



Cisco Nexus 3400-S NX-OS Verified Scalability Guide, Release 9.2(2t)

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Introduction

This document describes the Cisco NX-OS configuration limits for Cisco Nexus 3400-S Series switches.

The values provided in this guide should not be interpreted as theoretical system limits for Cisco Nexus 3400-S Series hardware or Cisco NX-OS software. These limits refer to values that have been validated by Cisco. 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 Cisco Nexus 3400-S Series switches for Cisco NX-OS Release 9.2(2t).

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 Cisco 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.



Note If a feature is not supported for a particular platform, the verified limit is not provided.

Table 1: HSRP Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
Number of groups per interface or I/ module	Nexus 3408-S	Maximum 16 (Because 16 is the unique virtual MAC address limit)

Table 2: Interfaces Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
DHCP clients per switch	Nexus 3408-S	10 (IPv4) + 10 (IPv6)
IP DHCP relay addresses (helper addresses) per switch	Nexus 3408-S	32 (IPv4) + 32 (IPv6)
MAC address - table system, VLAN limit	Nexus 3408-S	4,095
Port channel links	Nexus 3408-S	32
SVIs	Nexus 3408-S	1,000
vPCs	Nexus 3408-S	80

Table 3: Layer 2 Switching Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
MAC addresses table	Nexus 3408-S	32,000
MST instances	Nexus 3408-S	64
MST PV count with single instances 0	Nexus 3408-S	190,000
MST virtual ports	Nexus 3408-S	48,000
RPVST virtual ports	Nexus 3408-S	12,000
Members per Port Channel	Nexus 3408-S	32
Max Port Channels	Nexus 3408-S	100
Spanning tree instances	Nexus 3408-S	123
Total number of VLANs × ports with switchport isolated (3967 VLANs x 48 ports)	Nexus 3408-S	190,000
VLANs	Nexus 3408-S	4095 (range 1-4095)
VLANs in RPVST mode	Nexus 3408-S	123



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.

Table 4: Layer 3 Switching Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
MAC addresses	Nexus 3408-S	Profile A: 44,000 Profile D: 20,000
IPv4 Unicast (hosts) routes	Nexus 3408-S	Profile A: 96,000 Profile D: 48,000
IPv4 Unicast (prefixes)	Nexus 3408-S	Profile A: 72,000 Profile D: 200,000
IPv6 Unicast (hosts) routes	Nexus 3408-S	Profile A: 48,000 Profile D: 24,000
IPv6 Unicast (prefixes <= /64)	Nexus 3408-S	Profile A: 36,000 Profile D: 100,000

Feature	Supported Platform	Verified Limits
IPv6 Unicast (prefixes /65 to /127)	Nexus 3408-S	Profile A: 128 Profile D: 128

Table 5: QoS Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
Ingress L3 QoS TCAM entries	Nexus 3408-S	256 (320 bit wide)
Ingress L2 QoS TCAM entries	Nexus 3408-S	256 (320 bit wide)

Table 6: Security Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
Egress ACLs	Nexus 3408-S	1500 and 80 bits wide
System ACLs	Nexus 3408-S	256 and 320 bits wide TCAM entries
DHCP snooping bindings	Nexus 3408-S	2,048
IPv4 ingress access control entries (ACEs)	Nexus 3408-S	<ul style="list-style-type: none"> • RACL IPv4: 1024 TCAM entries in internal TCAM • PACL MAC: 1024 TCAM entries in internal TCAM • PACL IPv4: 1024 TCAM entries in internal TCAM
IPv6 ingress access control entries (ACEs)	Nexus 3408-S	<ul style="list-style-type: none"> • PACL IPv6: 512 TCAM entries in internal TCAM • RACL IPv6: 512 TCAM entries in internal TCAM
IPv4 ingress TCAM entries	Nexus 3408-S	1024
IPv4 egress TCAM entries	Nexus 3408-S	512
IPv6 ingress TCAM entries	Nexus 3408-S	512
IPv6 egress TCAM entries	Nexus 3408-S	256



Note The TCAM entries scalability limits also apply to policy-based TCAM entries (PBACLs).

Table 7: System Management Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
sFlow		
sFlow ports	Nexus 3408-S	64
SPAN and ERSPAN		
Configurable SPAN or ERSPAN sessions	Nexus 3408-S	32
Active SPAN or ERSPAN sessions	Nexus 3408-S	4
Active localized SPAN or ERSPAN session (Rx and Tx, Rx, or Tx)	Nexus 3408-S	4
Source interfaces per SPAN or ERSPAN session (Rx and Tx, Rx, or Tx)	Nexus 3408-S	32 (tentatively)
Destination interfaces per SPAN session	Nexus 3408-S	1 (physical)
Source VLANs per SPAN or ERSPAN session	Nexus 3408-S	32

Table 8: Unicast Routing Verified Scalability Limits (Unidimensional)

Feature	Supported Platform	Verified Limits
Unicast Routing		
BFD sessions (echo mode)	Nexus 3408-S	128
BGP neighbors	Nexus 3408-S	512 (IPv4), 512 (IPv6), or 256 (IPv4 + IPv6)
EIGRP routes	Nexus 3408-S	20,000
EIGRP neighbors	Nexus 3408-S	256
HSRP groups	Nexus 3408-S	1000
IPv4 ARP	Nexus 3408-S	32,000
IPv6 ND	Nexus 3408-S	32,000 (default), 16,000 (lpm heavy)
IS-ISv4 adjacencies (either L1, L2, or sum of L1 and L2 with default timers)	Nexus 3408-S	255
IS-ISv4 BFD sessions (with default timers)	Nexus 3408-S	255

Feature	Supported Platform	Verified Limits
IS-ISv4 routes	Nexus 3408-S	10,000
IS-ISv4 network type	Nexus 3408-S	Point to point, broadcast
OSPF/OSPFv3 LSA/LSDB size	Nexus 3408-S	250, 000
OSPF/OSPFv3 areas	Nexus 3408-S	15
OSPFv2 neighbors	Nexus 3408-S	1,000
OSPFv3 neighbors	Nexus 3408-S	1000
OSPF/OSPFv3 LSA/LSDB size	Nexus 3408-S	100,000
OSPF/OSPFv3 areas	Nexus 3408-S	100
VRFs	Nexus 3408-S	256
VRRP groups per interface or I/O module	Nexus 3408-S	250
VRRPv3		
VRRPv3 groups per interface	Nexus 3408-S	255
VRRPv3 groups with default timers (1 s)	Nexus 3408-S	490
VRRPv3 groups with relaxed timers (3 s)	Nexus 3408-S	490
Pathways with one VRRPv3 group with default timer (1 s)	Nexus 3408-S	489
VRRPv3 groups and pathways combined	Nexus 3408-S	490

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.

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