Upgrading the Cisco CMC

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Upgrading the Cisco CMC Image through the Cisco CMTS

The Cisco CMC consists of the following three images:

- Golden image
- Bank 1 image
- Bank 2 image

Golden Image

The image on the Cisco CMC that is downloaded as part of the factory settings is called the golden image. This image is read-only and cannot be deleted or replaced using the CLI. This image supports only the Cisco CMC image upgrade and does not support the other features.

Bank 1 and Bank 2 Images

The non-golden images on the Cisco CMC that support all the features are called the bank 1 and bank 2 images. These images can be copied to or deleted from the Cisco CMC. When the Cisco CMC image is upgraded, the bank 1 and bank 2 images are upgraded alternately. That is, if the last upgraded image is the bank 1 image, then the bank 2 image is upgraded with the current upgrade, and vice versa. When the image (non-golden) upgrade fails, the Cisco CMC tries to boot with the image from the other bank. If the images from both the banks fail, the Cisco CMC boots with the golden image.

Before You Begin

Before upgrading the Cisco CMC image through the Cisco CMTS, you must specify the TFTP or FTP server address and full file path in the DHCP server.

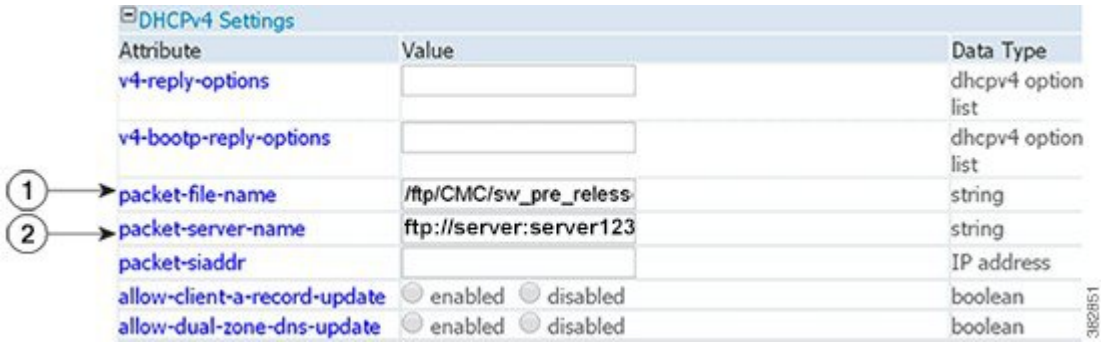
If you are using a Cisco Network Registrar as the DHCP server, you must specify the values for the following fields:

- *packet-file-name*
- *packet-server-name*

For more information on the Cisco Network Registrar, see Cisco Network Registrar.

The figure below shows an example of how to specify the values in the Cisco Network Registrar:

Figure 1: Specifying the Values on Cisco Network Registrar



1	Specify the new image file name and its full path
2	Specify the TFTP or FTP server address where the new image is located

Restriction

While upgrading the software images on Cisco CMTS and Cisco CMC, upgrade the Cisco CMC first, and then upgrade the Cisco CMTS.

Important If the Cisco CMTS is upgraded before the Cisco CMC, the Cisco CMC may not come online.

Procedure

Step 1 Enable the privileged EXEC mode using the **enable** command. Enter your password, if prompted.

Example:

```
Router> enable
```

Step 2 Upgrade the Cisco CMC image using the **cable cmc** *mac-address* **image_upgrade** command.
mac-address—MAC address of the Cisco CMC.

Example:

```
Router# cable cmc 0001.0002.0003 image_upgrade
```

What to Do Next

If you are unable to upgrade the Cisco CMC image through Cisco CMTS, upgrade it through the Cisco CMC console. For more information, see Upgrading the Cisco CMC Image through the Cisco CMC Console, on page 8.

Upgrading the Cisco CMC Image Through the Cisco CMC

Important Upgrade the Cisco CMC image through the Cisco CMC only if you are unable to upgrade it through the Cisco CMTS.

