

OSPF SHAM LINK

Although Open Shortest Path First (OSPF) PE-CE connections assume that the only path between two client sites is across the MPLS Layer 3 VPN backbone, backdoor paths between VPN sites might exist.

If these sites belong to the same OSPF area, the router always chooses the path over a backdoor link because OSPF prefers intra-area paths to interarea paths. (PE routers advertise OSPF routes that they learned over the VPN backbone as interarea paths.)

To reestablish the desired path selection over the MPLS Layer 3 VPN backbone, you must create an additional OSPF intra-area (logical) link between ingress and egress VRFs on the relevant PE routers.

This link is called a sham link.

A sham link is required between any two VPN sites that belong to the same OSPF area and share an OSPF backdoor link.

If no backdoor link exists between the sites, no sham link is required.

When a sham link is configured between PE routers, the PEs can populate the VRF routing table with the OSPF routes learned over the sham link. Because OSPF sees the sham link as an intra-area link between PE routers, an OSPF creates an adjacency and triggers a database exchange (for the particular OSPF process) across the link.

The PE router can then flood LSAs between sites from across the MPLS VPN backbone and create intra-area connectivity.