



Feature History for BGP EVPN VXLAN

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This table provides release and related information for features explained in this module.

These features are available on all releases subsequent to the one they were introduced in, unless noted otherwise.

| Release | Feature | Feature Information |
|--------------------------|---|--|
| Cisco IOS XE Fuji 16.9.1 | EVPN VXLAN Overlay Network for IPv4 Bridged Traffic | <p>EVPN VXLAN overlay network for IPv4 bridged traffic is a Layer 2 overlay network that allows host devices within the same subnet to send IPv4 bridged traffic to each other using a Layer 2 virtual network instance (VNI).</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | EVPN VXLAN Overlay Network for IPv4 Routed Traffic | <p>EVPN VXLAN overlay network for IPv4 routed traffic is a Layer 3 overlay network that allows host devices in different Layer 2 networks to send IPv4 routed traffic to each other using a Layer 3 VNI and an IP VRF.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Layer 2 Broadcast, Unknown Unicast, and Multicast (BUM) Traffic Forwarding using Underlay Multicast | <p>Multi-destination Layer 2 broadcast, unknown unicast, and multicast (BUM) traffic in an EVPN VXLAN network is replicated through a multicast group in the underlay network and forwarded to all the endpoints of the network.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Leaf Functionality | <p>A leaf switch sits on the edge of a BGP EVPN VXLAN fabric and is connected to the host or access devices. It functions as a virtual tunnel end point (VTEP) and performs encapsulation and decapsulation.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | EVPN VXLAN Integrated Routing and Bridging | <p>EVPN VXLAN integrated and bridging (IRB) allows the VTEPs in a VXLAN network to forward both Layer 2 or bridged traffic and Layer 3 or routed traffic. It is implemented as symmetric and asymmetric IRB.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | EVPN VXLAN Distributed Anycast Gateway | |

| Release | Feature | Feature Information |
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| | | <p>EVPN VXLAN distributed anycast gateway is a default gateway addressing mechanism that enables the use of the same gateway IP address across all the leaf switches that are part of a VXLAN network.</p> <p>Support was introduced with manual MAC address configuration on the Layer 2 VNI VLAN's switch virtual interface (SVI) on all VTEPs as the only method to enable the feature.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |
| | DHCP Relay for IPv4 Traffic in BGP EVPN VXLAN Fabric | <p>The VTEP in a BGP EVPN VXLAN fabric is configured as a DHCP relay agent to provide DHCP relay services for IPv4 traffic in a multi-tenant VXLAN environment.</p> <p>Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches.</p> |

| Release | Feature | Feature Information |
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| Cisco IOS XE Gibraltar 16.10.1 | EVPN VXLAN Overlay Network for IPv4 Bridged Traffic | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | EVPN VXLAN Overlay Network for IPv4 Routed Traffic | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | Layer 2 Broadcast, Unknown Unicast, and Multicast (BUM) Traffic Forwarding using Underlay Multicast | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | EVPN VXLAN Integrated Routing and Bridging | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | EVPN VXLAN Distributed Anycast Gateway | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | DHCP Relay for IPv4 Traffic in BGP EVPN VXLAN Fabric | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |
| | Leaf Functionality | Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches. |

| Release | Feature | Feature Information |
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| Cisco IOS XE Gibraltar 16.11.1 | EVPN VXLAN Overlay Network for IPv6 Bridged Traffic | <p>EVPN VXLAN overlay network for IPv6 bridged traffic is a Layer 2 overlay network that allows host devices within the same subnet to send IPv6 bridged traffic to each other using a Layer 2 VNI.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | EVPN VXLAN Overlay Network for IPv6 Routed Traffic | <p>EVPN VXLAN overlay network for IPv6 routed traffic is a Layer 3 overlay network that allows host devices in different Layer 2 networks to send IPv6 routed traffic to each other using a Layer 3 VNI and an IP VRF.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Layer 2 Broadcast, Unknown Unicast, and Multicast (BUM) Traffic Forwarding using Ingress Replication | <p>Ingress replication is a unicast approach to handle multi-destination Layer 2 BUM traffic in an EVPN VXLAN network. It involves an ingress device replicating every incoming BUM packet and sending them as a separate unicast to the remote egress devices.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |

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| Cisco IOS XE Gibraltar 16.12.1 | MAC Aliasing for EVPN VXLAN Distributed Anycast Gateway | <p>MAC aliasing allows the leaf switches in an EVPN VXLAN network to advertise the MAC addresses of their Layer 2 VLAN's SVI as the gateway MAC address to all the other leaf switches in the network.</p> <p>MAC aliasing removes the need to explicitly configure the same MAC address on the Layer 2 VNI VLAN's SVI on all VTEPs in order to enable distributed anycast gateway.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Border Leaf Functionality | <p>A border leaf switch is a leaf switch in a BGP EVPN VXLAN fabric that enables external connectivity with other Layer 2 and Layer 3 networks by acting as the connecting node between the two networks.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Autonomous System Number Rewrite | <p>The rewrite-evpn-rt-asn command was introduced to enable the rewrite of the autonomous system number (ASN) of the EVPN route target that originates from the current autonomous system with the ASN of the target eBGP EVPN peer.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | VRF-Lite Border Leaf Handoff | <p>VRF-Lite border leaf handoff in a BGP EVPN VXLAN fabric allows Layer 3 external connectivity with a VRF-Lite network through a border leaf switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | MPLS Layer 3 VPN Border Leaf Handoff | <p>MPLS Layer 3 VPN border leaf handoff in a BGP EVPN VXLAN fabric allows Layer 3 external connectivity with an MPLS Layer 3 VPN network through a border leaf switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | IEEE 802.1Q Border Leaf Handoff | <p>IEEE 802.1Q border leaf handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with an IEEE 802.1Q network through a border leaf switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Access Border Leaf Handoff | |