The following sections provide information on how to upgrade the Cisco CMC through the Cisco CMC console:

Opening the Cisco CMC

Installation or maintenance of the Cisco CMC requires opening the housing to access the internal components.

Before You Begin

Have the following tools ready before performing this task:

- Torque wrench

Procedure

Step 1 Loosen the 1/2-inch closure bolts on the Cisco CMC lid using a torque wrench.

Figure 2: Location of the Closure Bolts on the Cisco CMC

1	Closure bolts		—

Step 2 Open the Cisco CMC lid.

Note The closure bolts remain attached to the Cisco CMC lid after opening the housing.

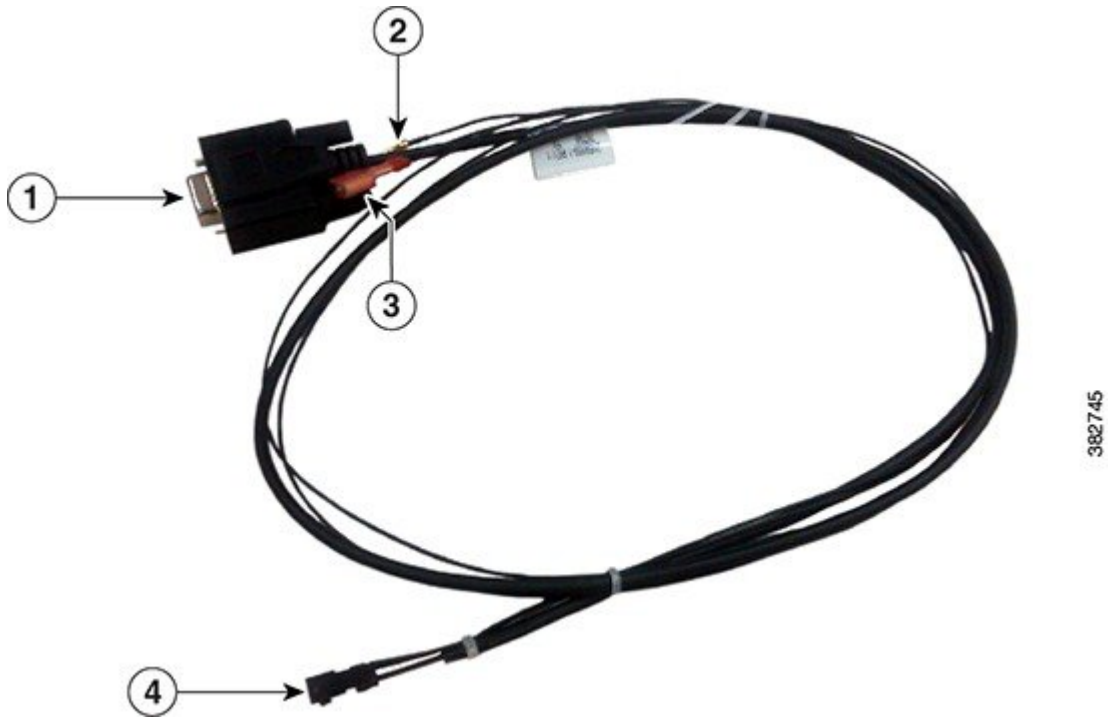
Using the Console Port on the Cisco CMC

The console port on the Cisco CMC is used for connecting the Cisco CMC to a PC using a console cable.

Warning The console cable connection is only for initial installation and maintenance of the Cisco CMC. The console cable must not be connected during electromagnetic compliance testing. The console cable must be disconnected from the Cisco CMC after the final installation.

The figure below shows the console cable used with the Cisco CMC.

Figure 3: Console Cable



1	DB9 connector	3	Pin 3 (P3)
2	Pin 2 (P2)	4	PCB connector

The table below provides the console cable connector pin definitions.

