

CN93240YC-FX2 NX-OS Verified Scalability Guide, Release 9.3(2)

[Introduction](#)

[Verified Scalability Limits - Unidimensional](#)

[Verified Scalability Limits - Multidimensional](#)

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Introduction

This document describes the NX-OS configuration limits for CN93240YC-FX2 switches.

The values provided in this guide should not be interpreted as theoretical system limits for CN93240YC-FX2 hardware or NX-OS software. These limits refer to values that have been validated by Inspur. They can increase over time as more testing and validation is done.

Verified Scalability Limits - Unidimensional

The tables in this section list the verified scalability limits for the CN93240YC-FX2 switches for NX-OS Release 9.3(2). These limits are validated with a unidimensional configuration. The values provided in these tables focus on the scalability of one particular feature at a time.

Each number is the absolute maximum currently supported by this NX-OS release for the corresponding feature. If the hardware is capable of a higher scale, future software releases might increase this verified maximum limit. Results might differ from the values listed in this guide when you try to achieve maximum scalability with multiple features enabled.



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- Note**
1. If only one number is provided, the verified limit applies to all supported platforms and line cards.
 2. Verified limits are provided only for supported platforms.
 3. If a feature is not supported for a particular platform, the verified limit is not provided.
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Table 1: CN3000 Series Fabric Extenders (FEX) Straight Through Mode Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Fabric Extenders ¹ and Fabric Extender server interfaces	CN93240YC-FX2 switches	16 and 768
VLANs across all Fabric Extenders	CN93240YC-FX2 switches	562
VLANs per Fabric Extender server interface ²	CN93240YC-FX2 switches	75
Port channels	CN93240YC-FX2 switches	562

- ¹ When FEX configured using "AA" mode, then the maximum number of 6 FEX on NFE base ToR and 16 FEX for LSE base ToR are supported.
- ² For FEX HIF port channels, Cisco recommends that you enable STP port type edge using the **spanning tree port type edge [trunk]** command.

Table 2: Intelligent Traffic Director Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Nodes per device group	CN93240YC-FX2 switches	32
Nodes across all device groups	CN93240YC-FX2 switches	256
Device groups per switch	CN93240YC-FX2 switches	48
ITD services per switch	CN93240YC-FX2 switches	64
Ingress interfaces per ITD service	CN93240YC-FX2 switches	8
Virtual IP addresses per ITD service	CN93240YC-FX2 switches	255
Device groups per ITD service	CN93240YC-FX2 switches	48



Note For a list of platforms on which ITD, see the [CN93240YC-FX2 NX-OS Intelligent Traffic Director Configuration Guide](#).

Table 2: Interfaces Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
DHCP clients per switch	CN93240YC-FX2 switches	10 (IPv4) + 10 (IPv6)
Static network address translation (NAT)	CN93240YC-FX2 switches	1,023
Dynamic network address translation (NAT)	CN93240YC-FX2 switches	1023
Static twice network address translation (NAT)	CN93240YC-FX2 switches	768
Dynamic twice network address translation (NAT)	CN93240YC-FX2 switches	1,023

Feature	Supported Platforms	Verified Limits
Flex link	CN93240YC-FX2 switches	One pair consists of one each of active and backup interface. The active and backup interface can be either a physical port or port channel.
IP DHCP relay addresses (helper addresses) per switch	CN93240YC-FX2 switches	32 (IPv4) + 32 (IPv6)
Generic routing encapsulation (GRE) tunnels	CN93240YC-FX2 switches	8
Port channel links	CN93240YC-FX2 switches	32
SVIs	CN93240YC-FX2 switches	450 (with HSRP)
SVI Unnumbered	CN93240YC-FX2 switches	Primary (50); Secondary (450), 1 primary SVI can have a maximum of 50 secondary SVIs
vPCs	CN93240YC-FX2 switches	80

