



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 <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

Information About Configuring SDM Templates

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 template to provide maximum system usage for some functions.

These templates are supported on your device:

- **Advanced**—The advanced template is available on all supported images for this release. It maximizes system resources for features like netflow, multicast groups, security ACEs, QoS ACEs, and so on.
- **VLAN**—The VLAN template is available only on the LAN Base license. The VLAN template disables routing and supports the maximum number of unicast MAC addresses. It would typically be selected for a Layer 2 device.

After you change the template and 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.

The default is the advanced template.

Table 1: Approximate Number of Feature Resources Allowed by Templates

| Resource | Advanced | VLAN |
|---|----------|------|
| Number of VLANs | 4094 | 4094 |
| Unicast MAC addresses | 32 K | 32 K |
| Overflow unicast MAC addresses | 512 | 512 |
| IGMP groups and multicast routes | 4 K | 4 K |
| Overflow IGMP groups and multicast routes | 512 | 512 |
| • Directly connected routes | 16K | 16 K |
| • Indirectly connected IP hosts | 7 K | 7 K |
| Policy-based routing ACEs | 1024 | 0 |
| QoS classification ACEs | 3 K | 3 K |
| Security ACEs | 3 K | 3 K |
| Netflow ACEs | 1024 | 1024 |
| Input Microflow policer ACEs: | 256 K | 0 |
| Output Microflow policer ACEs: | 256 K | 0 |
| FSPAN ACEs | 256 | 256 |
| Tunnels: | 256 | 0 |
| Control Plane Entries: | 512 | 512 |
| Input Netflow flows: | 8 K | 8 K |
| Output Netflow flows: | 16 K | 16 K |
| SGT/DGT entries: | 4 K | 4 K |
| SGT/DGT Overflow entries: | 0 | 512 |



Note When the switch is used as a Wireless Mobility Agent, the only template allowed is the advanced template.



Note SDM templates do not create VLANs. You must create the VLANs before adding commands to the SDM templates.

The tables represent approximate hardware boundaries set when a template is selected. If a section of a hardware resource is full, all processing overflow is sent to the CPU, seriously impacting switch performance.

SDM Templates and Switch Stacks

In a switch stack, all stack members must use the same SDM template that is stored on the active switch. When a new switch is added to a stack, the SDM configuration that is stored on the active switch overrides the template configured on an individual switch.

You can use the **show switch** privileged EXEC command to see if any stack members are in SDM mismatch mode.

How to Configure SDM Templates

Configuring SDM Templates

Configuring the Switch SDM Template

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 the global configuration mode. |
| Step 3 | sdm prefer { advanced vlan } Example: Device(config)# sdm prefer advanced | Specifies the SDM template to be used on the switch. The keywords have these meanings: <ul style="list-style-type: none"> • advanced —Supports advanced features such as Netflow. |

| | Command or Action | Purpose |
|---------------|---|---|
| | | <ul style="list-style-type: none"> • vlan —Maximizes VLAN configuration on the switch with no routing supported in hardware. <p>Note The no sdm prefer command and a default template is not supported.</p> |
| Step 4 | end Example: Device(config)# end | Returns to privileged EXEC mode. |
| Step 5 | reload Example: Device# reload | Reloads the operating system. |

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. |

Configuration Examples for SDM Templates

Examples: Configuring SDM Templates

Examples: Displaying SDM Templates

This is an example output showing the advanced template information:

```
Device# show sdm prefer

Showing SDM Template Info

This is the Advanced template.
Number of VLANs:                4094
Unicast MAC addresses:          32768
```

```

Overflow Unicast MAC addresses:          512
IGMP and Multicast groups:              8192
Overflow IGMP and Multicast groups:     512
Directly connected routes:              32768
Indirect routes:                         8192
Security Access Control Entries:        3072
QoS Access Control Entries:             2816
Policy Based Routing ACEs:              1024
Netflow ACEs:                           1024
Input Microflow policer ACEs:           256
Output Microflow policer ACEs:          256
Flow SPAN ACEs:                         256
Tunnels:                                 256
Control Plane Entries:                  512
Input Netflow flows:                    8192
Output Netflow flows:                   16384

```

These numbers are typical for L2 and IPv4 features.
Some features such as IPv6, use up double the entry size;
so only half as many entries can be created.

Device#

This is an example output showing the VLAN template information:

```
Device# show sdm prefer vlan
```

```
Showing SDM Template Info
```

This is the VLAN template for a typical Layer 2 network.

```

Number of VLANs:                        4094
Unicast MAC addresses:                  32768
Overflow Unicast MAC addresses:         512
IGMP and Multicast groups:              8192
Overflow IGMP and Multicast groups:     512
Directly connected routes:              32768
Indirect routes:                         8192
Security Access Control Entries:        3072
QoS Access Control Entries:             3072
Policy Based Routing ACEs:              0
Netflow ACEs:                           1024
Input Microflow policer ACEs:           0
Output Microflow policer ACEs:          0
Flow SPAN ACEs:                         256
Tunnels:                                 0
Control Plane Entries:                  512
Input Netflow flows:                    16384
Output Netflow flows:                   8192

```

These numbers are typical for L2 and IPv4 features.
Some features such as IPv6, use up double the entry size;
so only half as many entries can be created.

Device#

Feature History and Information for Configuring SDM Templates

| Release | Modification |
|--|------------------------------|
| Cisco IOS XE 3.3SE Cisco IOS XE 3.3SE | This feature was introduced. |

