

Cisco MDS NX-OS Configuration Limits, Release 9.x

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Revised: March 9, 2026

Cisco MDS NX-OS Configuration Limits

This document discusses the configuration and scalability limits for various SAN switching parameters:

Change History

Date	Description
September 09, 2025	Added Configuration Limits for SAN Analytics on 32 Gbps Interfaces
April 15, 2025	Added VSANs per physical fabric on FICON supported switches.
August 18, 2023	Added scale values for Cisco MDS 9396V Multilayer Fabric switch. Added Zone Fanout scale limits.
October 20, 2021	Updated zone member footnotes in the Fabric-Level Configurations Limits table.
August 24, 2021	Added scale values for Fabric Performance Monitor (FPM).
March 29, 2021	Added scale values for Cisco MDS 9220i switch.
July 1, 2020	Cisco MDS 9718 switches support 8,000 FLOGIs per switch.
May 1, 2020	The following scale values were updated: • Cisco MDS 9710 switches support 8,000 FLOGIs per switch. • Cisco MDS 9396T switches support 4,000 FLOGIs per switch. • Smart Zones support a maximum of 250 members per zone.

Switch-Level Fibre Channel Configuration Limits for Cisco MDS 9000 Series Switches

System messages are generated whenever the configuration limits are exceeded. For more information, see the Cisco MDS 9000 Series and Nexus 7000 Series NX-OS System Messages Reference document.

The following table lists the switch-level configuration limits for Cisco MDS 9000 Series switches:

Table 1: Switch-Level Configuration Limits

Feature Name	Parameter	MDS 9700 Series	MDS 9250i	MDS 9148S	MDS 9396S	MDS 9132T	MDS 9148T	MDS 9396T	MDS 9220i	MDS 9124V	MDS 9148V	MDS 9396V
Physical Fabric Logins	FLOGIs or FDISCs per port	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]	256[1]
	FLOGIs or FDISCs per module	1,000[2] 2,000[3]	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)	None (refer to chassis limits)
	FLOGIs or FDISCs per switch	4,000[4] 8,000[5]	400	1,000	1,000	2,000	2,000	2,000[6] 4,000[7]	2,000	2,000	2,000	4,000
N-Port Virtualization (NPV)	NPV switches per NPIV core switch	105	8	8	8	8	8	8	8	8	8	8
Inter-Switch Links (ISLs)	ISL instances per switch [8]	Up to 200 ISLs, each ISL with 16 VSANs, for a total number of 3200-port VSAN instances	40 ISLs, each with 29 VSANs, for a total number of 1160 port VSAN instances	48 ISLs, each with 29 VSANs, for a total number of 1392 port VSAN instances	96 ISLs, each with 15 VSANs, for a total number of 1440 port VSAN instances	32 ISLs, each with 29 VSANs, for a total number of 928 port VSAN instances	48 ISLs, each with 29 VSANs, for a total number of 1392 port VSAN instances	96 ISLs, each with 15 VSANs, for a total number of 1440 port VSAN instances	12 ISLs, each with 29 VSANs, for a total number of 348 port VSAN instances	24 ISLs, each with 29 VSANs, for a total number of 696 port VSAN instances	48 ISLs, each with 29 VSANs, for a total number of 1392 port VSAN instances	96 ISLs, each with 29 VSANs, for a total number of 2784 port VSAN instances

Feature Name	Parameter	MDS 9700 Series	MDS 9250i	MDS 9148S	MDS 9396S	MDS 9132T	MDS 9148T	MDS 9396T	MDS 9220i	MDS 9124V	MDS 9148V	MDS 9396V
Port channels (PC)[9]	Fibre Channel port channels	256	40	48	96	32	48	96	12	24	48	96
	Members in each Fibre Channel port channel	16	16	16	16	16	16	16	12	16	16	16
	Ethernet port channels	128	8	None	None	None	None	None	None	None	None	None
	Members in each Ethernet port channel	16	8	None	None	None	None	None	None	None	None	None
SSH [10]	Simultaneous SSH sessions per switch	16	16	16	16	16	16	16	16	16	16	16