Table 3: Label Switching Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Forwarding Equivalence Classes (FECs) (Node /Prefix /Adj / Binding SID)	CN93240YC-FX2 switches	128
	CN93240YC-FX2 switches	MPLS Heavy Template: 4096; Default: 1024
Equal-cost multipaths (ECMPs)	CN93240YC-FX2 switches	32
Equal-cost multipaths Groups (ECMPs)	CN93240YC-FX2 switches	MPLS Heavy Template: 4096; Default: 1024
Flex counters for segment-routing in ingress direction	CN93240YC-FX2 switches	Total ingress label stats: 4000; VRF ingress label stats: 1,000; (MPLS Heavy Template)

Feature	Supported Platforms	Verified Limits
Egress Peer Engineering	CN93240YC-FX2 switches	64
Label-switched paths (LSPs) for label stack imposition ⁸	CN93240YC-FX2 switches	256 (with 32-way ECMP and 5 label stack push)
Layer 3 EVPN Labels	CN93240YC-FX2 switches	1,000 (With MPLS Heavy Template))
Node Sid/Prefix SID Scale	CN93240YC-FX2 switches	4,000
Adjacency SID Scale	CN93240YC-FX2 switches	600
Flex counters for segment-routing in Egress direction	CN93240YC-FX2 switches	Total ingress label stats: 48K (MPLS Heavy Template)
Binding SID Scale	CN93240YC-FX2 switches	1,000
Private VLANs (PVLANS)		
Primary VLANs ⁹	CN93240YC-FX2 switches	16
Secondary VLANs ¹⁰	CN93240YC-FX2 switches	20
Ports in Community host mode	CN93240YC-FX2 switches	40
Ports in isolated host mode	CN93240YC-FX2 switches	40
Ports in isolated trunk host mode	CN93240YC-FX2 switches	40
Ports in promiscuous mode	CN93240YC-FX2 switches	5
Ports in promiscuous trunk mode	CN93240YC-FX2 switches	5
PVLANS allowed on a PVLAN port ¹¹	CN93240YC-FX2 switches	16

- ⁹ The 400 PVLAN mapping scale per PVLAN port is only applicable when port is configured as promiscuous trunk port
- ¹⁰ The 400 PVLAN mapping scale per PVLAN port is only applicable when port is configured as promiscuous trunk port
- ¹¹ The 400 PVLAN mapping scale per PVLAN port is only applicable when port is configured as promiscuous trunk port



Note For network scalability, Inspur recommends using a hierarchical routing design with multi-hop BGP for advertising the attached prefixes from a top-of-rack (ToR) or border leaf switch.

Table 4: Layer 2 Switching Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
MAC addresses	CN93240YC-FX2 switches	92,000
MST instances	CN93240YC-FX2 switches	64
MST virtual ports with more than 1 MST instance	CN93240YC-FX2 switches	48,000
RPVST virtual ports	CN93240YC-FX2 switches	12,000
VLANs	CN93240YC-FX2 switches	3,967 (the remaining 127 VLANs are reserved)
VLANs in RPVST mode	CN93240YC-FX2 switches	3,967
Total number of VLANs × ports with switchport isolated (3967 VLANs x 48 ports)	CN93240YC-FX2 switches	190,000

- ¹² Layer 2 undimensional scale only. SVI, Layer 3 interface, and VXLAN VLANs are not supported. 200K MAC is enabled only when " system routing template-l2-heavy" is configured and the system is reloaded.
- ¹³ On EOR, support is for 12000 PV count with 3967 vlans and RPVST with default timers. If 22000 PV count is needed with 3968 vlans and RPVST, recommended hello timer value is 4 or higher. It is also recommended to tune forward delay and max age accordingly



Note

- The number of supported VLANs per vPC should be within the MST or RPVST virtual port count specified in this table, depending on the topology.
- The number of supported STP VLAN port instances, for Fabric Extender host interface ports, should be less than 13,000.

