



Configuring SDM Templates

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <https://cfng.cisco.com/>. An account on Cisco.com is not required.

Information About SDM Templates

You can use SDM templates to configure system resources to optimize support for specific features, depending on how your device is used in the network. You can select a standard template to provide maximum system usage for some functions.

Cisco Catalyst 9500 Series Switches support the following standard templates:

- Core
- NAT
- Distribution

It is recommended that you reload the system as soon as you make a change to the SDM template. After you change the template and the system reloads, you can use the **show sdm prefer** privileged EXEC command to verify the new template configuration. If you enter the **show sdm prefer** command before you enter the

reload privileged EXEC command, the **show sdm prefer** command shows the template currently in use and the template that will become active after a reload.



Note The default standard SDM template is the Core template.



Note The NAT template cannot be used to create a customizable SDM template.

How to Configure SDM Templates

Setting the SDM Template

Follow these steps to use the SDM template to maximize feature usage:

Procedure

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	sdm prefer { core nat sda distribution } Example: Device(config)# sdm prefer nat	Specifies the SDM template to be used on the switch. The keywords have these meanings: <ul style="list-style-type: none"> • core —Sets the Core template. • nat —Maximizes the NAT configuration on the switch. • sda —Sets the SDA template. • distribution —Sets the Distribution template. <p>Note The no sdm prefer command and a default template is not supported.</p>

	Command or Action	Purpose
Step 4	end Example: Device(config)# end	Returns to privileged EXEC mode.
Step 5	reload Example: Device# reload	Reloads the operating system. After the system reboots, you can use the show sdm prefer privileged EXEC command to verify the new template configuration. If you enter the show sdm prefer command before you enter the reload privileged EXEC command, the show sdm prefer command shows the template currently in use and the template that will become active after a reload.

Monitoring and Maintaining SDM Templates

Command	Purpose
show sdm prefer	Displays the SDM template in use.
reload	Reloads the switch to activate the newly configured SDM template.
no sdm prefer	Sets the default SDM template.



Note The SDM templates contain only those commands that are defined as part of the templates. If a template enables another related command that is not defined in the template, then this other command will be visible when the **show running config** command is entered. For example, if the SDM template enables the **switchport voice vlan** command, then the **spanning-tree portfast edge** command may also be enabled (although it is not defined on the SDM template).

If the SDM template is removed, then other such related commands are also removed and have to be reconfigured explicitly.

Configuration Examples for SDM Templates

Examples: Configuring SDM Templates

```
Device(config)# sdm prefer distribution
```

```
Device(config)# exit
Device# reload
Proceed with reload? [confirm]
```

Examples: Displaying SDM Templates

The following example output shows the core template information on Cisco Catalyst 9500 Series Switches:

```
Device# show sdm prefer core
This is the Core template.
Security Ingress IPv4 Access Control Entries*:      7168 (current) - 7168 (proposed)
Security Ingress Non-IPv4 Access Control Entries*:  5120 (current) - 5120 (proposed)
Security Egress IPv4 Access Control Entries*:       7168 (current) - 7168 (proposed)
Security Egress Non-IPv4 Access Control Entries*:   8192 (current) - 8192 (proposed)
QoS Ingress IPv4 Access Control Entries*:          4096 (current) - 4096 (proposed)
QoS Ingress Non-IPv4 Access Control Entries*:       4096 (current) - 4096 (proposed)
QoS Egress IPv4 Access Control Entries*:           4096 (current) - 4096 (proposed)
QoS Egress Non-IPv4 Access Control Entries*:       4096 (current) - 4096 (proposed)
Netflow Input Access Control Entries*:             512 (current) - 512 (proposed)
Netflow Output Access Control Entries*:            512 (current) - 512 (proposed)
Flow SPAN Input Access Control Entries*:           512 (current) - 512 (proposed)
Flow SPAN Output Access Control Entries*:          512 (current) - 512 (proposed)
Number of VLANs:                                  4094
Unicast MAC addresses:                             32768
Overflow Unicast MAC addresses:                     768
Overflow L2 Multicast entries:                     2304
L3 Multicast entries:                              32768
Overflow L3 Multicast entries:                     768
Ipv4/Ipv6 shared unicast routes:                  212992
Overflow shared unicast routes:                    1536
Policy Based Routing ACEs / NAT ACEs:              3072
Tunnels:                                           2816
LISP Instance Mapping Entries:                     2048
Control Plane Entries:                             512
Input Netflow flows:                               32768
Output Netflow flows:                              32768
SGT/DGT (or) MPLS VPN entries:                    32768
SGT/DGT (or) MPLS VPN Overflow entries:           768
Wired clients:                                     2048
MACSec SPD Entries:                                256
MPLS L3 VPN VRF:                                   1024
MPLS Labels:                                       45056
MPLS L3 VPN Routes VRF Mode:                       209920
MPLS L3 VPN Routes Prefix Mode:                   32768
MVPN MDT Tunnels:                                  1024
L2 VPN EOMPLS Attachment Circuit:                  1024
MAX VPLS Bridge Domains :                          1000
MAX VPLS Peers Per Bridge Domain:                  128
MAX VPLS/VPWS Pseudowires :                        16384
Ipv4/Ipv6 Direct and Indirect unicast routes share same space
* values can be modified by sdm cl
```