Feature Name	Parameter	MDS 9700 Series	MDS 9250i	MDS 9148S	MDS 9396S	MDS 9132T	MDS 9148T	MDS 9396T	MDS 9220i	MDS 9124V	MDS 9148V	MDS 9396V
SAN Analytics and SAN Telemetry Streaming	Active Initiator Target LUNs (ITLs) or Initiator Target Namespace ID (ITNs) per sampling interval per switch	20,000[11] 40,000[12] 100,000[13]	None	None	None	20,000	20,000	20,000	None	20,000	40,000	80000
	Active ITLs or ITNs per sampling interval per module	DS9648S9K: 20,000	None	None	None	20,000	20,000	20,000	None	None	None	None
	Telemetry receivers per switch	2	None	None	None	2	2	2	None	2	2	None

Feature Name	Parameter	MDS 9700 Series	MDS 9250i	MDS 9148S	MDS 9396S	MDS 9132T	MDS 9148T	MDS 9396T	MDS 9220i	MDS 9124V	MDS 9148V	MDS 9396V
Fabric Performance Monitor (FPM)[14]	Slow devices[15] per port	200	None	None	None	200	200	200	200	200	200	200
	Slow devices per module	200	None	None	None	None	None	None	None	None	None	None
	Slow devices per switch	800	None	None	None	200	200	200	200	200	200	200
	DIRL Dynamically rate limited ports per module	10	None	None	None	None	None	None	None	None	None	None
	DIRL Dynamically rate limited ports per switch	80	None	None	None	10	10	10	10	10	10	10

1 This is the recommended limit. FLOGIs or FDISCs are not rejected until 512 logins have been accepted on the port.

2 Supported on DS-X9448-768K9.

3 Supported on DS-X9648-1536K9 and DS-X9748-3072K9.

4 Supported in Cisco MDS 9706 switches.

Supported in Cisco MDS 9710 switches in Cisco MDS NX-OS Release 8.4(1a) and earlier releases.

5 Supported in Cisco MDS 9710 switches with Cisco MDS 9700 Series Supervisor-4 Module (DS-X97-SF4-K9) from Cisco MDS NX-OS Release 8.4(2) and later releases.

Supported in Cisco MDS 9718 switches with Cisco MDS 9700 Series Supervisor-1 Module (DS-X97-SF1E-K9) or Cisco MDS 9700 Series Supervisor-4 Module (DS-X97-SF4-K9) from Cisco MDS NX-OS Release 8.4(2a) and later releases.

6 Supported in Cisco MDS NX-OS Release 8.4(1a) and earlier releases.

7 Supported from Cisco MDS NX-OS Release 8.4(2) and later releases.

8 ISLs can be an individual FC link, VFC link, FC port channel, or VFC port channel. One port channel interface with up to 16 member links is considered as one ISL instance.

9 A system message appears in the user's session when the maximum supported limit of port channels and member ports is exceeded.

[10] A system message appears on the user's session when the maximum supported number of SSH sessions is exceeded.

[11] Supported in Cisco MDS NX-OS Release 8.3(1) and earlier releases.

[12] Supported from Cisco MDS NX-OS Release 8.3(2) and later releases.

When there are more than 40,000 ITLs or ITNs distributed across multiple modules in multilayer directors or 20,000 ITLs or ITNs in fabric switches, a random set of ITL or ITN data is reported. The ITL or ITN data may change frequently and becomes unpredictable. Hence, we recommend that you limit the number of ITLs or ITNs in a switch to less than the maximum limit or query only view types. For example, a single query configured can display up to the maximum active ITLs or ITNs. If there are two queries configured, the queries together can display up to the maximum active ITLs or ITNs.