Table 5: Multicast Routing Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
IPv4 multicast routes Note The limits are for a combination of IPv4 and IPv6 multicast routes. Layer 2 multicast routes are a part of the total 120K limits. For example 110,000 IPv4 + 2,000 IPv6 multicast routes.	CN93240YC-FX2 switches	8,000 (Layer 2 + Layer 3); 32,000 (layer 2 + Layer 3 with system routing template -multicast -heavy mode)
IPv6 multicast routes	CN93240YC-FX2 switches	2048 (Layer 3 with system routing template -multicast -heavy mode)
Outgoing interfaces (OIFs)	CN93240YC-FX2 switches	40 (SVI + physical Layer 3) or 256 (physical Layer 3)
IGMP snooping groups	CN93240YC-FX2 switches	16,000
PIM neighbors	CN93240YC-FX2 switches	250



- Note**
- The IPv4 multicast routes and the IPv4/IPv6 host routes share the same hardware table. Limits are provided for both the default line card mode and the max host line card mode.
 - High availability (graceful restart and stateful switchover) is not supported when unicast or multicast aggressive timers are configured at any scale.

Table 6: IP Fabric for Media Solution Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
Number of nodes	29 (2spine and 27 leafs)
No of routes	32,000
Host Policy	
Sender	8,000
Receiver	8,000
PIM	512
FlowPolicy	2,000
ASM group-range	20
NBM Static Flows	
Per switch maximum (receiver leaf where the static OIF will be programmed) mroutes	1,500
Per fabric maximim mroutes	8,000
VRFs	16
RTP Flow Monitoring with ACL	
ACL	128 IPv4 ACL entries or 64 IPv6 ACL entries (total 128 TCAM spaces) Note With combined IPv4 and IPv6 ACL entries, the scale limit cannot exceed 128 TCAM space.



Note For a list of supported platforms, see [CN93240YC-FX2 NX-OS IP Fabric for Media Solution Guide](#).

Table 7: Security Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Egress ACLs	CN93240YC-FX2 switches	20,000
System ACLs	CN93240YC-FX2 switches	4000 TCAM entries in internal TCAM 64000 TCAM entries in external TCAM
DHCP snooping bindings	CN93240YC-FX2 switches	2,048
IPv4 ingress TCAM entries	CN93240YC-FX2 switches	3,582
IPv4 egress TCAM entries	CN93240YC-FX2 switches	1,792 (per slice of the forwarding engine)
IPv6 ingress TCAM entries	CN93240YC-FX2 switches	1,792 (per slice of the forwarding engine)
IPv6 egress TCAM entries	CN93240YC-FX2 switches	896 (per slice of the forwarding engine)



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- Note**
- The TCAM entries scalability limits also apply to policy-based TCAM entries (PBACLs).
 - Only 62 unique ACLs can be configured. Each ACL takes one label. If the same ACL is configured on multiple interfaces, the same label is shared. If each ACL has unique entries, the ACL labels are not shared, and the label limit is 62.
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Table 8: System Management Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
PTP		
PTP master ports	CN93240YC-FX2 switches	64
sFlow		
sFlow ports	CN93240YC-FX2 switches	64
SPAN and ERSPAN		
Configurable SPAN or ERSPAN sessions	CN93240YC-FX2 switches	32
Active SPAN or ERSPAN sessions ¹⁶	CN93240YC-FX2 switches	4
Active localized SPAN or ERSPAN sessions per line card ¹⁷	CN93240YC-FX2 switches	4
Source interfaces per SPAN or ERSPAN session (Rx and Tx, Rx, or Tx)	CN93240YC-FX2 switches	48
Destination interfaces per SPAN session	CN93240YC-FX2 switches	1 (physical/PO interface)
Source VLANs per SPAN or ERSPAN session	CN93240YC-FX2 switches	32
Tap Aggregation		
Redirect interfaces in the redirect port list	CN93240YC-FX2 switches	12
Redirect port lists (or fan outs) per system	CN93240YC-FX2 switches	12
NetFlow		
Flow monitors	CN93240YC-FX2 switches	2 exporters and 32 flow monitors per type (32 Layer 2 flow monitors, 32 IPv4 flow monitors, and 32 IPv6 flow monitors)

¹⁵ An EPLD upgrade is necessary before you use PTP offload.

