



BGP EVPN VXLAN Scalability Guide

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Scale and Performance Capabilities for BGP EVPN VXLAN on Cisco Catalyst 9600 Series Switches

This section provides information about the platform capabilities and the scale values for various components of a BGP EVPN VXLAN fabric. The numbers in the following table depend on the ternary content addressable memory (TCAM) scale. Use the SDM configuration templates to adjust the Layer 2 and Layer 3 TCAM forwarding table sizes based on the platform positioning. For more information, see *Configuring SDM Templates* module of the *System Management Configuration Guide* for the applicable release.

The scale values listed here are validated with a unidimensional configuration. The values provided in these tables focus on the scalability of one particular feature at a time.

| Product Specification | | | | | | |
|--|--------------|------|------|--------|--------------|--------|
| Supervisor Engine Module | C9600-SUP-1 | | | | C9600X-SUP-2 | |
| BGP EVPN / VXLAN -- Leaf Scale | | | | | | |
| SDM Template | Distribution | Core | NAT | Custom | Core | Custom |
| VXLAN Leaf Node (Per Fabric Domain) | 500 | 500 | 500 | 500 | 500 | 500 |
| VRF | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Layer 2 Virtual Network Instances (VNIs) | 1024 | 1024 | 1024 | 1024 | 1024 | 1024 |
| Layer 3 VNIs | 512 | 512 | 512 | 512 | 1000 | 1000 |
| Layer 3 VRF SVI Interface | 4094 | 4094 | 4094 | 4094 | 4094 | 4094 |

| Product Specification | | | | | | |
|---|-------------|--------|--------|--------|---------------|---------------|
| Supervisor Engine Module | C9600-SUP-1 | | | | C9600X-SUP-2 | |
| MAC Local Hosts | 82000 | 32000 | 32000 | 128000 | 128000 | 256000 |
| MAC Remote Hosts | 82000 | 32000 | 32000 | 128000 | 128000 | 256000 |
| Overlay IPv4 routes (LPM or Indirect Routes) | 114000 | 212000 | 212000 | 256000 | 1500000 | 1500000 |
| Overlay IPv4 Host routes | 114000 | 212000 | 212000 | 256000 | 256000 | 256000 |
| Overlay IPv6 routes (LPM or Indirect Routes) | 114000 | 212000 | 212000 | 256000 | 600000 | 600000 |
| Overlay IPv6 Host routes | 114000 | 212000 | 212000 | 256000 | 256000 | 256000 |
| Tenant Routed Multicast (TRM) IPv4: Overlay Multicast Groups (IGMP) | 2000 | 2000 | 2000 | 32000 | 16000 | 16000 |
| TRM IPv6: Overlay Multicast Groups (MLD) | 2000 | 2000 | 2000 | 32000 | 16000 | 16000 |
| TRMv4: Overlay Multicast Routes (*,G and S,G) | 16000 | 32000 | 32000 | 32000 | 32000 | 32000 |
| TRMv6: Overlay Multicast Routes (*,G and S,G) | 16000 | 32000 | 32000 | 32000 | 32000 | 32000 |
| EVPN VXLAN Aware Flexible NetFlow - Pv4 Ingress Cache Entries | 98000 | 32000 | 32000 | 64000 | Not supported | Not supported |
| EVPN VXLAN Aware Flexible NetFlow - IPv4 Egress Cache Entries | 32000 | 32000 | 32000 | 64000 | Not supported | Not supported |

| Product Specification | | | | | | |
|--|--------------------|--------|--------|--------|---------------------|---------------|
| Supervisor Engine Module | C9600-SUP-1 | | | | C9600X-SUP-2 | |
| EVPN VXLAN Aware Flexible NetFlow - IPv6 Ingress Cache Entries | 32000 | 32000 | 32000 | 64000 | Not supported | Not supported |
| EVPN VXLAN Aware Flexible NetFlow - IPv6 Egress Cache Entries | 32000 | 32000 | 32000 | 64000 | Not supported | Not supported |
| Layer 2 VNI (L2VNI) Multicast Replication BUM Rate-Limiter | 512 | 512 | 512 | 512 | Not supported | Not supported |
| MicroSegmentation - Community VLAN to L2VNI | 2000 | 2000 | 2000 | 2000 | Not supported | Not supported |
| NanoSegmentation - Isolated VLAN to L2VNI | 384 | 384 | 384 | 384 | Not supported | Not supported |
| Wide Area Bonjour (mDNS) over VXLAN Service Instance Count | 15000 | 15000 | 15000 | 15000 | 15000 | 15000 |
| BGP EVPN / VXLAN -- Spine Scale | | | | | | |
| SDM Template | Distribution | Core | NAT | Custom | Core | Custom |
| BGP IPv4 Peer Scale | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| BGP IPv6 Peer Scale | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| BGP L2VPN EVPN Peer Scale | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Overlay IPv4 routes (LPM or Indirect Routes) | 114000 | 212000 | 212000 | 256000 | 1500000 | 1500000 |
| Overlay IPv4 Host routes | 114000 | 212000 | 212000 | 256000 | 256000 | 256000 |
| Overlay IPv6 routes (LPM or Indirect Routes) | 114000 | 212000 | 212000 | 256000 | 600000 | 600000 |

| Product Specification | | | | | | |
|---|--------------|--------|--------|--------|---------------|---------------|
| Supervisor Engine Module | C9600-SUP-1 | | | | C9600X-SUP-2 | |
| Overlay IPv6 Host routes | 114000 | 212000 | 212000 | 256000 | 256000 | 256000 |
| BGP EVPN / VXLAN -- Border Scale | | | | | | |
| SDM Template | Distribution | Core | NAT | Custom | Core | Custom |
| EVPN to Layer 2 Handoff: IEEE 802.1Q | 512 | 512 | 512 | 512 | 512 | 512 |
| EVPN to Layer 2 Handoff: IEEE 802.1ad (QinQ) | 512 | 512 | 512 | 512 | 512 | 512 |
| EVPN to VRF Handoff: IP VRF (IPv4 and IPv6) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| EVPN to MPLS Layer 3 VRF Unicast Handoff: VPNv4 | 512 | 512 | 512 | 512 | Not supported | Not supported |
| EVPN to MPLS Layer 3 VRF Unicast Handoff: VPNv6 | 512 | 512 | 512 | 512 | Not supported | Not supported |
| EVPN to MPLS Layer 3 VRF Multicast Handoff: mVPNv4 | 512 | 512 | 512 | 512 | Not supported | Not supported |
| EVPN to MPLS Layer 3 VRF Multicast Handoff: mVPNv6 | 512 | 512 | 512 | 512 | Not supported | Not supported |
| EVPN to VPLS Layer 2 Handoff: Virtual Forwarding Instances (VFIs) | 512 | 128 | 512 | 512 | Not supported | Not supported |
| EVPN to VPLS Layer 2 Handoff: Neighbors Per VFI | 128 | 128 | 128 | 128 | Not supported | Not supported |
| EVPN to VPLS Layer 2 Handoff: Pseudowire | 512 | 512 | 512 | 512 | Not supported | Not supported |