C H A P T E R 9

Installing NME-IPS

Note All IPS platforms allow ten concurrent CLI sessions.

This chapter describes how to install NME-IPS. It contains the following sections:

Specifications

Table 9-1 lists the specifications for NME-IPS.

Table 9-1   NME-IPS Specifications

Specification	Description
Dimensions (H x W x D)	1.55 x 7.10 x 7.2 in. (3.9 x 18.0 x 19.3 cm)
Weight	1 lb (0.45 kg) (maximum)
Operating temperature	+32° to +104°F (+0° to +40°C)
Nonoperating temperature	–40° to +185°F (–40° to +85°C)
Humidity	5% to 95% noncondensing
Operating altitude	0 to 10,000 ft (0 to 3,000 m)
Memory	2 GB
eUSB	512 MB

Before Installing NME-IPS

Follow these recommendations before installing NME-IPS:

- Upgrade or downgrade software when you can take all applications that run on the router out of service or offline.
- Make sure that you have the correct router and software for the module.
- For safety and regulatory information, read *Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information*.
- Make a note of the location of the module in the router (*slot_number/port_number*). The port value is 0, and the slot number field specifies the physical slot number for NME-IPS (*slot_number/*IDS-Sensor 0).

> **Note** After you install the module, you can get this information by using the **show running-config** command. You need the module slot number to configure the interfaces on the module.

For More Information

- For the supported routers and software, see Software and Hardware Requirements, page 9-2.
- For more information, refer to Setting Up Interfaces on NME-IPS and the Router.

Software and Hardware Requirements

The router and NME-IPS have the following software and hardware requirements:

- The router must be running Cisco IOS release 12.4(20)YA or 12.4(22)T or later.

> **Note** Use the **show version** command in the router CLI to determine which Cisco IOS release your router is running.

- The module must be running IPS 6.1(1) or later.

> **Note** Use the **service-module IDS-Sensor** *slot/port* **status** command in the IOS CLI to determine which IPS release your sensor is running. Or use the **show version** command in the module CLI.

- Supported routers:
    - Cisco 2800 series (2811, 2821, and 2851)
    - Cisco 3800 series (3825 and 3845)

> **Note** The Cisco routers support up to one NME-IPS per platform.

- Supported Cisco IOS Feature Sets:
    - Cisco IOS Advanced Security
    - Cisco IOS Advanced IP Services
    - Cisco IOS Advanced Enterprise Services

Interoperability with Other IPS Modules

⚠️

Caution   You cannot upgrade an NM-CIDS to NME-IPS.

The Cisco access routers only support one IDS/IPS module per router. If you have more than one IDS/IPS module installed, the most capable card is enabled. The most capable hierarchy is:

1. NME-IPS
2. AIM-IPS
3. NM-CIDS

This means, for example, that if all modules are installed, NME-IPS disables all other modules. AIM-IPS disables all NM-CIDS. If there are multiple modules with the same level of capability, the first one discovered is enabled and all others are disabled.

You cannot bring up, enable, or configure a disabled module. To bring up a less capable module, you must remove the more capable module from the router and reboot. Disabled modules are reported in the **show diag** command output. The state of the module is reported as present but disabled.

If the most capable module slot and port do not match the **interface ids slot/port** configuration command, the most capable module is disabled with the following warning:

```
The module in slot x will be disabled and configuration ignored.
```

The correct slot/port number are displayed so that you can change the configuration.

For More Information

For more information on NM-CIDS, refer to Introducing NM-CIDS and Installing NM-CIDS.

Restrictions

The following restrictions apply to NME-IPS:

- Do not deploy IOS IPS and NME-IPS at the same time.
- When NME-IPS is used with an IOS firewall, make sure SYN flood prevention is done by the IOS firewall.

    NME-IPS and the IOS firewall complement each other's abilities to create security zones in the network and inspect traffic in those zones. Because NME-IPS and the IOS firewall operate independently, sometimes they are unaware of the other's activities. In this situation, the IOS firewall is the best defense against a SYN flood attack.

- The Cisco access routers only support one IDS/IPS per router.

⚠️

Caution   When you reload the router, NME-IPS also reloads. To ensure that there is no loss of data on NME-IPS, make sure you shut down the module using the **shutdown** command before you use the **reload** command to reboot the router.

For More Information

- For more information on how NME-IPS functions with other IPS modules, see Interoperability with Other IPS Modules, page 9-3.

- For more information about shutting down NME-IPS, refer to Rebooting, Resetting, and Shutting Down NME-IPS.

Hardware Interfaces

Figure 9-1 shows the router and NME-IPS interfaces used for internal and external communication. You can configure the router interfaces through the Cisco IOS CLI and the NME-IPS interfaces through the IPS CLI, IDM, IME, or CSM.

