

TRILL over MPLS

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About This Draft

- ⊕ Describes use cases for RBridge sites interconnected by an IP/MPLS network to form one RBridge campus using either:
 - ⊕ Point-to-Point TRILL Link
 - ⊕ Multiple Access TRILL Link
- ⊕ Introduce a new Hierarchical L2VPN architecture with RBridge and IP/MPLS
- ⊕ It is an informational draft because it requires no changes to the TRILL or MPLS standards

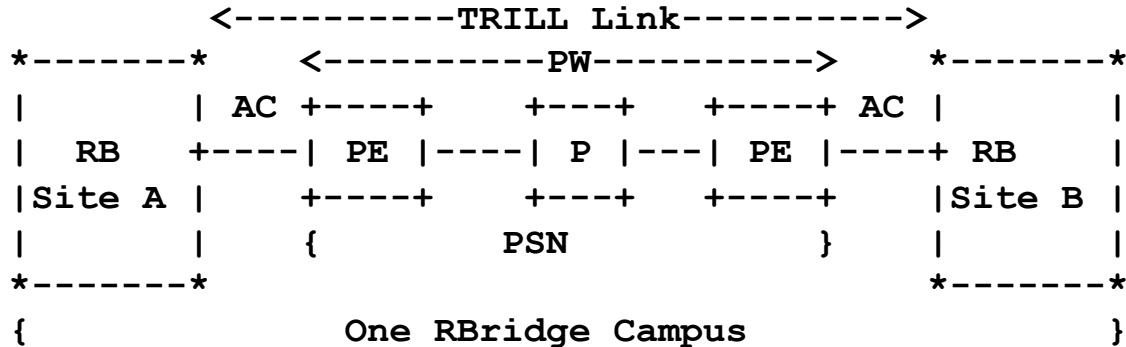
Transparent Interconnect of Lots of Links (TRILL)

- ✿ IETF base standard: RFC6325 and RFC6326
 - ✿ Provide optimal pair-wise data frame forwarding with arbitrary topology and without configuration
 - ✿ Supports multi-pathing for both unicast and multicast traffic
 - ✿ Supports arbitrary link technologies
 - Ethernet: RFC 6325
 - PPP: RFC 6361
- ✿ Devices implementing TRILL are called RBridges (Routing Bridges)
 - ✿ Because they are IS-IS routers used to provide a transparent bridge-like service
- ✿ RBridge Campus provides a bridged LAN service for connected customer bridges, end stations, or routers

Use Cases

Point-to-Point Interconnection

- Use Ethernet or PPP encapsulating PW in IP/MPLS
- Use Ethernet or PPP RBridge ports at AC
- PPP recommended for point-to-point as it saves ~16 bytes per frame