| Release | Feature | Feature Information |
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| | | <p>Access border leaf handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with an Access network through a border leaf switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | VPLS over MPLS Border Leaf Handoff | <p>VPLS over MPLS border leaf handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with a VPLS over MPLS network through a border leaf switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |

| Release | Feature | Feature Information |
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| Cisco IOS XE Amsterdam 17.1.1 | Spine Functionality | <p>A spine switch acts as the connecting node between all the leaf switches in a BGP EVPN VXLAN fabric, forwards the traffic between the leaf switches and provides redundancy to the network.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Border Spine Functionality | <p>A border spine switch in a BGP EVPN VXLAN fabric enables external connectivity with other Layer 2 and Layer 3 networks by acting as the connecting node between the two networks.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | ARP and IPv6 Neighbor Discovery Flooding Suppression | <p>Flooding suppression avoids the flooding of ARP and IPv6 neighbor discovery packets over the VXLAN network to the local and remote host or access devices.</p> <p>Support for this feature was introduced on the C9500-32C, C9500-32QC, C9500-48Y4C, and C9500-24Y4C models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Layer 3 Tenant Routed Multicast for IPv4 Traffic | <p>Layer 3 tenant routed multicast (TRM) for IPv4 traffic enables multicast forwarding for IPv4 traffic in a BGP EVPN VXLAN fabric. It provides multi-tenancy-aware multicast forwarding between senders and receivers within the same subnet or different subnets, locally or across VTEPs.</p> <p>You can configure TRM with PIM sparse mode (PIM-SM) using anycast RP mode and TRM with PIM source specific mode (PIM-SSM).</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | VRF-Lite Border Spine Handoff | <p>VRF-Lite border spine handoff in a BGP EVPN VXLAN fabric allows Layer 3 external connectivity with a VRF-Lite network through a border spine switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | MPLS Layer 3 VPN Border Spine Handoff | <p>MPLS Layer 3 VPN border spine handoff in a BGP EVPN VXLAN fabric allows Layer 3 external connectivity with an MPLS Layer 3 VPN network through a border spine switch.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |

| Release | Feature | Feature Information |
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| | IEEE 802.1Q Border Spine Handoff | IEEE 802.1Q border spine handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with an IEEE 802.1Q network through a border spine switch. Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches. |
| | Access Network Border Spine Handoff | Access border spine handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with an Access network through a border spine switch. Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches. |
| | VPLS over MPLS Border Spine Handoff | VPLS over MPLS border spine handoff in a BGP EVPN VXLAN fabric allows Layer 2 external connectivity with a VPLS over MPLS network through a border spine switch. Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches. |
| | VXLAN-Aware Flexible Netflow | VXLAN-aware Flexible Netflow captures the VXLAN flow information for both bridged and routed traffic. Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches. |
| | BGP EVPN VXLAN MIB support | Support was introduced for the MIB. Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches. |
| Cisco IOS XE Amsterdam 17.2.1 | ARP and IPv6 Neighbor Discovery Flooding Suppression | Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches. |
| | EVPN VXLAN Centralized Default Gateway | EVPN VXLAN Centralized Default Gateway allows a single VTEP in the EVPN VXLAN network to act as the Layer 3 gateway for all the Layer 2 VNIs in the network. Support for this feature was introduced on the C9500-12Q, C9500-16X, C9500-24Q, C9500-40X models of the Cisco Catalyst 9500 Series Switches. |

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| Cisco IOS XE Amsterdam 17.3.1 | Layer 3 Tenant Routed Multicast for IPv6 Traffic | <p>Layer 3 TRM for IPv6 traffic enables multicast forwarding for IPv6 traffic in a BGP EVPN VXLAN fabric. It provides multi-tenancy-aware multicast forwarding between senders and receivers within the same subnet or different subnets, locally or across VTEPs.</p> <p>Support was introduced to configure TRM with PIM-SSM and TRM with PIM-SM.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Enhanced RP Functionality for Layer 3 TRM for IPv4 and IPv6 traffic | <p>Enhancement was introduced for the configuration of an RP in the overlay network for TRM with PIM-SM. The enhancement allows you to configure an RP on a single or multiple VTEPs inside the BGP EVPN VXLAN fabric or on a device outside the fabric.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Interworking of Layer 3 TRM with MVPN Networks for IPv4 Traffic | <p>Interworking of Layer 3 TRM with MVPN Networks allows you to forward IPv4 Layer 3 multicast traffic between sources and receivers of an EVPN VXLAN network and an MVPN network.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Broadcast, Unknown Unicast, and Multicast Traffic Rate Limiting | <p>BUM Traffic Rate Limiting allows you to use a policer and set the flood rate limit of the BUM traffic in the network to a predefined value.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| Cisco IOS XE Amsterdam 17.3.2a | VNI Support Enhancement | <p>Support for up to 512 VNIs (Layer 2 and Layer 3 VNIs combined) per VTEP was introduced.</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |
| | Route Type 2 (RT 2) to Route Type 5 (RT 5) Host Route Reorigination for Overlay Networks with a Centralized Gateway (Asymmetric IRB) | <p>RT 2 to RT 5 reorigination allows a Layer 2 and Layer 3 VXLAN network to import IP addresses from another Layer 2-only VXLAN network. A centralized gateway VTEP can reoriginate any RT 2 host routes, that it learns from the Layer 2 EVPN segment (or MAC VRF), as RT 5 routes in the Layer 3 EVPN segment (or IP VRF).</p> <p>Support for this feature was introduced on all the models of the Cisco Catalyst 9500 Series Switches.</p> |

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