



Use Case: Cross-Domain Orchestration Using SR/MPLS Handoff

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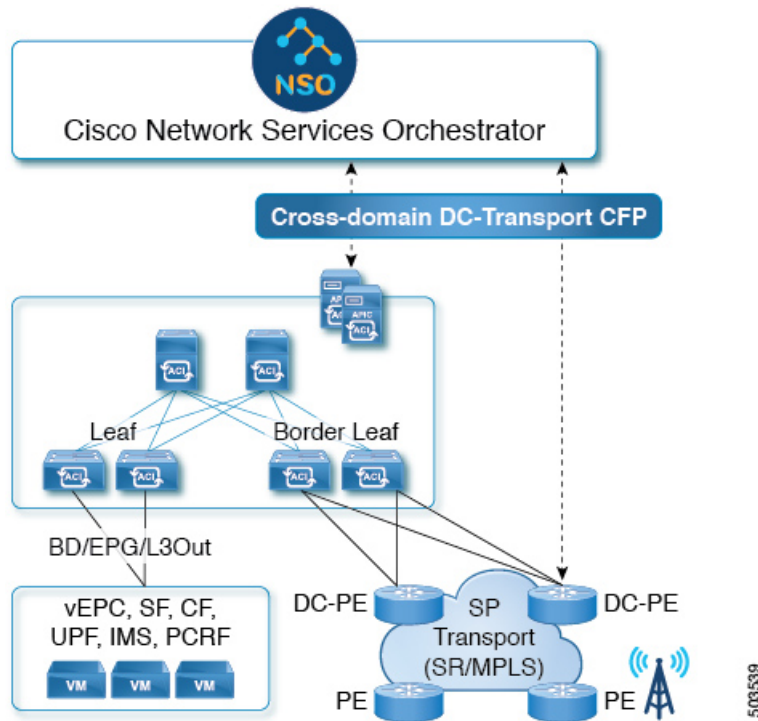
Cross-Domain Orchestration Using SR/MPLS Handoff

In this solution example, we use NSO with the DC-Transport CFP to orchestrate cross-domain transport between the datacenter domain and the service provider (SP) transport domain of a telco network.

The DC-Transport CFP, which is part of the DC-SDN CFP bundle, facilitates the provisioning of the cross-domain transport, enabling automation, scale, and consistent policy between domains.

In this example, shown in the following figure, the handoff to the SP transport network is a segment routing (SR/MPLS) handoff.

Figure 1: Telco ACI datacenter and transport network



You can also provision SR/MPLS handoff for ACI distributed DC solutions such as ACI Remote Leaf, Multi-Site, and Multi-Pod topologies.

Automated Configuration

To provision the cross-domain connection, you will need to provide resource pools, such as the IP subnet, router IDs, and VLAN pools. Using the DC-Transport CFP, NSO will then automate the configuration of the following policies and settings for the ACI border leaf switches and the DC-PE routers:

- VLAN and IP addresses for the underlay BGP-LU, EVPN loopback, transport loopback, RD, RT, VLAN, SID, and Router-ID
 - If resource pools are provided, NSO can also manage these resources during operation, including automatic allocation and removal as needed.
- MPLS QoS policies
- BGP EVPN and labeled unicast session
- Single and Multi-hop BFD
- Routing policies such as BGP color community
- SR/MPLS QOS policies

NSO will also configure Route Target (RT) translation from EVPN to L3VPN on the DC-PE routers, and it will map BGP color-community and prefixes to SR policies on the DC-PE routers.

Software Requirements

The following table lists the minimum software requirements for this solution.

Service	Software Version
IP Handoff	APIC Release 4.2(x)
SR/MPLS Handoff	APIC Release 5.0(x)
IOS XR	Release 7.0.2
SR-TE CFP	Release 1.1