Beginning with Cisco MDS NX-OS Release 9.3(2), the number of ITLs or ITNs distributed across multiple modules in multilayer directors is increased from 40,000 to 100,000

[13] Supported from Cisco MDS NX-OS Release 8.3(2) and later releases.

When there are more than 40,000 ITLs or ITNs distributed across multiple modules in multilayer directors or 20,000 ITLs or ITNs in fabric switches, a random set of ITL or ITN data is reported. The ITL or ITN data may change frequently and becomes unpredictable. Hence, we recommend that you limit the number of ITLs or ITNs in a switch to less than the maximum limit or query only view types. For example, a single query configured can display up to the maximum active ITLs or ITNs. If there are two queries configured, the queries together can display up to the maximum active ITLs or ITNs.

Beginning with Cisco MDS NX-OS Release 9.3(2), the number of ITLs or ITNs distributed across multiple modules in multilayer directors is increased from 40,000 to 100,000

[14] The scale values provided are the maximum tested number of devices and ports that can be monitored by FPM on supported platforms. However, FPM may support more devices and ports than the tested values.

[15] The devices that have been detected slow and FPM is now handling them via congestion-isolation or via FPIN. For more information on slow devices see, Congestion Management

Physical Fabric Configuration Limits for Cisco MDS 9000 Series Switches

The following table lists the configuration limits for Cisco MDS 9000 fabrics.

Table 2: Physical Fabric Configuration Limits

Feature Name	**Parameter**	**Fabric Composition** **(lowest number is the limit for the entire fabric unless noted)**	
		MDS 9700 (Supervisor 1, Supervisor 1E, Supervisor 4) **MDS 9396V, 9124V, MDS 9148V, MDS 9396T, MDS 9148T, MDS 9132T, MDS 9220i**	**MDS 9396S, MDS 9250i, MDS 9148S**
VSANs	VSANs per physical fabric	80	32 [16]
	VSANs per physical fabric on FICON supported switches	8	8

Feature Name	Parameter	Fabric Composition (lowest number is the limit for the entire fabric unless noted)	
		MDS 9700 (Supervisor 1, Supervisor 1E, Supervisor 4) MDS 9396V, 9124V, MDS 9148V, MDS 9396T, MDS 9148T, MDS 9132T, MDS 9220i	MDS 9396S, MDS 9250i, MDS 9148S
Logins and aliases	FCNS entries in physical fabric	20,000 [17]	10,000 [18]
	Device alias entries in physical fabric	20,000	8,000
	FC alias entries per VSAN	2,048	2,048
Domains and hops	Domains per physical fabric	80	80
	Switch hops from server to storage	7	7
Zones and Smart Zones	Configured zone sets	1,000	1,000
	Active zones	16,000 [19]	8,000 [20]
	Active zone members	32,000 [21]	16,000 [22]
	Active zone database size [23]	3.8 MB [24]	2 MB
	Active smart zone members	250	250
Inter-VSAN Routing (IVR)	Active IVR zone sets	32	32
	Active IVR zones[25]	2,000	2,000
	Active IVR zone members	4,000	4,000
	Active IVR service groups	16	16
CFS	CFS peers [26]	80	80
	CFS static peers over IP [27]	100	100

16 In a physical fabric with mixed VSAN limits, all switches may be in the first 32 VSANs. The remaining VSANs may only exist on the switches that support more than 32 VSANs.

17 An error message is logged to the configuration session when this limit is exceeded and further increases are blocked.

18 A warning message is logged to the configuration session when this limit is exceeded; however, further increases are not blocked.

19 An error message is logged to the configuration session when this limit is exceeded and further increases are blocked.

20 A warning message is logged to the configuration session when this limit is exceeded; however, further increases are not blocked.

