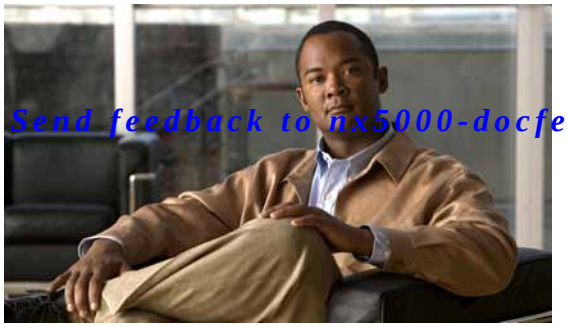

CHAPTER 1

Configuration Limits

The features supported by the Cisco Nexus 5000 Series Switch have maximum configuration limits. For some of the features, we have verified configurations that support limits less that the maximum. Table 1-1 lists the Cisco verified limits and maximum limits for switches running Cisco NX-OS Release 4.0.

Table 1-1 Configuration Limits

Feature	Verified Limit	Maximum Limit
VLANs per switch[1]	250	1024 minus the number of configured VSANs
Ethernet MTU	9,216 bytes	9,216 bytes (ASIC limit)
PVRST+	250 PVRST+ instances, 4,000 STP interface states	53,248 STP interface states[2]
MST instances per switch (every instance is RSTP enabled)	64	64 (IEEE standard)
Station Table[3]	16,000 entries	32,000 entries
IP Multicast addresses (IGMP snooping)	1,000 addresses	1,000 addresses
VSANs per switch[4]	32	256
Device Aliases per fabric	8,000	8,000
Event Traps - forward via Email	4 destinations	50 destinations
Switches in a single physical fabric or VSAN	50	239
Domains per VSAN	40	239
Native FC links per switch	8	8
FLOGIs or FDISCs per NPV port group	62	100
Zones per virtual or physical F port (includes all VSANs)	32	2,048 per ASIC[5]
Zone sets per switch (includes all VSANs)	500	1,000
Zone members per physical fabric (includes all VSANs)	8,000	20,000
Zones per switch (includes all VSANs)	8,000	8,000

Table 1-1 Configuration Limits (continued)

Feature	Verified Limit	Maximum Limit
Maximum diameter of a SAN Fabric	3 hops	12 hops
FSPF interface instances per switch	256	4,096[6]
ISL instances per switch	256	256 (up to 8 Fibre Channel interfaces, each with up to 32 VSAN instances)
Virtual interfaces	52 virtual Fibre Channel interfaces	52 virtual Fibre Channel interfaces
QoS System Classes	4 user-configurable classes	4 user-configurable classes
VLAN ACL (VACL) entries for the whole switch	1,024	ASIC limit[7]
Port ACL (PACL) entries per physical Ethernet interface	128	ASIC limit[7]
ACL Accounting	32	256 counters per ASIC[8]
Fibre Channel Flows	32	256 counters per ASIC[8]
Port channels	4 SAN port channels and 12 Ethernet port channels	16 port channels (any combination of SAN and Ethernet port channels)
SPAN Sessions	2 active sessions	18 sessions configured (2 active)
Egress SPAN sources	2	2

1. The entire 4094 VLAN ID space is supported.
2. 1024 STP instances times 52 10-Gigabit Ethernet ports.
3. Station table contains all unicast Ethernet MAC addresses and Ethernet multicast addresses.
4. The entire 4094 VSAN ID space is supported.
5. This ASIC limit will only become significant in a future software release (when multiple virtual interfaces can be configured per Ethernet interface).
6. This is the number of Extended ISLs (16) times the number of VSANs (256).
7. Each ASIC supports a TCAM with 2,000 entries, divided into multiple sections. Each section must have a minimum of 64 entries and can only increase in units of 64 entries. The software reserves the following: 128 entries for packet redirection to the Supervisor Engine; 64 entries for the two SPAN sessions; 1024 entries for VACL; 576 entries for PACL; 64 entries for QoS.
8. Each ASIC supports 256 counters to be shared among policers (ACL accounting, Fibre Channel Flow, etc.) Each counter can be configured to count either bytes or packets. A system-wide limit of 32 accounting entries for VACL or PACL is enforced.