



## Configuring the SIP

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This chapter provides information about configuring the SIP on the router.

- [Configuration Tasks, page 1](#)
- [Resetting a SIP, page 4](#)

## Configuration Tasks

This section describes how to configure the SIP. For information about managing your system images and configuration files, refer to the following:

- [Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide](#)
- [Cisco IOS Configuration Fundamentals Configuration Guide](#)
- [Cisco IOS Configuration Fundamentals Command Reference](#)

Some Cisco IOS XE software features supported on the router are also supported on the SIPs. Use this chapter along with the list of features supported on the SIPs as described in the *Overview of the SIP* chapter.



### Note

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When referring to a router-specific documentation, ensure to note any SIP-specific configuration guidelines described in this document.

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## Identifying Slots and Subslots for the SIPs and SPAs

This section describes how to specify the physical locations of a SIP and SPA on the Cisco ASR 1000 Series Aggregation Services Routers within the command-line interface (CLI) to configure or monitor the devices.

### Specifying the Slot Location for a SIP

The Cisco ASR 1000 Series Aggregation Services Routers support different chassis models, each of which supports a certain number of chassis slots.

- The Cisco ASR 1006 Router supports three chassis slots for SIPs.
- The Cisco ASR 1004 Router supports two chassis slots for SIPs.
- The Cisco ASR 1002 Router and Cisco ASR 1002-X Router support one chassis slot for a SIP that is integrated into the chassis, and the integrated Route Processor and Gigabit Ethernet ports reside in SPA subslot 0.
- The Cisco ASR 1013 Router supports six chassis slot for SIPs.

**Note**

The built-in SPA on Cisco ASR 1002 Router is a 4-port Gigabit Ethernet Shared Port Adapter (4XGE-BUILT-IN). The slot and subslot numbering used to refer the inbuilt ports on Cisco ASR 1002 Router are always 0 and referred to as **interface GigabitEthernet 0/0/x**, where x is the port number and is 0-3. For example to refer Gigabit Ethernet SPA port 2 on Cisco ASR 1002 Router, the command syntax is **interface GigabitEthernet 0/0/2**. The built-in SPA on Cisco ASR 1002-X Router is a 6-port Gigabit Ethernet Shared Port Adapter (6XGE-BUILT-IN). This SPA has synchronous ethernet capability.

Some commands such as **show platform**, **show diag**, and **show diag subslot** allow you to display information about the SIP. However, you must specify the chassis slot location where the SIP about which you want information is installed.

## Specifying the SIPSubslot Location for a SPA

SIP subslots begin their numbering with “0” and have a horizontal orientation.

The Cisco ASR 1000 Series SIP supports four subslots for the installation of SPAs. The subslot locations are oriented as follows:

- SIP subslot 0—Top-left subslot
- SIP subslot 1—Top-right subslot
- SIP subslot 2—Bottom-left subslot
- SIP subslot 3—Bottom-right subslot

**Note**

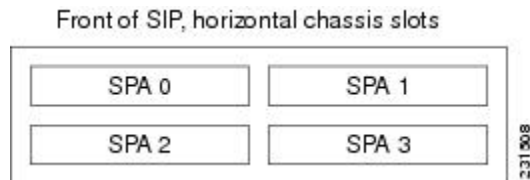
In the Cisco ASR 1002 Router and Cisco ASR 1002-X Router, SIP subslot 0 is not available for SPA insertion. It is the slot that is used for the integrated Route Processor and Gigabit Ethernet ports.

**Danger**

The slots 4 and 5 on Cisco ASR 1013 Series Aggregation Services Routers has limitation to support ASR-SIP40 at 40G mode.

The following figure shows the SPA numbering sequence on a Cisco ASR 1000 Series Aggregation Services Routers SIP.

**Figure 1: Cisco ASR 1000 Series SIP SPA Numbering**



The SIP subslot numbering is indicated by a small numeric label beside the subslot on the faceplate.

Just as with the SIPs, some commands allow you to display information about the SPA itself, such as `show diag subslot`. These commands require you to specify both the physical location of the SIP and SPA in the format, *slot /subslot*, where:

- *slot*—Specifies the chassis slot number in the Cisco ASR 1000 Series Routers where the SIP is installed.
- *subslot*—Specifies the slot of the SIP where the SPA is installed.

To display the operational status for a SPA installed in the SIP, enter the **show platform** command.



**Note**

The Cisco ASR1000-SIP40 supports four half-height SPAs, two full-height SPAs, and a combination of two half-height and one full-height SPAs. The Cisco ASR1000-SIP40 does not support double-wide SPAs and double-high SPAs having two connectors.

The Cisco ASR1000-SIP40 runs on the Cisco ASR1004 Router, Cisco ASR1006 Router, and Cisco ASR 1013 router. The Cisco ASR1000-SIP40 is also compatible with both Cisco ASR1000-RPs and the Cisco ASR 1000 ESP10, ASR1000-ESP20, Cisco ASR1000-ESP40, and Cisco ASR1000-ESP100 modules. The LEDs on the modules are the same for both the Cisco ASR1000-SIP10 and Cisco ASR1000-SIP40.

## Hardware Module Scheduling Commands

The following hardware module scheduling command is supported on the router.

Command	Purpose
<pre>Router(config)# hw-module slot <i>slot-number</i> qos input [bandwidth <i>value_in_Kbps</i>   <b>strict priority</b>   <b>weight</b> <i>weight</i>]</pre>	<p>This is a global configuration command.</p> <ul style="list-style-type: none"> <li>• <i>slot-number</i>—Specifies the number of the SIP slot.</li> <li>• bandwidth <i>value_in_Kbps</i>—Sets the minimum bandwidth in Kbps for QoS</li> <li>• <b>strict priority</b>—Sets the minimum bandwidth for a high priority QoS queue</li> <li>• <b>weight</b> <i>weight</i>—Indicates the excess QoS scheduling weight</li> </ul> <p>By default, without using this command, each SIP slot has zero minimum bandwidth and its scheduled base has an excess sharing weight proportional to CC's aggregated bandwidth.</p> <p>The <b>no</b> form of this command sets scheduling parameters back to the default.</p>

## Ingress Scheduling

Use the following command for ingress scheduling:

Command	Purpose
<pre>Router(config)# plim qos input map ip precedence-based</pre>	<p>This command enables IP precedence-based classification. By default, without using this command, the Gigabit Ethernet SPA enables IP precedence-based classification for the Cisco ASR 1000 Series Router.</p> <p>The <b>no</b> form of this command disables precedence-based classification.</p>

## Resetting a SIP

To reset a SIP, use the following command in privileged EXEC configuration mode:

Command	Purpose
Router# hw-module module slot reload   start   stop	Resets the SIP in the specified slot, where: <ul style="list-style-type: none"><li>• <b>slot</b>—Specifies the chassis slot number where the SIP is installed.</li><li>• <b>reload</b>—Stops the SIP, then automatically restarts the SIP.</li><li>• <b>start</b>—Starts the SIP taking it out of reset mode.</li><li>• <b>stop</b>—Stops the SIP holding it in reset mode.</li></ul>