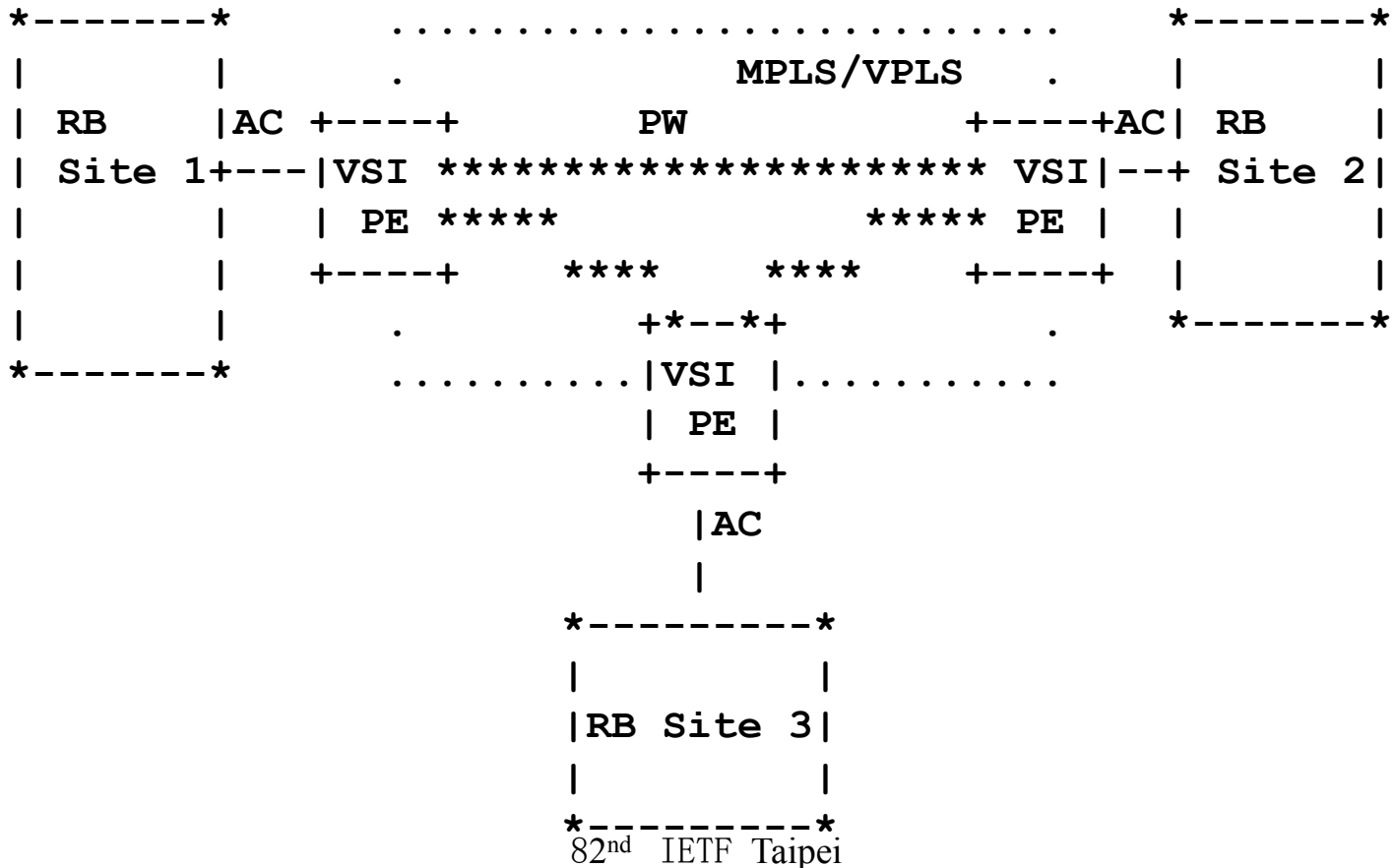


- RBridge and PE can be separated devices or one device

Use Cases

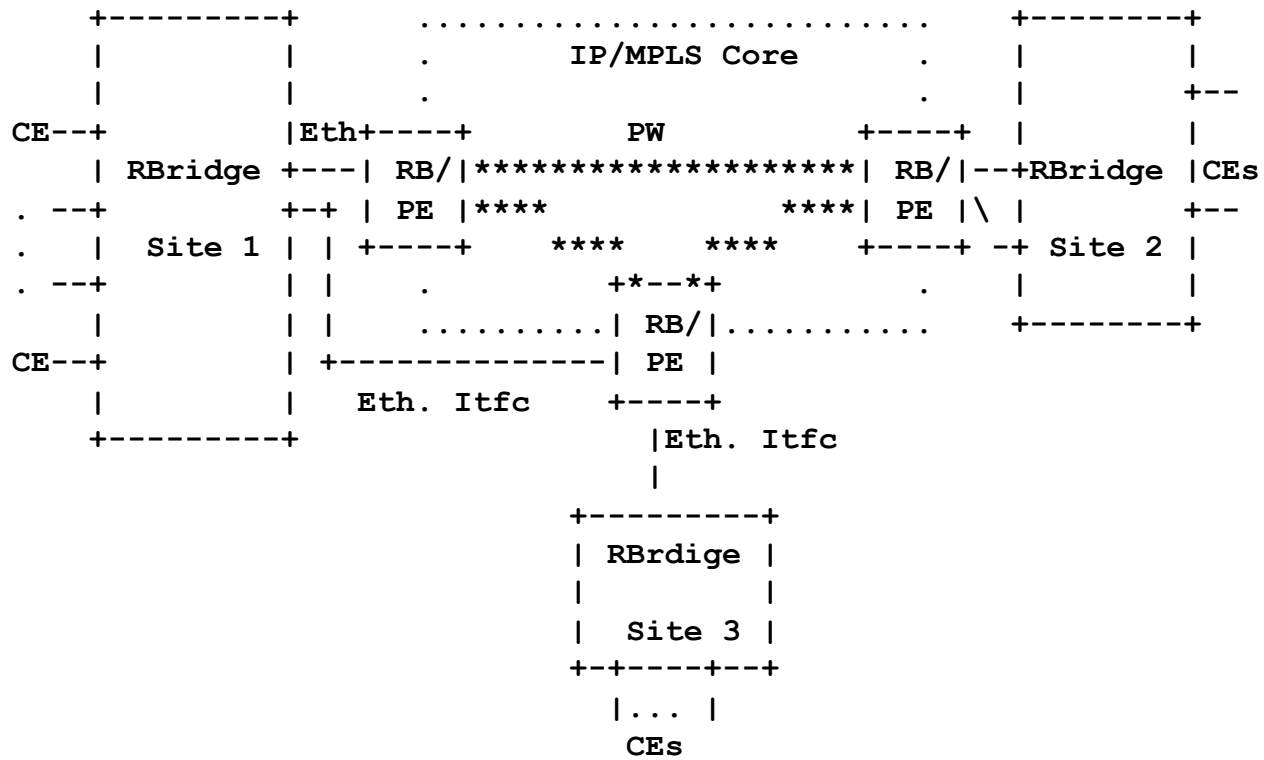
Multi-Access Link Interconnection

- Use MPLS/VPLS to provide a bridged LAN between RBridge ports at different sites
- TRILL supports Ethernet multi-access link (default mode)



Hierarchical L2VPN

- RBridges at low-tier network
- IP/MPLS at top-tier network
- Very scalable solution for L2VPN



Acknowledgement

- ✦ Authors thank Ben Mack-Crane, Sue Hares, for their valuable contributions

Next Steps

- ⊕ Welcome the review and feedbacks
- ⊕ Work on auto-configuration for Hierarchical L2VPN