¹⁶ A single forwarding engine instance supports four SPAN or ERSPAN sessions. For CN93240YC-FX2 switches, if the first three sessions have bidirectional sources, the fourth session has hardware resources only for Rx sources.

¹⁷ The number of SPAN or ERSPAN sessions per line card reduces to two if the same interface is configured as the bidirectional source in more than one session.



Note PTP is supported for CN93240YC-FX2 hardware except for the 100G 9408PC line card and the 100G M4PC generic expansion module (GEM).

Table 9: Unicast Routing Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Unicast Routing		
BFD sessions (echo mode)	CN93240YC-FX2 switches	128 Note CN93240YC-FX2 platform switches support up to 512 BFD sessions, when the BFD intervals are relaxed to 300 ms.
BGP neighbors	CN93240YC-FX2 switches	1024 (9346C, 9300-EX, 9300-FX/FX2)
EIGRP routes	CN93240YC-FX2 switches	20,000
EIGRP neighbors	CN93240YC-FX2 switches	256
HSRP groups	CN93240YC-FX2 switches	1000 ¹⁹
IPv4 ARP	CN93240YC-FX2 switches	64,000 / 32,000 (with out/with urpf enabled) (in default routing mode, Hash Table: Shared between IPv6 ND, IPv4 ARP)
IPv4 host routes ²⁰	CN93240YC-FX2 switches	471,000 (default); 786,000/734,000 (with out/with urpf enabled) (with system routing template -lpm -heavy mode)

Feature	Supported Platforms	Verified Limits
IPv6 host routes 21	CN93240YC-FX2 switches	265,000 (default) 442,000 / 412,000 (with out/with urpf enabled) (with system routing template -lpm - heavy mode)
IPv6 ND	CN93240YC-FX2 switches	32,000 (default), 16,000 (lpm heavy)
IPv4 unicast routes (LPM)*	CN93240YC-FX2 switches	471,000 (default)
IPv6 unicast routes (LPM)*	CN93240YC-FX2 switches	265,000 (default)
IPv4 host routes (LPM heavy mode)	CN93240YC-FX2 switches	786,000 / 734,000 (with out/with urpf enabled)
IPv6 host routes (LPM heavy mode)	CN93240YC-FX2 switches	442,000 / 412,000 (with out/with urpf enabled) (protocol learned host)
IPv4 LPM routes (LPM heavy mode)	CN93240YC-FX2 switches	786,000 / 734,000 (with out/with urpf enabled)
IPv6 LPM routes (LPM heavy mode)	CN93240YC-FX2 switches	442,000 / 412,000 (with out/with urpf enabled)
IPv4 host routes (dual-host mode)	CN93240YC-FX2 switches	262,000
IPv6 host routes (dual-host mode)	CN93240YC-FX2 switches	131,000
IPv4 LPM routes (dual-host mode)	CN93240YC-FX2 switches	7,000
IPv6 LPM routes (dual-host mode)	CN93240YC-FX2 switches	1,900
IPv4 ARP (dual-host mode)	CN93240YC-FX2 switches	64,000
IPv6 ND (dual-host mode)	CN93240YC-FX2 switches	64,000
IPv4 host routes (internet-peering mode)	CN93240YC-FX2 switches	1 Million (protocol learned host)
IPv6 host routes (internet-peering mode)	CN93240YC-FX2 switches	500,000
IPv4 ARP (internet peering mode)	CN93240YC-FX2 switches	32,000 (Hash Table: Shared between IPv6 ND, IPv4 ARP)

