Cisco Nexus 5000 Series Configuration Limits for Cisco NX-OS Release 4.2(1)N1(1) and Release 4.2(1)N2(1)

This document describes the Cisco configuration limits for Cisco Nexus 5000 Series switches running Cisco NX-OS Release 4.2(1)N1(1) and Release 4.2(1)N2(1). Some of these limits apply only when one or more Cisco Nexus 2000 Fabric Extender units are attached to the switch.

Configuration Limits

The following tables list the Cisco verified limits for Cisco Nexus 5000 Series switches running Cisco NX-OS Release 4.2(1)N1(1) and Release 4.2(1)N2(1).

Table 1: Ethernet Environments

Parameter	Limit
Active VLANs/VSANs per switch	507 (505 when Fibre Channel over Ethernet is enabled). 31 are set aside for VSANs and the remaining are for VLANs.
VLAN/VSAN ID Space	4,096
STP Logical Interfaces	12,000[1]
MST Instances per bridge topology per switch	64 (IEEE Standard)
VLAN ACLs (VACLs) per switch	1,024

[1] 12,000 with a maximum subset of 4000 non-edge STP logical interfaces.

Parameter	Limit
Port ACLs (PACLs) per switch	256[2]
ACL Accounting	32
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]

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

Parameter	Limit
Max FCIDs allocated	2,048
Fibre Channel Flows	32

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 vPCs per Fabric Extender	576 vPCs with the Nexus 2148T Fabric Extender 576 vPCs with the Nexus 2248 Fabric Extender 384 vPCs with the Nexus 2232 Fabric Extender
Maximum number of hosts connected to Cisco Nexus 2000 Fabric Extenders connected to Cisco Nexus 5000 Series switches	576 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 EtherChannels (with the combination not exceeding 16, and not more than a total of 16 ports per EtherChannels)
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 576 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 tso 48 hosts may be connected to each Fabric Extender for a total of 576 hosts per Cisco Nexus 5000 Series switch. In a dual homed Fabric Extender topology, the total number of hosts supported is also 576.

14 2,200 entries are reserved multicast MAC addresses. The usable limit for unicast MAC addresses is 13,800.

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