



# CHAPTER 1

## Overview

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This chapter provides an overview of the Connectivity Management Processor (CMP).

This chapter includes the following sections:

- [Information About CMP, page 1-1](#)

## Information About CMP

The CMP is a separate processor on the Cisco Nexus 7000 Series Supervisor 1 module that is in addition to the main control processor (CP). The CMP provides a second network interface to the switch for use even when the CP is not reachable. You can access the CMP to configure it and to perform system operations, such as taking over the CP console or restarting the CP.



### Note

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The CMP is available only on the Supervisor 1 modules, not on the Supervisor 2 nor Supervisor 2E modules.

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Each CMP contains its own RAM, bootflash, and front panel management Ethernet port. The CMP eliminates the need for a separate permanent terminal server attached to your supervisor module. You connect to the CMP through its CMP-management Ethernet (CMP-MGMT ETH) port with a Secure Shell (SSH) or Telnet session to monitor or reboot the supervisor module. If the associated supervisor module CP is operational, you can also connect to the CMP from the CP to reboot the CMP.

Each CMP remains operational even if its supervisor module is in standby mode or the switch is down because of issues such as over-temperature alarms. Each CMP gets power from an auxiliary power bus in the switch that remains operational so long as you have at least one power cable attached to the switch.

The CMP provides the following functions:

- Communicates with the Supervisor 1 module and I/O modules even if Cisco NX-OS switch is not responding on the mgmt0 port.
- Maintains connectivity when you reboot the supervisor module.
- Monitors the supervisor module console port.
- Reboots the local supervisor module or the entire system.
- Takes over the supervisor module console port.
- Collects failure logs and watches bootup diagnostic messages.



**Note** The CMP runs a separate image from Cisco NX-OS (see the “Upgrading the CMP Image” section on page 2-30).

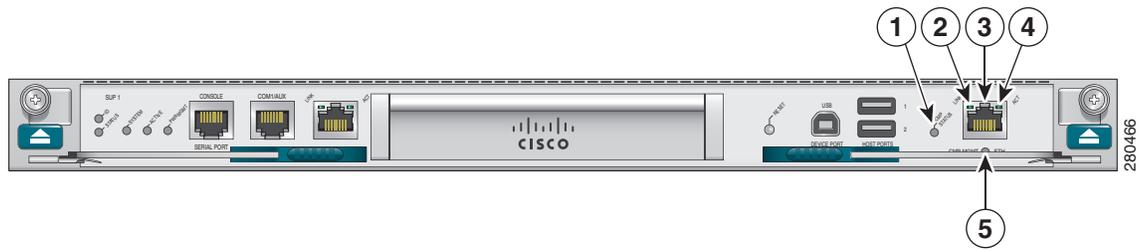
This section includes the following topics:

- [CMP MGMT Ethernet Port, page 1-2](#)
- [CMP Access, page 1-3](#)
- [High Availability, page 1-4](#)

## CMP MGMT Ethernet Port

The CMP has a dedicated front-panel Ethernet port but does not have its own front-panel console port. [Figure 1-1](#) shows the Supervisor 1 front panel, with the CMP MGMT Ethernet port on the far right.

**Figure 1-1 Supervisor 1 Module Faceplate**



<b>1</b>	CMP Status LED	<b>4</b>	ACT LED
<b>2</b>	Link LED	<b>5</b>	CMP MGMT Ethernet LED
<b>3</b>	CMP MGMT Ethernet port		

The Supervisor 1 module contains a series of LEDs that reflect the status of the CMP and the CMP MGMT Ethernet port. [Figure 1-1](#) identifies the LEDs and [Table 1-1](#) describes their states and the conditions that they indicate.

**Table 1-1 CMP LEDs**

LED	Status	Description
CMP STATUS	off	CMP is not receiving power.
	red	CMP is not operational.
	amber	CMP is booting.
	green	CMP is operational.
LINK	off	<ul style="list-style-type: none"> <li>• CMP port link status is down.</li> <li>• Cable is unplugged.</li> </ul>
	green	CMP port link status is up.

**Table 1-1** *CMP LEDs (continued)*

LED	Status	Description
ACT	off	<ul style="list-style-type: none"> <li>Port is not accessed.</li> <li>Port is down.</li> <li>Port cable is unplugged.</li> </ul>
	flashing green	Port is being accessed.
CMP MGMT ETH	amber	Interface is not configured.
	green	Interface is configured.

## CMP Access

When the CP and CMP are both operational, you can log into the CMP through the CP using your NX-OS configured username and password or the admin username and password. If the CP is configured with RADIUS or TACACS, then your authentication is also handled by RADIUS or TACACS. If the CP is operational, the CMP accepts logins from users with network-admin privileges. The CMPs use the same authentication mechanism to configure the CP (that is, RADIUS, TACACS, or local). The CP automatically synchronizes the admin password with the active and standby CMP so that you can use the “admin” username and password when a CP is not operational. For more information on user accounts and user roles, see the *Cisco Nexus 7000 Series NX-OS Security Configuration Guide, Release 5.x*.



### Note

The active CP also synchronizes all NX-OS configured usernames and passwords with the standby CP so that you can use your NX-OS configured username whenever a CP is operational.

If you are connecting to the CMP through Cisco NX-OS, you must be in the default virtual switch context (VDC). For more information on VDCs, see the *Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide, Release 5.x*.

The SSH server is enabled by default on the CMP. We recommend that you do not disable the SSH server on the CMP, but if required, you can disable the SSH server and enable the Telnet server. [Table 1-2](#) lists the commands that you can use to enable or disable the SSH server and Telnet server.

**Table 1-2** *Enabling and Disabling Commands for the SSH Server and Telnet Server*

Action	Command
Enable SSH server (default setting)	<b>ssh server enable</b>
Disable SSH server	<b>no ssh server enable</b>
Enable Telnet server	<b>telnet server enable</b>
Disable Telnet server	<b>no telnet server enable</b>

To view system messages that track who logged into the CMP, use the **show logging** command on the CMP.

## High Availability

A fully redundant switch contains two supervisor modules. If these modules are Supervisor 1 modules, they each have a CMP. Although only one supervisor module is active at any one time, the CMP software in each supervisor module is always active. For a high-availability configuration, you should connect four Ethernet cables to these supervisor modules—one for each mgmt 0 interface and one for each cmp-mgmt interface. You should also configure three IP addresses—one for each cmp-mgmt interface and one that is shared between the active and standby supervisor mgmt 0 interfaces.

**Note**

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Supervisor module switchovers do not reload the CMPs.

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A supervisor module is fully operational only if both the CP and its CMP are operational.

**Note**

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A CMP failure does not cause a supervisor module switchover.

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