21 This limit has two components. The first limit is the FCNS maximum of 20,000 online entries in the fabric. The second limit is a maximum of 32,000 zone members in the zone database. Up to the FCNS limit of these may be online. The remaining may

be unique offline members or reused online members. This limit was tested with 20,000 unique online devices and 12,000 reused online zone members.

22 This limit has two components. The first limit is the FCNS maximum of 10,000 online entries in the fabric. The second limit is a maximum of 16,000 zone members in the zone database. Up to the FCNS limit of these may be online. The remaining may be unique offline members or reused online members. This limit was tested with 10,000 unique online devices and 6,000 reused online zone members.

23 This limit is supported when all switches in the fabric are running Cisco MDS NX-OS Release 6.2(7) or later. If there are any switches in the fabric that are running Cisco MDS NX-OS Release 6.2(5) or earlier, then the lower 2 MB zone database limit prevails and must not be exceeded for reliable zone operation.

24 An error message is logged to the configuration session when this limit is exceeded and further increases are blocked.

25 Total across all VSANs. Any single VSAN may not have more than 1,000 IVR zones.

26 An error message is logged to the configuration session when this limit is exceeded and further increases are blocked.

27 An error message is logged to the configuration session when this limit is exceeded and further increases are blocked.

Example: Checking the Size of the Zone Database

The following example shows how to check the size of the zone database in VSAN 310:

```
(config)# show zone status vsan 310 | Inc "Db Size" P 1

Full Zoning Database :
    Db Size: 1040524 Bytes
--
Active Zoning Database :
    Db Size: 962156 Bytesc
```

Now, Add 962156 with 1040524 = 2002680

2002680 / (1024 * 1024) = 1.9 MB.

Note This database size does not include the pending changes in a session.

Configuration Limits for Port Line Rate Throughput on Cisco MDS 9700 40 Gbps 24-Port FCoE Modules

For ports to operate at full-line rate on Cisco MDS 9706, MDS 9710, and MDS 9718 switches, the switch should have a specific configuration. The following table lists the maximum number of line rate ports for given Cisco MDS 9700 switch configurations.

Table 3: Line Rate Limitation for Cisco MDS 9700 Series Switches Using Cisco MDS 9700 40 Gbps 24-Port FCoE Module

No. of Fabric 1 Cards	Front Panel FCoE Bandwidth/Slot	Maximum No. of Ports/Speed
3	660 Gbps	16 ports/40 Gbps
4	880 Gbps	20 ports/40 Gbps
5	1100 Gbps	24 ports/40 Gbps

No. of Fabric 3 Cards	Front Panel FCoE Bandwidth/Slot	Maximum No. of Ports/Speed
3	1320 Gbps	33 ports/40 Gbps
4	1760 Gbps	44 ports/40 Gbps
5	2200 Gbps	55 ports/40 Gbps



Note If the number of ports that you configure exceeds the maximum limit for the number of ports, it results in all ports operating in oversubscribed mode.

Fibre Channel Topology Combinations and Scaling

From Cisco MDS NX0-OS Release 6.2(7), the following configurable features that support scale enhancements are supported:

- Fibre Channel Name Server (FCNS) bulk notification
- Coalesce switch Registered State Change Notification (SW-RSCN)

For more information about the FCNS and SW-RSCN features, see the Cisco MDS 9000 Series NX-OS Fabric Configuration Guide and the Cisco MDS 9000 Family Command Reference documents.



Note In multidimensional scale configurations, supervisors with 1-GB memory may experience the system manager *hap-reset* error.

The following table provides the configuration limits with and without the FCNS and SW-RSCN optimizations.