Feature	Supported Platforms	Verified Limits
IPv6 ND (internet-peering mode)	CN93240YC-FX2 switches	16,000 (Hash Table: Shared between IPv6 ND, IPv4 ARP)
IS-ISv4 adjacencies (either L1, L2, or sum of L1 and L2 with default timers)	CN93240YC-FX2 switches	255
IS-ISv4 BFD sessions (with default timers)	CN93240YC-FX2 switches	255
IS-ISv4 routes	CN93240YC-FX2 switches	10,000
IS-ISv4 network type	CN93240YC-FX2 switches	Point to point, broadcast
OSPFv2 neighbors	CN93240YC-FX2 switches	256
OSPFv3 neighbors	CN93240YC-FX2 switches	256
OSPF/OSPFv3 LSA/LSDB size	CN93240YC-FX2 switches	100,000
OSPF/OSPFv3 areas	CN93240YC-FX2 switches	100
Static routes	CN93240YC-FX2 switches	4,000
VRFs	CN93240YC-FX2 switches	1,000
VRRP groups per interface or I/O module	CN93240YC-FX2 switches	250
Policy-based routing (PBR)		
Configured sequences per policy	CN93240YC-FX2 switches	128
Next-hop addresses per policy	CN93240YC-FX2 switches	32
IPv4 ACEs (unidimensional)	CN93240YC-FX2 switches	3582 (per network forwarding engine)
IPv6 ACEs (unidimensional)	CN93240YC-FX2 switches	1792 (per network forwarding engine)
IPv4 and IPv6s ACEs	CN93240YC-FX2 switches	1024 IPv4 + 128 IPv6

Feature	Supported Platforms	Verified Limits
Interfaces with PBR policy	CN93240YC-FX2 switches	512
VRRPv3		
VRRPv3 groups per interface	CN93240YC-FX2 switches	255
VRRPv3 groups with default timers (1 s)	CN93240YC-FX2 switches	490
VRRPv3 groups with relaxed timers (3 s)	CN93240YC-FX2 switches	490
Pathways with one VRRPv3 group with default timer (1 s)	CN93240YC-FX2 switches	489
VRRPv3 groups and pathways combined	CN93240YC-FX2 switches	490
ECMP		
ECMP Paths	CN93240YC-FX2 switches	64

¹⁸ The limit of supported BFD sessions for each EoR line card is 75.

¹⁹ If you have more than 490 groups, then only one group per SVI. SVIs cannot have a user defined MAC or any VRRP group with it.

²⁰ The hash table is subject to collisions. Depending on the host route pattern, collisions might occur.

²¹ The hash table is subject to collisions. Depending on the host route pattern, collisions might occur.

²² Contains internet peering profile with additional IPv4 and IPv6 routes.

²³ Internet profile with additional IPv4 routes (total of 914K routes consisting of IPv4 and 62K of IPv6)

²⁴ Internet profile with additional IPv6 routes (total of 871K routes consisting of IPv6 and 696K of IPv4)

**Note**

- The IPv4/IPv6 host routes and the IPv4 multicast routes share the same hardware table. Limits are provided for both the default line card mode and the max host line card mode.
- The IPv4 and IPv6 unicast routes share the same hardware table. Limits are provided for both the default line card mode and the max host line card mode.
- High availability (graceful restart and stateful switchover) is not supported when unicast or multicast aggressive timers are configured at any scale.

Guidelines and Limitations for OSPF Verified Scalability Limits

- To achieve the highest scale, we recommend that you use a single OSPF instance instead of multiple instances.
- Each OSPFv2 and OSPFv3 scale value might vary when combined with other parameters.
- The graceful restart timeout value might need to be increased in multi-dimensional scenarios.

