



CHAPTER 2

Installing the Cisco SRE Service Module into the Router

This chapter provides information about installing the Cisco SRE Service Module into the router. It contains the following sections:

- [Basic Workflow for Installing the Cisco SRE Service Module into the Router](#), page 2-1
- [Verifying the Router, Cisco SRE Service Module, and Cisco IOS Software Version Compatibility](#), page 2-2
- [Installing the Cisco SRE Service Module into the Router](#), page 2-2
- [Verifying Cisco SRE Service Module Installation](#), page 2-3
- [Online Insertion and Removal of the Cisco SRE Service Module](#), page 2-3

Basic Workflow for Installing the Cisco SRE Service Module into the Router

1. Verify that the router, the Cisco SRE Service Module, and the Cisco IOS software version that is installed on the router are compatible. See the [“Verifying the Router, Cisco SRE Service Module, and Cisco IOS Software Version Compatibility”](#) section on page 2-2.
2. Install the Cisco SRE Service Module into the router. See the [“Installing the Cisco SRE Service Module into the Router”](#) section on page 2-2.
3. Verify that the Cisco SRE Service Module is correctly detected by the router. See the [“Verifying Cisco SRE Service Module Installation”](#) section on page 2-3

Verifying the Router, Cisco SRE Service Module, and Cisco IOS Software Version Compatibility

Table 2-1 provides the compatibility between the routers, Cisco SRE Service Modules, and the Cisco IOS software version that you must install on the router to use Cisco SRE-V.

Table 2-1 Cisco Routers, Cisco SRE Service Module, and Cisco IOS Version Compatibility

Router	Cisco IOS Software Version for Cisco SRE 700 Service Module	Cisco IOS Software Version for Cisco SRE 900 Service Module
2911	15.1(4)M and later versions	15.1(4)M and later versions
2921	15.1(4)M and later versions	15.1(4)M and later versions
2951	15.1(4)M and later versions	15.1(4)M and later versions
3925	15.1(4)M and later versions	15.1(4)M and later versions
3925e	15.1(4)M and later versions	15.1(4)M and later versions
3945	15.1(4)M and later versions	15.1(4)M and later versions
3945e	15.1(4)M and later versions	15.1(4)M and later versions

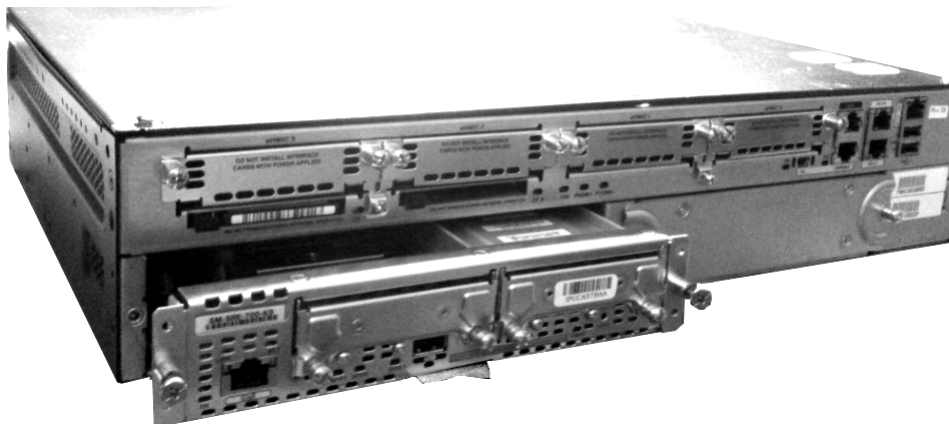
Related Topic

- [Installing the Cisco SRE Service Module into the Router, page 2-2](#)

Installing the Cisco SRE Service Module into the Router

To install the Cisco SRE Service Module into the Cisco 2900 series or 3900 series ISR G2, see [Figure 2-1](#). For detailed information, see *Installing Cisco Network Modules and Service Modules in Cisco Access Routers* on Cisco.com.

Figure 2-1 Cisco SRE Service Module in a Router



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Related Topics

- [Verifying Cisco SRE Service Module Installation, page 2-3](#)
- [Configuring the Cisco SRE Service Module Interfaces on the Router, page 3-3](#)

Verifying Cisco SRE Service Module Installation

After the Cisco SRE Service Module is physically installed in a Cisco router, and the router is loaded with a compatible Cisco IOS image and powered back on, do the following to ensure that the Cisco SRE Service Module is correctly detected by the router.

To verify the Cisco SRE Service Module installation, complete the following steps:

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- Step 1** Verify that the router detects the presence of the newly installed Cisco SRE Service Module. From the router, enter enable mode, and then use the **show diag | include FRU** command. The Field Replaceable Unit (FRU) details are displayed, as shown in the following example of a Cisco SRE 900 Service Module:

```
Router# show diag | include FRU
      Product (FRU) Number      : CISCO2951/K9
      Product (FRU) Number      : PWR-2921-51-POE
      Product (FRU) Number      : PVDM3-32
      Product (FRU) Number      : SM-SRE-900-K9
```

- Step 2** Use the **show hardware** command to verify that the router recognizes the service module.
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Related Topics

- [Installing the Cisco SRE Service Module into the Router, page 2-2](#)
- [Configuring the Cisco SRE Service Module Interfaces on the Router, page 3-3](#)

Online Insertion and Removal of the Cisco SRE Service Module

The Cisco 3900 series ISR G2 supports the Online Insertion and Removal (OIR), or hot swap, of the Cisco SRE Service Module.

The Cisco 2900 series ISR G2 does not support OIR of the Cisco SRE Service Module. To install or remove the Cisco SRE Service Module from the Cisco 2900 series ISR G2, make sure that you first power down the router, and then install or remove the Cisco SRE Service Module.

To perform OIR of a Cisco SRE Service Module from a Cisco 3900 series ISR G2, complete the following steps:

SUMMARY STEPS

1. **service-module sm slot/0 shutdown**
2. **service-module sm slot/0 status**
3. **hw-module sm 1 oir-stop**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>service-module sm slot/0 shutdown</p> <p>Example: Router# service-module sm 1/0 shutdown</p>	<p>Shuts down the Cisco SRE Service Module system gracefully. Use this command when removing or replacing a hot-swappable module during OIR.</p> <p>If the virtual machines on the VMware vSphere Hypervisor™ have VMware tools installed on them, and you issue this command, the virtual machines shut down first, and then the Cisco SRE Service Module shuts down.</p> <p>If the virtual machines do not have VMware tools installed on them, and you issue this command, the virtual machines get powered off first, and then the shutdown signal is sent to the service module. After about two minutes, the Cisco SRE Service Module shuts down.</p>
Step 2	<p>service-module sm slot/0 status</p> <p>Example: Router# service-module sm 1/0 status</p>	<p>Verifies whether the Cisco SRE Service Module system is in the shut down state.</p>
Step 3	<p>hw-module sm 1 oir-stop</p> <p>Example: Router# hw-module sm 1 oir-stop</p>	<p>Removes the Cisco SRE Service Module from the router.</p> <p>When you enter this command, OIR messages are displayed. After the messages finish displaying, remove the Cisco SRE Service Module from the router.</p>