Table 4: Fibre Channel Topology Combination and Scaling

Scale Topology	FCNS Bulk Notification	Coalesce SW-RSCN	Configuration Limits	Scale Optimizations
Cisco MDS NX-OS Release 6.2(9) and later on Cisco MDS 9700 Series-only Fabric	On	On	MDS NX-OS Release 6.2(7) and later	Enabled
			FLOGI per module: 1,000 FLOGI node: 4000 FCNS: 20,000 Zone: 16,000 Zone members: 32,000	
	Off	Off	MDS NX-OS Release 6.2(5) and earlier	Disabled (Disabled by default in Cisco MDS NX-OS Release 6.2(7))
			FLOGI per module: 500 FLOGI node: 2500 FCNS: 10,000 Zone: 8,000 Zone members: 16,000	
Cisco MDS NX-OS Release 6.2(9) and later on MDS Mixed Fabric[28] (Cisco MDS 9700 Series, 9500, 9250i, 9222i, and 9148)	On or off	On or off	FLOGI per module: 400 FLOGI node: 2000 FCNS: 10,000, 13,000 [29] Zone: 8,000, 10,400 [30] Zone members: 16,000, 20,800 [31]	Enabled or disabled

[28] The scale enhancements introduced in Cisco MDS NX-OS 6.2(7) and later are available on Cisco MDS 9700 Series Switches (only networks with Cisco MDS NX-OS Release 6.2(7) and later, running on all the switches and the configurable optimizations): FCNS bulk notification and RSCN coalesce enabled. These enhancements are not available in mixed fabrics regardless of whether FCNS and RSCN are enabled. In Cisco MDS NX-OS Release 6.2(9) and later, FCNS bulk notification is enabled by default. (To disable FCNS bulk notification, use the **fcns no-bulk-notify** command.) Coalesce SW-RSCN is disabled by default.

[29] This increase in scale is applicable only to the Cisco MDS 9500 Series Supervisor-2A Module.

[30] This increase in scale is applicable only to the Cisco MDS 9500 Series Supervisor-2A Module.

[31] This increase in scale is applicable only to the Cisco MDS 9500 Series Supervisor-2A Module.

Fibre Channel Scale Limitations

The various Fibre Channel scale limitations are described in this section.

Limitation 1

From Cisco MDS NX-OS Release 6.2(7), the **fcns bulk-notify** and **rscn coalesce swrscn vsan** commands are available on all Cisco MDS switches. We recommend that you use these commands only on Cisco MDS 9700 Series switches with 48-port 16-Gbps Fibre Channel switching module because the higher configuration limits are currently not supported on any other MDS platform.



Note The FCNS bulk notification and Coalesce SW-RSCN features are supported only in NX-OS Release 6.2(7) and later releases. Enable the Coalesce SW-RSCN only if all the switches in a physical fabric are Cisco MDS switches that are running Cisco MDS NX-OS Release 6.2(7) or later.

Limitation 2

The maximum zone database size is increased from 2 to 3.8 MB in Cisco MDS Release 6.2(7) and later for all MDS 9700 Series switches to enable zone scale enhancements. The new limit of 16000 zones is supported only on the Cisco MDS 9700 only fabric. Physical fabrics with Cisco MDS 9500, 9200, or 9100 Series switches continue to have the 2-MB zone database limit, supporting only up to 8000 zones.

Limitation 3

In a three-node serial topology, traffic imbalance may occur if the number of port channels that are configured between the switches are the same. We recommend that you have a single port channel between two switches with any number of member ports. If you configure more than one port channel, ensure that the count of port channels between the switches varies.

Limitation 4

The maximum latency (round-trip time) and the TCP retransmits that are supported on FCIP links are 250 ms and 0.05 percent receptively.



Note The maximum limit is the same regardless whether latency and packet drop conditions exist together or only one of the conditions exists.

Syslog and Warnings for Network Scale

The following table lists the syslogs and warnings for a network.