Table 10: PVLAN VXLAN Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
Primary VLANs	CN93240YC-FX2 switches	16
Secondary VLANs	CN93240YC-FX2 switches	20
Ports in community host mode	CN93240YC-FX2 switches	40
Port in Isolated host mode	CN93240YC-FX2 switches	40
Ports in isolated trunk mode	CN93240YC-FX2 switches	40
Ports in promiscuous mode	CN93240YC-FX2 switches	5
PVLANS allowed on a PVLAN port	CN93240YC-FX2 switches	16

Table 11 VXLAN Verified Scalability Limits (Unidimensional)

Feature	Supported Platforms	Verified Limits
IGMP snooping over VXLAN		
VXLAN VLANs	CN93240YC-FX2 switches	1000

Feature	Supported Platforms	Verified Limits
VTEP Peers ²⁵	CN93240YC-FX2 switches	512
Underlay multicast groups	CN93240YC-FX2 switches	128
Multi-Site 26		
Number of Sites	CN93240YC-FX2 switches	25
Number of BGWs per site with TRM enabled ²⁷	CN93240YC-FX2 switches	6 (Anycast), 2(vPC)
Number of sites for TRM	CN93240YC-FX2 switches	15 sites
Number of BGWs for TRM	CN93240YC-FX2 switches	06 BGW
VTEPs per Site	CN93240YC-FX2 switches	256
Tenant Route Multicast L3 Mode with VXLAN BGP eVPN		
VXLAN Layer 2 VNI	CN93240YC-FX2 switches	1000
VXLAN Layer 3 VNI/VRFs	CN93240YC-FX2 switches	250
VTEP Peers	CN93240YC-FX2 switches	256
Underlay Multicast Group (PIM ASM Underlay)	CN93240YC-FX2 switches	2 ²⁸
Overlay Multicast Group (PIM ASM & PIM SSM)	CN93240YC-FX2 switches	7200 ²⁹
VXLAN Flood and Learn		
Virtual network identifiers (VNIs) or VXLAN-mapped VLANs	CN93240YC-FX2 switches	2000
Overlay Multicast Group (PIM ASM & PIM SSM)	CN93240YC-FX2 switches	7200 ²⁹

Feature	Supported Platforms	Verified Limits
VXLAN Flood and Learn		
Virtual network identifiers (VNIs) or VXLAN-mapped VLANs	CN93240YC-FX2 switches	2000
Underlay multicast groups	CN93240YC-FX2 switches	128
Overlay MAC addresses	CN93240YC-FX2 switches	60,000
Remote VXLAN tunnel endpoints (VTEPs) ³⁰	CN93240YC-FX2 switches	256
Ingress replication peers	CN93240YC-FX2 switches	256
Ingress replication Layer 2 VNIs	CN93240YC-FX2 switches	1000
MAC addresses for ingress replication	CN93240YC-FX2 switches	90,000
Port VLAN translations under an interface	CN93240YC-FX2 switches	500
Port VLAN translations in a switch	CN93240YC-FX2 switches	6,000
Static MAC addresses pointing to a remote VTEP	CN93240YC-FX2 switches	1000
Layer 2 routed VNIs for vPC-centralized gateway	CN93240YC-FX2 switches	450
IGMP groups	CN93240YC-FX2 switches	8,192
VXLAN BGP eVPN		
Layer 2 VNIs	CN93240YC-FX2 switches	2000, 4000 (with no Layer 3 VNIs)
Xconnect VLANs	CN93240YC-FX2 switches	40
SVI with Distributed Anycast Gateway; Layer 2 VNI extended	CN93240YC-FX2 switches	2,000
Layer 3 VNIs / VRFs ³⁴	CN93240YC-FX2 switches	900

Feature	Supported Platforms	Verified Limits
Underlay multicast groups	CN93240YC-FX2 switches	128
VTEPs	CN93240YC-FX2 switches	512
MAC addresses	CN93240YC-FX2 switches	90,000
IPv4 host routes	CN93240YC-FX2 switches	471,000
IPv6 host routes	CN93240YC-FX2 switches	265,000
Overlay IPv4 LPM routes	CN93240YC-FX2 switches	471,000
Overlay IPv6 LPM routes	CN93240YC-FX2 switches	265,000 ³⁶
IGMP groups	CN93240YC-FX2 switches	8,192
VXLAN BGP eVPN Ingress Replication		
Layer 2 VNIs	CN93240YC-FX2 switches	2,000
Xconnect VLANs	CN93240YC-FX2 switches	40
SVI with Distributed Anycast Gateway; Layer 2 VNI extended	CN93240YC-FX2 switches	2,000
IGMP groups	CN93240YC-FX2 switches	8,192
Overlay IPv4 LPM routes	CN93240YC-FX2 switches	471,500
Overlay IPv6 LPM routes	CN93240YC-FX2 switches	265,000 ⁴¹
IPv4 host routes	CN93240YC-FX2 switches	471,000
IPv6 host routes	CN93240YC-FX2 switches	265,000
MAC addresses	CN93240YC-FX2 switches	90,000
Layer 3 VNIs / VRFs ³⁹	CN93240YC-FX2 switches	900
VTEPs	CN93240YC-FX2 switches	256

