APPENDIX A

Configuration Limits for Cisco MDS SAN-OS Release 3.1(x) and 3.2(x)

The features supported by Cisco MDS SAN-OS have maximum configuration limits. For some of the features, we have verified configurations that support limits less that the maximum. Table A-1 lists the Cisco verified limits and maximum limits for switches running Cisco MDS SAN-OS Release 3.1(x) and Release 3.2(x).

Table A-1   Cisco MDS SAN-OS Release 3.x Configuration Limits

Feature	Verified Limit for SANOS 3.1(x)	Verified Limit for SANOS 3.2(x)	Maximum Limit
VSANs	80 VSANs per physical fabric	80 VSANs per physical fabric	4000 VSANs per physical fabric
Switches in a single MDS physical fabric or VSAN	56 switches per fabric[1]	60 switches per fabric (75 switches per fabric[1])	239 switches
Switches in multivendor switch fabric	32 switches per VSAN	32 switches per VSAN	239 switches
Domains per VSAN	56 domains per VSAN[1]	60 domains per VSAN (75 domains per VSAN[1])	239 domains
FCNS entries per fabric	10K per fabric	10K per fabric	10K per fabric
Device alias[2]	8K per fabric	8K per fabric	20K per fabric
Zone members	16,000 zone members per physical fabric (includes all VSANs)	16,000 zone members per physical fabric (includes all VSANs)	20,000 zone members per physical fabric (includes all VSANs)
Zones	8000 zones per switch (includes all VSANs)	8000 zones per switch (includes all VSANs)	8000 zones per switch (includes all VSANs)
Zone sets	500 zone sets per switch (includes all VSANs)	500 zone sets per switch (includes all VSANs)	1000 zone sets per switch (includes all VSANs)
Supported hops for all major storage, server, and HBA vendors	7 hops (diameter of the SAN fabric)	7 hops (diameter of the SAN fabric)	12 hops

Table A-1   Cisco MDS SAN-OS Release 3.x Configuration Limits (continued)

Feature	Verified Limit for SANOS 3.1(x)	Verified Limit for SANOS 3.2(x)	Maximum Limit
IVR zone members	4000 IVR zone members per physical fabric	4000 IVR zone members per physical fabric	20,000 IVR zone members per physical fabric in Cisco SAN-OS Release 3.0(3) and later 10,000 IVR zone members per physical fabric prior to Cisco SAN-OS Release 3.0(3)
IVR zones	2000 IVR zones per physical fabric	2000 IVR zones per physical fabric	8000 IVR zones per physical fabric in Cisco SAN-OS Release 3.0(3) and later 2000 IVR zones per physical fabric prior to Cisco SAN-OS Release 3.0(3)
IVR zone sets	32 IVR zone sets per physical fabric	32 IVR zone sets per physical fabric	32 IVR zone sets per physical fabric
IVR service groups	16 service groups per physical fabric	16 service groups per physical fabric	16 service groups per physical fabric
FLOGIs or F Disc per NPV port group See "Port-Naming Conventions" section on page 11-2 for information on port groups.	N/A	114	114
NPV switches per NPV core switch	N/A	105	105
FLOGIs per line card on NPV core switch	N/A	400	400
ISL instances per switch[3]	Up to 200 ISLs, each with 16 VSANs, for a total of 3200 port-VSAN instances. You can configure more than 200 ISLs with fewer than 16 VSANs, or fewer than 200 ISLs with more than 16 VSANs, within the total ports per VSAN instance limit of 3200.	Up to 200 ISLs, each with 16 VSANs, for a total of 3200 port-VSAN instances. You can configure more than 200 ISLs with fewer than 16 VSANs, or fewer than 200 ISLs with more than 16 VSANs, within the total ports per VSAN instance limit of 3200.	Up to 200 ISLs, each with 16 VSANs, for a total of 3200 port-VSAN instances. You can configure more than 200 ISLs with fewer than 16 VSANs, or fewer than 200 ISLs with more than 16 VSANs, within the total ports per VSAN instance limit of 3200.
IP ports per switch	No limits	No limits	No limits
Fibre Channel modules vs. IPS modules per switch	No limits	No limits	No limits

Table A-1   Cisco MDS SAN-OS Release 3.x Configuration Limits (continued)

Feature	Verified Limit for SANOS 3.1(x)	Verified Limit for SANOS 3.2(x)	Maximum Limit
iSCSI and iSLB sessions per IP port	500 sessions	500 sessions	500 sessions
iSCSI and iSLB sessions per switch	5000 sessions	5000 sessions	5000 sessions
iSCSI and iSLB initiators supported in physical fabric	2000 initiators	2000 initiators	2000 initiators
iSCSI and iSLB targets per physical fabric (virtual and initiator targets)	6000 targets	6000 targets	6000 targets
ISLB VRRP	20 per switch	20 per switch	20 per switch
Event Traps - forward via Email	1 destination	1 destination	1 destination

1. Certain design considerations must be met to reach this limit. We recommend that you have the large fabric design validated by Cisco Advanced Services.

2. Device aliases can be restricted to switches where zoning is done and activated. Distributing device alias fabric wide may result in un-necessary consumption of resource for database.

3. This is the number of trunking-enabled ISL ports multiplied by the number of VSANs in the switch.