Table 5: Syslogs and Warnings

Syslog and Warnings	Cisco MDS 9700 Series	Cisco MDS 9500, 9200, and 9100

Zone limit	16,000 zones – Hard limit: Syslog warning that states no more zones can be configured:
	`"Maximum configurable zone limit of 16,000 reached. Creation of any more zones is not supported."`
		8,000 zones – Hard limit: Syslog warning that states no more zones can be configured:
		`"Maximum configurable zone limit of 8,000 reached. Creation of any more zones is not supported."`
		10,400 zones – Hard limit for Cisco MDS 9500 Series Supervisor-2A Module: Syslog warning that states no more zones can be configured:
		`"Maximum configurable zone limit of 10,400 reached. Creation of any more zones is not supported."`

FCNS limit	20,000 FCNS entries – Hard limit: Syslog warning stating that no more name server entries are supported:
	`"Maximum Name-Server entry limit of 20,000 reached. No more entries are supported."`
		10,000 FCNS entries – Soft limit: Syslog warning about validated limit:
		`"Number of Name-Server entries has reached the maximum validated limit of 10,000. Any more entries could potentially destabilize the fabric."`
		13,000 FCNS entries – Soft limit for Cisco MDS 9500 Series Supervisor-2A Module: Syslog warning about validated limit:
		`"Number of Name-Server entries has reached the maximum validated limit of 13,000. Any more entries could potentially destabilize the fabric."`
		20,000 FCNS entries – Hard limit: Syslog warning:
		`"Maximum Name-Server entry limit of 20,000 reached. No more entries are supported."`

Switch-Level Configuration Limits for Fibre Channel over Ethernet

System messages are generated whenever the configuration limits are exceeded. For more information, see the Cisco MDS 9000 Series and Nexus 7000 Series NX-OS System Messages Reference document.

The following table lists the switch-level configuration limits for Fibre Channel over Ethernet (FCoE) on Cisco MDS.

Table 6: Switch-Level Configuration Limits for FCoE

Feature Name	MDS 9710 with 48-Port 10-Gigabit FCoE
FLOGIs per Port	256
FLOGIs per Module	1,000
FLOGIs per Switch	4,000
VSAN	80
VSAN-VLAN Mapping	80
Virtual Fibre Channel Port Channel and Member Ports	128 virtual fibre channel port channel and a maximum number of 16 members in one virtual fibre channel port channel

Physical Fabric Configuration Limits for Fibre Channel over IP

The following table lists the fabric-level configuration limits for Fibre Channel over IP (FCIP):

Table 7: Physical Fabric Configuration Limits for FCIP on Cisco MDS 9250i and MDS 9220i Fabric Switches

Feature Name	Cisco MDS 9250i and MDS 9220i Fabric Switches
Maximum latency (round-trip time) and TCP retransmits supported on FCIP links	250-ms round trip and 0.05% packet drop

Table 8: Physical Fabric Configuration Limits for FCIP on Cisco MDS 9700 Series Multilayer Directors with Cisco MDS 24/10-Port SAN Extension Module

Feature Name	Cisco MDS 9700 Series Multilayer Directors with Cisco MDS 24/10-Port SAN Extension Module
Maximum latency (round-trip time) and TCP retransmits supported on FCIP links	250-ms round trip and 0.05% packet drop

Cisco MDS 9000 I/O Accelerator Configuration Limits

The following table lists the Cisco MDS 9000 I/O Accelerator configurations and the corresponding limits.

Table 9: Cisco I/O Accelerator Configuration Limits

Parameter	MSM-18/4 or SSN-16 Module on MDS 9222i and MDS 9500 Modular Chassis and MDS 9250i Fabric Switch, 24/10-Port SAN Extension Module on MDS 9710 Chassis
Number of switches in a cluster	4
Number of clusters per switch	16

