CHAPTER 2

Installing the Cisco SRE Service Module into the Router

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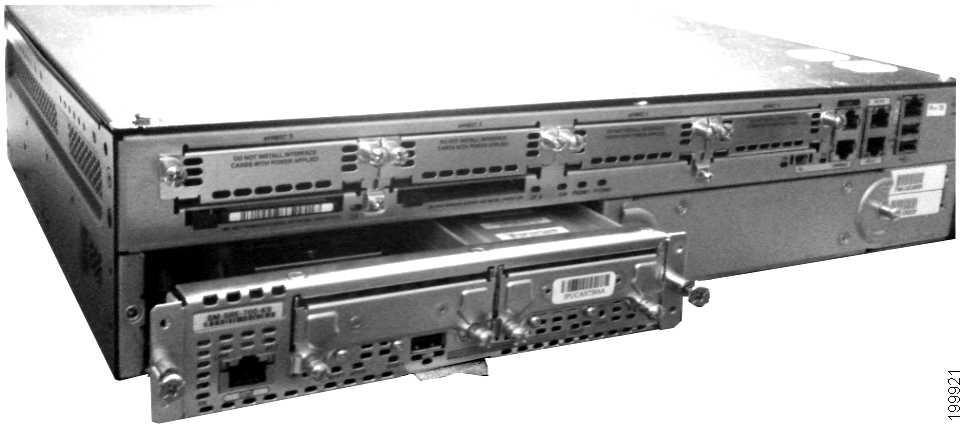
Verifying the Router, Cisco SRE Service Module, and Cisco IOS Software Version Compatibility

For all Cisco router models (2911, 2921, 2951, 3925, 3925e, 3945, and 3945e), and for all versions of the Cisco SRE Service Module (700, 710, 900, and 910), the Cisco IOS software version that you must install on the router, in order to use Cisco SRE-V, is Release 15.1(4) M or later.

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*.

Figure 2-1 Cisco SRE Service Module in a Router



Caution Before you install or remove the Cisco SRE Service Module from a Cisco 2900 series ISR G2, make sure that you first power down the router.

Related Topics

- Configuring the Cisco SRE Service Module Interfaces on the Router, page 3-3

Verifying the Cisco SRE Service Module Installation

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

Procedure

Step 1 From the router, enter **enable** to go into enable mode.

Step 2 Enter the **show diag | include FRU** command.

The system displays the Field Replaceable Unit (FRU) details, 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 3 Use the **show hardware** command to verify that the router recognizes the service module.

Related Topics

- Configuring the Cisco SRE Service Module Interfaces on the Router, page 3-3

Online Insertion and Removal of the Cisco SRE Service Module

Note Only 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 the OIR of the Cisco SRE Service Module.

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

PREREQUISITES

You cannot perform the OIR of a Cisco SRE Service Module when the VMware vSphere Hypervisor is in lockdown mode. If you enter the **service-module sm** *slot*/**0 shutdown** command when the VMware vSphere Hypervisor is in lockdown mode, the system moves the Cisco SRE Service Module to shutdown state but the VMware vSphere Hypervisor does not shut down. In addition, the system cannot process any subsequent **service-module sm** *slot*/**0** commands. To recover from this, reset the Cisco SRE Service Module.

For more information about lockdown mode, see the "About Lockdown Mode" section on page 6-5.

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	**service-module sm** *slot*/**0 shutdown** **Example:** `Router# service-module sm 1/0 shutdown`	Shuts down the Cisco SRE Service Module system gracefully. Use this command when removing or replacing a hot-swappable module during OIR. • 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. • If the virtual machines do not have VMware tools installed on them and you issue this command, the virtual machines power off first, and then the shutdown signal is sent to the service module. After about two minutes, the Cisco SRE Service Module shuts down. **Note** The system does not support the **service-module sm** *slot*/**0 shutdown** command when the VMware vSphere Hypervisor is in lockdown mode.

	Command or Action	Purpose
Step 2	**service-module sm** *slot*/**0 status** **Example:** `Router# service-module sm 1/0 status`	Verifies whether the Cisco SRE Service Module system is in the shut down state.
Step 3	**hw-module sm 1 oir-stop** **Example:** `Router# hw-module sm 1 oir-stop`	Removes the Cisco SRE Service Module from the router. When you enter this command, OIR messages are displayed. After the messages finish displaying, remove the Cisco SRE Service Module from the router.