The following example output shows the NAT template information on Cisco Catalyst 9500 Series Switches:

```
Device# show sdm prefer nat
This is the NAT template.
Security Ingress IPv4 Access Control Entries*:      7168 (current) - 7168 (proposed)
Security Ingress Non-IPv4 Access Control Entries*:  5120 (current) - 5120 (proposed)
Security Egress IPv4 Access Control Entries*:       3072 (current) - 3072 (proposed)
Security Egress Non-IPv4 Access Control Entries*:   5120 (current) - 5120 (proposed)
QoS Ingress IPv4 Access Control Entries*:          2560 (current) - 2560 (proposed)
```

```

QoS Ingress Non-IPv4 Access Control Entries*:      1536 (current) - 1536 (proposed)
QoS Egress IPv4 Access Control Entries*:           3072 (current) - 3072 (proposed)
QoS Egress Non-IPv4 Access Control Entries*:       1024 (current) - 1024 (proposed)
Netflow Input Access Control Entries*:              1024 (current) - 1024 (proposed)
Netflow Output Access Control Entries*:             1024 (current) - 1024 (proposed)
Flow SPAN Input Access Control Entries*:            512 (current) - 512 (proposed)
Flow SPAN Output Access Control Entries*:           512 (current) - 512 (proposed)
Number of VLANs:                                   4094
Unicast MAC addresses:                              32768
Overflow Unicast MAC addresses:                     768
Overflow L2 Multicast entries:                      2304
L3 Multicast entries:                               32768
Overflow L3 Multicast entries:                      768
Ipv4/Ipv6 shared unicast routes:                   212992
Overflow shared unicast routes:                    1536
Policy Based Routing ACEs / NAT ACEs:              15872
Tunnels:                                             1792
LISP Instance Mapping Entries:                      1024
Control Plane Entries:                              1024
Input Netflow flows:                                32768
Output Netflow flows:                               32768
SGT/DGT (or) MPLS VPN entries:                     32768
SGT/DGT (or) MPLS VPN Overflow entries:            768
Wired clients:                                      2048
MACSec SPD Entries:                                 256
MPLS L3 VPN VRF:                                    1024
MPLS Labels:                                        45056
MPLS L3 VPN Routes VRF Mode:                       209920
MPLS L3 VPN Routes Prefix Mode:                   32768
MVPN MDT Tunnels:                                  1024
L2 VPN EOMPLS Attachment Circuit:                  1024
MAX VPLS Bridge Domains :                          1000
MAX VPLS Peers Per Bridge Domain:                  128
MAX VPLS/VPWS Pseudowires :                        16384
Ipv4/Ipv6 Direct and Indirect unicast routes share same space
* values can be modified by sdm cli

```

The following example output shows the distribution template information on Cisco Catalyst 9500 Series Switches:

```

Device# show sdm prefer distribution
This is the Distribution template.
Security Ingress IPv4 Access Control Entries*:      7168 (current) - 7168 (proposed)
Security Ingress Non-IPv4 Access Control Entries*:  5120 (current) - 5120 (proposed)
Security Egress IPv4 Access Control Entries*:       7168 (current) - 7168 (proposed)
Security Egress Non-IPv4 Access Control Entries*:   8192 (current) - 8192 (proposed)
QoS Ingress IPv4 Access Control Entries*:           5632 (current) - 5632 (proposed)
QoS Ingress Non-IPv4 Access Control Entries*:       2560 (current) - 2560 (proposed)
QoS Egress IPv4 Access Control Entries*:            6144 (current) - 6144 (proposed)
QoS Egress Non-IPv4 Access Control Entries*:        2048 (current) - 2048 (proposed)
Netflow Input Access Control Entries*:              1024 (current) - 1024 (proposed)
Netflow Output Access Control Entries*:             1024 (current) - 1024 (proposed)
Flow SPAN Input Access Control Entries*:            512 (current) - 512 (proposed)
Flow SPAN Output Access Control Entries*:           512 (current) - 512 (proposed)
Number of VLANs:                                   4094
Unicast MAC addresses:                              81920
Overflow Unicast MAC addresses:                     768
Overflow L2 Multicast entries:                      2304
L3 Multicast entries:                               16384
Overflow L3 Multicast entries:                      768
Ipv4/Ipv6 shared unicast routes:                   114688
Overflow shared unicast routes:                    1536
Policy Based Routing ACEs / NAT ACEs:              3072
Tunnels:                                             2816
LISP Instance Mapping Entries:                      1024

```

```

Control Plane Entries:                1024
Input Netflow flows:                  49152
Output Netflow flows:                 49152
SGT/DGT (or) MPLS VPN entries:       32768
SGT/DGT (or) MPLS VPN Overflow entries: 768
Wired clients:                        2048
MACSec SPD Entries:                  256
MPLS L3 VPN VRF:                     1024
MPLS Labels:                          45056
MPLS L3 VPN Routes VRF Mode:         112640
MPLS L3 VPN Routes Prefix Mode:      32768
MVPN MDT Tunnels:                    1024
L2 VPN EOMPLS Attachment Circuit:    1024
MAX VPLS Bridge Domains :             1000
MAX VPLS Peers Per Bridge Domain:    128
MAX VPLS/VPWS Pseudowires :          16384
Ipv4/Ipv6 Direct and Indirect unicast routes share same space
* values can be modified by sdm cli

```

Additional References for SDM Templates

Related Documents

Related Topic	Document Title
Command Reference	<i>Command Reference (Catalyst 9500 Series Switches)</i>

Standards and RFCs

Standard/RFC	Title
None	—

MIBs

MIB	MIBs Link
All the supported MIBs for this release.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/support

Feature History and Information for Configuring SDM Templates

Release	Modification
Cisco IOS XE Everest 16.5.1a	This feature was introduced.

