

Cisco Nexus 3550-T NX-OS Verified Scalability Guide, Release 10.1(2t)

Introduction 2

Verified Scalability Limits - Unidimensional 2

Verified Scalability Limits - Multidimensional 5

Revised: May 14, 2025,

Introduction

This document describes the Cisco Nexus® configuration limits for Cisco Nexus® 3550-T switches.

The values provided in this guide should not be interpreted as theoretical system limits for Cisco NX-OS 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.

Note The documentation set for this product strives to use bias-free language. For the purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Verified Scalability Limits - Unidimensional

The tables in this section list the verified scalability limits for the Cisco Nexus® 3550-T switches for Cisco NX-OS Release: 10.1(2t)E1(0).

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

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

Table 1: Cisco Nexus® 3550-T Interfaces Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
DHCP clients per switch [1]	1 DHCP client (on management port only)
Port channel	12 (1 PO per quad; Total 12 quads x 4 ports=48 ports)
SVIs	255 (1 SVI is reserved)
Static Network Address Translation (NAT)	1024

[1] DHCP supported only on management port along with POAP.

Table 2: Cisco Nexus® 3550-T Layer 2 Switching Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
MAC addresses	SMAC table: 384 DMAC table: 768 [2]
MST instances	Only default MST is allowed in Cisco Nexus® 3550-T switches
VLANs	255

[2] Layer 2 unidimensional scale only. SVI, and Layer 3 interface are not supported.

Table 3: Cisco Nexus® 3550-T Multicast Routing Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
Outgoing interfaces (OIFs)	40 (SVI + physical layer 3) or 48 (only on Access port or physical layer 3)
	48 OIFs for 384 mroutes
IGMP snooping groups	768 [3]
PIM neighbors	48
Maximum number of Multicast routes	384

[3] Hardware table is shared with the DMAC table.



Note High availability (graceful restart and stateful switchover) is not supported when unicast or multicast aggressive timers are configured at any scale.

Table 4: Cisco Nexus® 3550-T Security Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
ACLs	Ingress - 1024 IPv4



Note 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.

Table 5: Cisco Nexus® 3550-T Unicast Routing Verified Scalability Limits (Unidimensional)

Feature	Verified Limits
Unicast Routing	
BGP neighbors	10 (IPv4)
IPv4 ARP	24000 (upto 2000 per Quad and 4000 system scale)
IPv4 host routes [4]	36000 (upto 3000 per Quad)
IPv4 VLSM Routes	Upto 1000 per Quad and 1000 system scale
OSPF areas	5 areas
OSPFv2 neighbors	6
Static routes	512 System scale
VRRP groups per interface or I/O module	200 (1 VRRP group per interface, 20 VRRP groups system wide)

[4] Please note that not all route distributions can fit in the Cisco Nexus® 3550-T hardware. The hash table is subject to collisions. Depending on the host route pattern, collisions might occur.

Note

- High availability (graceful restart) 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 scale value might vary when combined with other parameters.
- The graceful restart timeout value might be increased in multidimensional scenarios.

Guidelines and Limitations for IPv4 VLSM Routes

- The VLSM routes may consume more than one entry in the route table depending on the netmask.
- All routes are programmed as exact matches into specific tables sizes as mentioned.
  - **/12**: 512 entries per table, 3 tables available
  - **/19**: 512 entries per table, 3 tables available
  - **/26**: 512 entries per table, 3 tables available
  - **/32**: 2048 entries per table, 3 tables available

  Routes are split into smaller ones if their mask doesn't match the table precisely.

The default route is installed as one entry.

Example of Route Splitting

- **/24 Route**: Programmed as 4 /26 routes
- **/20 Route**: Uses 64 /26 entries

Theoretically, the maximum number of /26 routes would be 1536 when combining the three available 512-entry tables. However, in practice, route distribution is subject to hash collisions, and the actual capacity will be lower. The same limitation applies to other table sizes.

Verified Scalability Limits - Multidimensional

The tables in this section list the verified scalability limits for the Cisco Nexus® 3550-T switch for Cisco NX-OS Release: 10.1(2t)E1(0). These limits are validated with a multidimensional configuration. The values provided in these tables focus on the scalability of all listed features at the same 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 here when trying to achieve maximum scalability with multiple features enabled.



Attention These numbers are not the maximum verified values if each feature is viewed in isolation. For these numbers, see the "Verified Scalability Limits - Unidimensional" section.

Table 6: Cisco Nexus® 3550-T eBGP/OSPF Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
Number of 10G ports	48
BGP neighbors	6
BGP IPv4 /32 unicast routes	1000
BGP IPv4 VLSM unicast routes	500
OSPFv2 neighbors	6
OSPF IPv4 /32 unicast routes	1600
PIM neighbors	190
ACL ACEs	400

Table 7: Cisco Nexus® 3550-T iBGP/OSPF Profile Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
BGP neighbors	6

Feature	Verified Limits
BGP + OSPF IPv4 unicast routes	1000
OSPFv2 neighbors	6
OSPF IPv4 /32 unicast routes	1600
PIM neighbors	190
IPv4 (*,G) multicast routes	320
ACL ACEs	400 (IPv4)

Table 8: Cisco Nexus® 3550-T Layer 2/Layer 3 Boundary Verified Scalability Limits (Multidimensional)

Feature	Verified Limits
MAC addresses	690
OSPFv2 neighbors	6
OSPF IPv4 /32 unicast routes	1000
VLAN	200
SVI	200
VRRP v4 groups	200 VRRP
PIM neighbors	190
IPv4 (*,G) multicast routes	320
IGMP snooping database entries	2000

© 2021 Cisco Systems, Inc. All rights reserved.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA 95134-1706
USA

Asia Pacific Headquarters
CiscoSystems(USA)Pte.Ltd.
Singapore

Europe Headquarters
CiscoSystemsInternationalBV
Amsterdam,TheNetherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.