



Interoperability with EVPN multi-homing using ESI

Cisco Nexus 9000 switches of second generation (EX model and newer) do not offer full support for EVPN multi-homing.



Note For more information on the EVPN multi-homing functionality, see the [Configuring Multi-Homing](#) chapter.

However, as discussed in the following section, Cisco Nexus 9000 switches can be integrated in the same VXLAN EVPN fabric with switches that fully support the EVPN multi-homing functionality.

This chapter contains these sections:

- [VXLAN EVPN interoperability mechanisms](#), on page 1

VXLAN EVPN interoperability mechanisms

A VXLAN EVPN interoperability mechanism is a network interoperability mechanism that

- enables switches using both reserved and non-reserved ESI values to participate in a VXLAN EVPN fabric
- determines how MAC and IP routes are resolved based on ESI type, and
- supports seamless operation between devices using vPC multi-homing and those using EVPN multi-homing.

Beginning Cisco NX-OS Release 10.2(2)F, EVPN MAC/IP routes (Type 2) with non-reserved and with reserved ESI (0 or MAX-ESI) values are evaluated for forwarding (a functionality usually referred to as "ESI RX"). The definition of the EVPN MAC/IP route resolution is defined in [RFC 7432 Section 9.2.2](#).

- For reserved ESI values (0 or MAX-ESI), MAC/IP route resolution is performed solely using the MAC/IP route (BGP next-hop within Type 2).
- For non-reserved ESI values, MAC/IP route resolution occurs only if an accompanying per-ES Ethernet Auto-Discovery route (Type 1, per-ES EAD) is present.
- MAC/IP route resolution with non-reserved ESI values is supported on Cisco Nexus 9300-EX/FX/FX2/FX3/GX Series switches.

These switches, while continuing to use vPC multi-homing for locally connected devices (as discussed in the previous [Configure vPC Multi-Homing](#) and [Configuring vPC Fabric Peering](#) sections), can coexist in a VXLAN EVPN fabric alongside switches using EVPN multi-homing for local device connectivity. MAC and IP addresses for remote endpoints are learned from remote switches via the EVPN control plane and are assigned multiple next-hop IP addresses (unique VTEP addresses for each switch using EVPN multi-homing).

In a data center network, you can connect some devices locally using vPC multi-homing while other devices rely on EVPN multi-homing. The system learns the MAC and IP addresses of remote devices using control plane messages and resolves their next-hop information according to ESI value and platform capability. This design allows for interoperability between mixed deployments of vPC and EVPN multi-homing.