Figure 9-1   *NME-IPS and Router Interfaces*
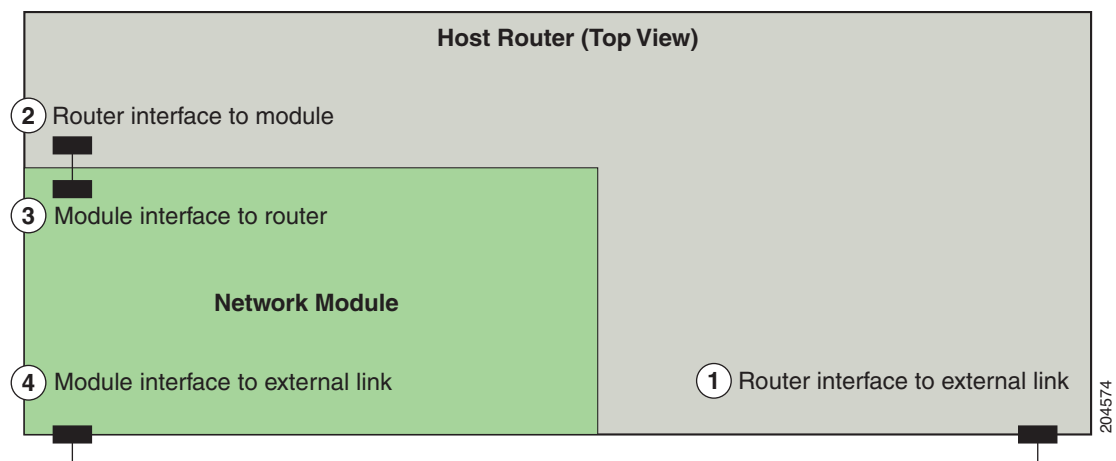
1	Router interface to external link
	Configure the standard router settings using the Cisco IOS CLI.
2	Router interface to NME-IPS (ids-sensor x/0)
	Configure the IP address and default gateway router of NME-IPS using the Cisco IOS CLI.
3	NME-IPS interface to router (GigabitEthernet0/1)
	Configure the interface as inline or promiscuous using the Cisco IOS CLI.
4	NME-IPS interface to external link (Management0/1)
	Configure the command and control interface using the IPS CLI, IDM, IME, or CSM.

For More Information

- For more information on the IPS CLI, refer to *Configuring the Cisco Intrusion Prevention System Sensor Using the Command Line Interface 6.2*.

- For more information on IDM, refer to *Installing and Using Cisco Intrusion Prevention System Device Manager 6.2*.

- For IME, refer to *Installing and Using Cisco Intrusion Prevention System Manager Express 6.2*.

Installation and Removal Instructions

For instructions on how to install and remove NME-IPS, refer to *Installing Cisco Network Modules in Cisco Access Routers.*

To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect NME-IPS only to intrabuilding or nonexposed wiring or cabling. The intrabuilding cable must be shielded and the shield must be grounded at both ends.

For More Information

- For the procedure for verifying that NME-IPS is installed properly, see Verifying Installation, page 9-5.

- For the procedure for using the **setup** command to initialize NME-IPS, see Initializing the Sensor, page 10-1.

- For more information about obtaining the most recent Cisco IPS software, see Obtaining Cisco IPS Software, page 12-1.

- For the procedure to configure NME-IPS to receive IPS traffic, refer to Setting Up Interfaces on NME-IPS and the Router.

- For the procedure for using HTTPS to log in to IDM, refer to Logging In to IDM.

- For the procedures for configuring intrusion prevention on your sensor, refer to the following guides:

  – *Installing and Using Cisco Intrusion Prevention System Device Manager 6.2*

  – *Installing and Using Cisco Intrusion Prevention System Manager Express 6.2*

  – *Configuring the Cisco Intrusion Prevention System Sensor Using the Command Line Interface 6.2*

Verifying Installation

Use the **show inventory** command in privileged EXEC mode to verify the installation of NME-IPS.

Note You can also use this command to find the serial number of your NME-IPS for use in troubleshooting with TAC. The serial number appears in the PID line, for example, SN: FHH1117001R.

To verify the installation of NME-IPS, follow these steps:

Step 1   Log in to the router.

Step 2   Enter privileged EXEC mode on the router.

```
router> enable
```

Step 3   Verify that NME-IPS is part of the router inventory.

```
router# show inventory
NAME: "3845 chassis", DESCR: "3845 chassis"
PID: CISCO3845          , VID: V01 , SN: FTX1002C255

NAME: "c3845 Motherboard with Gigabit Ethernet on Slot 0", DESCR: "c3845 Motherb
oard with Gigabit Ethernet"
PID: CISCO3845-MB       , VID: V03 , SN: FOC09514J4Y

NAME: "4 Port FE Switch on Slot 0 SubSlot 0", DESCR: "4 Port FE Switch"
PID: HWIC-4ESW          , VID: V01 , SN: FOC1102394U

NAME: "High Speed WAN Interface Card - 1 Port Gigabit Ethernet on Slot 0 SubSlot
 3", DESCR: "High Speed WAN Interface Card - 1 Port Gigabit Ethernet"
PID: HWIC-1GE-SFP       , VID: V01 , SN: FOC10164DAR

NAME: "1000BASE-T SFP", DESCR: "1000BASE-T SFP"
PID: SP7041             , VID: C   , SN: 00000MTC101608RB

NAME: "Cisco Intrusion Prevention System NM on Slot 2", DESCR: "Cisco Intrusion
Prevention System NM"
PID: NME-IPS-K9         , VID: V01, SN: FHH1117001R


router#
```