- 25 In case of IR, each VNI can have a max of 64 peers.
- 26 All the other BGW numbers (number of supported L2VNIs, L3VNIs, MAC addresses, IP addresses, and so on) match the values supported on a generic VXLAN EVPN VTEP node.
- 27 Multisite enabled with TRM supported number of L2VNIs - 1000 and L3VNIs – 100. Maximum supported multicast underlay and overlay route is 8000.
- 28 VXLAN underlay and overlay multicast routes shares the same hardware table. Maximum Multicast routes is 8000 in the default mode. If you want more overlay route scale, reduce the underlay multicast control group.
- 29 VXLAN underlay and overlay multicast routes shares the same hardware table. Maximum Multicast routes is 8000 in the default mode. If you want more overlay route scale, reduce the underlay multicast control group.
- 30 In case of IR, each VNI can have a max number of 64 peers
- 32 Only 1900 SVI are supported if dual stack is used/IPv6 is used.
- 33 Only 1900 SVI are supported if dual stack is used/IPv6 is used.
- 34 ECMP objects are not shared across multiple VRFs.
- 35 All /64 routes + 4000 for non /64 routes.
- 36 All /64 routes + 4000 for non /64 routes.
- 37 All /64 routes + 4000 for non /64 routes.
- 38 Only 1900 SVI are supported if dual stack is used/IPv6 is used.
- 39 ECMP objects are not shared across multiple VRFs.
- 40 All /64 routes + 4000 for non /64 routes.
- 41 All /64 routes + 4000 for non /64 routes.
- 42 All /64 routes + 4000 for non /64 routes.

Table 12: eBGP/ISIS Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
Number of 100G ports	288
ECMP	16-way (Upstream)
BGP neighbors	960
BGP IPv4 /32 unicast routes	30,000
BGP IPv4 VLSM unicast routes	18,000
BGP IPv6 /128 unicast routes	16,000
BGP IPv6 VLSM unicast routes	1,000
ISIS v2 neighbors	255
ISIS v3 neighbors	255
ISIS L2 adjacency	16
ISIS IPv4 /32 unicast routes	20,000
ISIS IPv4 VLSM unicast routes	1,000

Feature	Verified Limits
ISIS IPv6 /128 unicast routes	20,000
ISIS IPv6 VLSM unicast routes	1,000
BFD sessions	272
PIM neighbors	256
ACL ACEs	15,000 500
Sub-interfaces	712
SPAN sessions	1 local SPAN session
Multicast SSM	20,000

Table 13: iBGP/OSPF Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
Number of 100G ports	180
Number of 40G ports	108
ECMP	8-way (Upstream)
BGP neighbors	8
BGP IPv4 VLSM unicast routes	40,000
BGP IPv6 VLSM unicast routes	10,000
OSPFv2 neighbors	108
OSPFv3 neighbors	30
OSPF IPv4 /32 unicast routes	100,000
OSPF IPv4 VLSM unicast routes	155,000
OSPFv3 IPv6 /128 unicast routes	1,000
OSPFv3 IPv6 VLSM unicast routes	9,000
BFD sessions	108
VRF	250
PIM neighbors	108
IPv4 (*,G) multicast routes	2,000