Parameter	MSM-18/4 or SSN-16 Module on MDS 9222i and MDS 9500 Modular Chassis and MDS 9250i Fabric Switch, 24/10-Port SAN Extension Module on MDS 9710 Chassis
Number of switches in a SAN fabric for FC-Redirect	34
Number of hosts per target	128
Number of concurrent flows per Cisco MDS 9000 I/O Accelerator service engine	128
Number of flows per Cisco MDS 9000 I/O Accelerator service engine (hard limit)	128 - Release 4.2(1) on MDS 9222i and MDS 9500 512 - Release 4.2(7) or later on MDS 9222i and MDS 9500 512 - Release 6.2(5) or later on MDS 9250i 512 - Release 8.2(1) or later on MDS 9710
Number of flows per Cisco MDS 9000 I/O Accelerator service engine (soft limit)	64 - Release 4.2(1) on MDS 9222i/MDS 9500 256 - Release 4.2(7) or later on MDS 9222i/MDS 9500 256 - Release 6.2(5) or later on MDS 9250i **Note** If initiators or targets participating in Cisco MDS 9000 I/O Accelerator are present on MDS 9250i switches, the limit is 203 for tape and 160 for disk. 256 - Release 8.2(1) or later on MDS 9710
Number of flows in a cluster	1,024 - Release 4.2(7d) 1,248 - Release 5.2(6b) or later

Fibre Channel Flow Configuration Limits

The following table lists the Fibre Channel flow configurations limits.

Table 10: Fibre Channel Flow Configuration Limits

Cisco MDS Device	Aggregate Flow and Flow Statistics Limit	Flow Statements per Module
Cisco MDS 24/10 Port SAN Extension Module	512	512
Cisco MDS 9700 48-Port 16-Gbps Fibre Channel Switching Module (DS-X9448-768K9)	512	512
Cisco MDS 9700 48-Port 32-Gbps Fibre Channel Switching Module (DS-X9648-1536K9)	512	512
Cisco MDS 9700 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9)	512	512

Cisco MDS 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) line card SAN Analytics ITL limit

The SAN Analytics ITL limit for Cisco MDS 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) line cards is 20,000. Beginning with Cisco MDS NX-OS Release 9.3(2), the limit is increased to 40,000.

Configuring ITL Scale Limits for Cisco MDS 48-Port 64-Gbps Fibre Channel Switching Module (DS-X9748-3072K9) line cards

To configure the ITL scale limits, perform these steps:

Procedure

Step 1 Enter configuration mode:

switch# **configure**

Step 2 switch(config)# **analytics scale version** {**default** |**1**|**2**}

default	Specifies the default configuration limit as 40,000
1	Specifies the configuration limit as 20,000
2	Specifies the configuration limit as 40,000

Configuration Limits for SAN Analytics on 32 Gbps Interfaces

SAN Analytics on 32 Gbps devices shares hardware space with the zone feature. Exceeding the available hardware space will cause analytics to be disabled on the affected interfaces.

The following table lists the SAN Analytics dependency limits.

Platform	**Maximum Total Zone Entries on Interfaces with Analytics Enabled** **per Forwarding Engine**
MDS 9132T 32 port 32 Gbps Fabric switch (DS-C9132T-K9)	5500
MDS 9148T 48 port 32 Gbps Fabric switch (DS-C9148T-K9)	5500
MDS 9396T 96 port 32 Gbps Fabric switch (DS-C9396T-K9)	5500
MDS 9700 32 Gbps Advanced FC Module (DS-X9648-1536K9)	5500

Note These limits are in addition to the system wide limits. This limit does not apply to other MDS platforms. For more information, see *Cisco MDS 9000 Series SAN Analytics and SAN Telemetry Streaming Configuration Guide, Release 9.x*.

Zone Fanout Scale Limits

Table 11: Zone Fanout Scale Limits

Fanout Ratio (Target:Initiator)	Initiator	Target	Plaftforms Tested
1:200	20 port each with 10 logins per port	15 port each with 3 logins per port	MDS 9700 for Line Cards DS-X9448-768K9, DS-X9648-1536K9, and DS-X9748-3072K9

For DS-X9448-768K9 it was tested on DS-X97-SF1-K9

For DS-X9648-1536K9 and DS-X9748-3072K9 it was tested on DS-X97-SF4-K9

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