



Cisco Nexus 5000 Series Configuration Limits for Cisco NX-OS Release 4.1(3)

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CHAPTER 1

Cisco Nexus 5000 Series Configuration Limits for Cisco NX-OS Release 4.1(3)

This document describes the Cisco configuration limits for Cisco Nexus 5000 Series switches running Cisco NX-OS Release 4.1(3). Some of these limits apply only when one or more Cisco Nexus 2000 Fabric Extender units are attached to the switch.

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Configuration Limits

The following tables list the Cisco verified limits for Cisco Nexus 5000 Series switches running Cisco NX-OS Release 4.1(3).

Table 1: Ethernet Environments

Parameter	Limit
Active VLANs/VSANs per switch	512. 31 are set aside for VSANs and the remaining are for VLANs.
VLAN/VSAN ID Space	4,096
STP Logical Interfaces	3,600 ¹
MST Instances per bridge topology per switch	64 (IEEE Standard)
VLAN ACLs (VACLs) per switch	1,024
Port ACLs (PACLs) per switch	256 ²
ACL Accounting	32

¹ The 3600 logical interfaces apply to both PVRST and MST. If MST is used, the scale applies to the maximum number of MST instances (64).

² There can be a maximum of 50 ACEs per PAACL.

Parameter	Limit
Member interfaces per EtherChannel	16

Table 2: Fibre Channel Environments

Parameter	Limit
Device Aliases per fabric	8,000
Switches per physical fabric or VSAN	50 ³
Domains per VSAN	40 ⁴
Native FC Links per switch	16—Requires two N5K-M1008 expansion modules.
FLOGIs or FDISCs per NPV port group	255
Zones per virtual or physical F port (includes all VSANs)	32
Zone sets per switch (includes all VSANs)	500 ⁵
Zone members per physical fabric (includes all VSANs)	8,000 ⁶
Zones per switch (includes all VSANs)	8,000
Maximum diameter of a SAN Fabric	3 hops ⁷
FSPF interface instances per switch	512 ⁸
ISL instances per switch	256 ⁹
Virtual Fibre Channel interfaces	160 ¹⁰
Max FCIDs allocated	2,048
Fibre Channel Flows	32

³ The switch is capable of supporting up to 239 switches per fabric but this is not currently implemented.

⁴ The switch is capable of supporting up to 239 domains per VSAN but the scale is not currently implemented.

⁵ The switch is capable of 1000 Zone Sets but this is not currently implemented.

⁶ The switch is capable of supporting up to 20,000 zone members per fabric but the scale is not currently implemented.

⁷ The switch is capable of supporting up to 12 hops but the scale is not currently implemented.

⁸ The switch is capable of supporting 4096 (the number of Extended ISLs (16) times the number of VSANs (256)) but the scale is not currently implemented.

⁹ Each ISL instance can support up to 32 VSAN instances.

¹⁰ The switch is capable of supporting 480 virtual Fibre Channel interfaces but the scale is not currently implemented.

Table 3: General Parameters

Parameter	Limit
Maximum Fabric Extenders per Cisco Nexus 5000 Series switch	12 units ¹¹
Maximum Fabric Extenders dual-homed to a vPC Cisco Nexus 5000 Series switch pair	12 units ¹²
Maximum number of hosts connected to Cisco Nexus 2000 Fabric Extenders connected to Cisco Nexus 5000 Series switches	480 hosts ¹³
MAC Table Size	16,000 entries ¹⁴
Event Traps - forward via Email	4 destinations ¹⁵
QoS System Classes	5 all user-configurable classes
Port channels	4 SAN port channels and 16 ports per EtherChannel (with the combination not exceeding 16)
SPAN Sessions	2 active sessions
Egress SPAN sources	2

¹¹ The number of Fabric Extenders is limited by the total number hosts connected through the single homed Fabric Extenders to the parent Cisco Nexus 5000 Series switch. This applies both in the case where the parent switch is running vPC or not.

¹² The number of Fabric Extenders is limited by the total number hosts connected through dual homed Fabric Extenders to a pair of Cisco Nexus 5000 Series switches running vPC. In dual homed Fabric Extender vPC mode, the Fabric Extenders provide a redundant network path to the hosts in case of a direct failure in the primary path.

¹³ The limit of 480 applies equally to single homed and dual homed Fabric Extender topologies. In single homed topologies, the maximum number of Fabric Extenders is 12 which implies up to 40 hosts may be connected to each Fabric Extender for a total of 480 hosts per Cisco Nexus 5000 Series switch. In a dual homed Fabric Extender topology, the total number of hosts supported is also 480.

¹⁴ 1,000 entries are reserved multicast MAC addresses and the remainder are for unicast MAC addresses.

¹⁵ The switch is capable of up to 50 different destinations but this is not currently implemented.