Feature	Verified Limits
IPv4 (S,G) multicast routes	10,000
ACL ACEs	500 (IPv4) 500 (IPv6)
SPAN sessions	1 local SPAN session

Table 14: iBGP/EIGRP Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
Number of 100G ports	180
Number of 40G ports	108
ECMP	16-way (Upstream)
BGP neighbors	8
BGP IPv4 VLSM unicast routes	40,000
BGP IPv6 VLSM unicast routes	10,000
EIGRP v4 neighbors	276
EIGRP v6 neighbors	276
EIGRP IPv4 /32 unicast routes	30,000
EIGRP IPv4 VLSM unicast routes	1,000
EIGRP IPv6 /128 unicast routes	30,000
EIGRP IPv6 VLSM unicast routes	1,000
BFD sessions	276
VRF	250
PIM neighbors	276
IPv4 (*,G) multicast routes	6,000
IPv4 (S,G) multicast routes	16,000
ACL ACEs	500 (IPv4) 500 (IPv6)
SPAN sessions	1 local SPAN session

Table 15: MPLS Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
MPLS L3VPN	3967
6VPE	3967
6PE nodes	3
6PE routes	20,000
X9636C-RX line card: ACL scale-IPv4	95,000
X9636C-RX line card: ACL scale-IPv6	20,000
HSRP, HSRP VIP	3967 each for v4 and v6
vPC uRPF	3967
Strict uRPF	Yes
VRF	3967
SVI	3967
L3VPN routes IP ECMP	2,000
MPLS LSR ECMP	2,000
VPNv4 routes	400,000
VPNv6 routes	90,000
EBGP neighbors	750

Table 16: L2/L3 Boundary Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
MAC addresses	19,000
Number of sub-interfaces	500
VPC Port channels	46
ECMP	16-way (Upstream)
OSPFv2 neighbors	47
OSPFv3 neighbors	47
OSPF IPv4 /32 unicast routes	45,000
OSPF IPv4 VLSM unicast routes	1,000

Feature	Verified Limits
OSPF IPv6 /128 unicast routes	20,000
OSPF IPv6 VLSM unicast routes	1,000
BFD sessions	49
VRF	250
VLAN	3,750
SVI	3,750
VRRP v4 groups	1,996 VRRS / 4 VRRPv3
VRRP v6 groups	1,996 VRRS / 4 VRRPv3
HSRP IPv4	1,743 Slave groups / 7 Master groups
HSRP IPv6	1,743 Slave groups / 7 Master groups
PIM neighbors	396
IPv4 (*,G) multicast routes	3,080
IPv4 (S,G) multicast routes	26,600
IGMP snooping database entries	6,400
Sflow enabled interfaces	83
UDLD enabled interfaces	93
SPAN sessions	1 local SPAN session

Table 17: Segment Routing Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
VLAN	100
SVI	100
MAC entries	10,000
ARP entries	70
HSRPv4 VIPs	100
HSRPv6 VIPs	100
LACP	11
LACP members	4

Feature	Verified Limits
eBGP IPv6 neighbors	9
eBGP IPv4 LU neighbors	9
Number of v4 (Lu) routes	6888
Number of v4 (LU) paths	17580
Number of v6 routes	6,663
Number of v4 (LU) routes	17,338
SR ECMP	18 (dual-homed)
MPLS HW entries	11,957

Table 18: VXLAN Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
Number of ports	16
ECMP	8-way (Upstream)
BGP neighbors	200
BGP EVPN L2VPN host routes	64,000
BGP IPv4 VLSM unicast routes or ospf	10,000
BGP IPv6 VLSM unicast routes or ospf	6,000
BFD sessions	20
PIM neighbors	20
IPv4 (*, G) multicast routes (co-existing)	4,000
IPv4 (S,G) multicast routes (co-existing)	2,000
Number of L3 VNI	900
Number of L2 VNI	2000
Number of Local VTEP	1
Number of Remote VTEPs	256
VLAN	3600
SVI	900
MAC	90,000