Flexible Crossconnect)

Updated references

## Next Steps

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The authors would like to request Working Group Adoption

Thank you