CHAPTER 7

Configuring SDM Templates

This chapter describes how to configure the Switch Database Management (SDM) templates on the Catalyst 2960 switch.

Note For complete syntax and usage information for the commands used in this chapter, see the command reference for this release.

This chapter consists of these sections:

Understanding the SDM Templates

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

To allocate ternary content addressable memory (TCAM) resources for different usages, the switch SDM templates prioritize system resources to optimize support for certain features. You can select SDM templates to optimize these features:

- QoS—The QoS template maximizes system resources for quality of service (QoS) access control entries (ACEs).
- Default—The default template gives balance to all functions.
- Dual—The dual IPv4 and IPv6 Switch Database Management (SDM) template enables a dual stack environment.

Table 7-1 lists the approximate numbers of each resource supported in each template.

Table 7-1 Approximate Number of Feature Resources Allowed by Each Template

Resource	Default	QoS	Dual
Unicast MAC addresses	8 K	8 K	8 K
IPv4 IGMP groups	256	256	256
IPv4 unicast routes	0	0	0
IPv6 multicast groups	0	0	0
Directly connected IPv6 addresses	0	0	0
Indirect IPv6 unicast routes	0	0	0
IPv4 policy-based routing aces	0	0	0
IPv4 MAC QoS ACEs	128	384	0
IPv4 MAC security ACEs	384	128	256
IPv6 policy-based routing aces	0	0	0
IPv4 MAC QoS ACEs	0	0	0
IPv4 MAC security ACEs	0	0	0

The rows in 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.

Configuring the Switch SDM Template

These sections contain this configuration information:

- Default SDM Template, page 7-2
- SDM Template Configuration Guidelines, page 7-2
- Setting the SDM Template, page 7-3

Default SDM Template

The default template is the default.

SDM Template Configuration Guidelines

When you select and configure SDM templates, you must reload the switch for the configuration to take effect.

Setting the SDM Template

Beginning in privileged EXEC mode, follow these steps to use the SDM template to maximize feature usage:

	Command	Purpose
Step 1	**configure terminal**	Enter global configuration mode.
Step 2	**sdm prefer** {**default** | **dual-ipv4-and-ipv6 default** | **qos**}	Specify the SDM template to be used on the switch: The keywords have these meanings: • **default**—Gives balance to all functions. • **dual-ipv4-and-ipv6 default**—Allows the switch to be used in dual stack environments (supporting both IPv4 and IPv6). • **qos**—Maximizes system resources for QoS ACEs. Use the **no sdm prefer** command to set the switch to the default template. The default template balances the use of system resources.
Step 3	**end**	Return to privileged EXEC mode.
Step 4	**reload**	Reload 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.

.Displaying the SDM Templates

Use the **show sdm prefer** privileged EXEC command with no parameters to display the active template.

Use the **show sdm prefer** [**default** | **dual-ipv4-and-ipv6 default | qos**] privileged EXEC command to display the resource numbers supported by the specified template.