Table 1: Console Cable—Connector Pin Definitions

Pin Number	Definition
Pin 1	Ground (GND)
Pin 2	Input (UART_RX)

Pin Number	Definition
Pin 3	Ground (GND)
Pin 4	Output (UART_TX)
Pin 5	Golden image (Golden_Image)
Pin 6	Ground (GND)

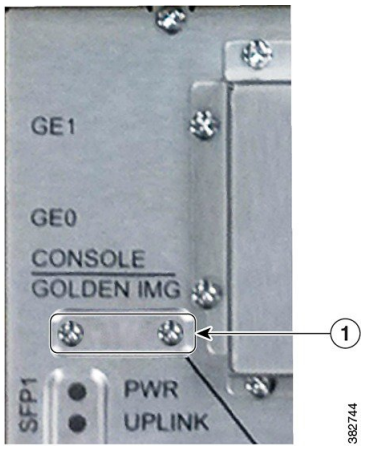
Before You Begin

- Open the Cisco CMC lid. See Opening the Cisco CMC, on page 4.
- Have the following tools ready before performing this task:
  - Screwdriver

Procedure

Step 1 Remove the screws on the console port cover using a screwdriver to access the console port. The figure below shows the console port with its cover.

Figure 4: Cisco CMC Console Port



1	Console port cover		—

Step 2 Align the PCB connector of the console cable with the pins on the Cisco CMC console port and insert the PCB connector into the console port.

Step 3 (Optional) To boot the Cisco CMC with the golden image, insert P2 into P3.

Tip If P2 is not connected to P3, the Cisco CMC boots normally.

Step 4 Connect the DB9 connector of the console cable with the appropriate serial port on the PC.

Step 5 Power up the PC.

Step 6 Configure the PC terminal emulation software with the following default settings for the Cisco CMC:

- 115200 baud rate
- 8 data bits
- No parity generation or checking
- 1 stop bit

What to Do Next

1. Disconnect the console cable from the console port.
2. Reinstall the console port cover and tighten the screws using a screwdriver.
3. Close the Cisco CMC lid. See Closing the Cisco CMC, on page 9.

Upgrading the Cisco CMC Image through the Cisco CMC Console

Important Perform this procedure only if you are unable to upgrade the Cisco CMC image through the Cisco CMTS.

Restriction

While upgrading the software images on Cisco CMTS and Cisco CMC, upgrade the Cisco CMC first, and then upgrade the Cisco CMTS.

Important If the Cisco CMTS is upgraded before the Cisco CMC, the Cisco CMC may not come online.

Procedure

Step 1 Open the Cisco CMC lid. See Opening the Cisco CMC, on page 4.

Step 2 Connect the console cable to the Cisco CMC console port and connect the other end of the console cable to a computer. See Using the Console Port on the Cisco CMC, on page 6.

Step 3 Log in to the Cisco CMC console using telnet.

Note Use a baud rate of 115200.

Step 4 Enable the privilege mode on the Cisco CMC using the **enable** command. Enter your password, if prompted.

Example:

```
CMC> enable
```

Step 5 Upgrade the Cisco CMC image using the **upgrade system** *url* command.

url—Firmware path, where the image is available.

Tip The firmware path is case-sensitive.

Note If the image version available on the specified firmware path is the same as the image running on the Cisco CMC currently, the Cisco CMC does not upgrade the image.

Example:

```
CMC# upgrade system tftp://192.168.1.1/image-1.1.bin
```

Step 6 After the image upgrade is completed, disconnect the console cable from the Cisco CMC console port.

Step 7 Close the Cisco CMC lid. See Closing the Cisco CMC, on page 9.

Closing the Cisco CMC

Proper housing closure is important to maintain the Cisco CMC in good working condition. Proper closure ensures a good seal against the environment and protects the internal modules.

Caution Avoid moisture damage and RF leakage. Follow the procedure exactly as shown below to ensure a proper seal.

The Cisco CMC has waterproof rubber and EMI gasket to seal the equipment.

Figure 5: Location of the Waterproof Rubber and EMI Gasket on the Cisco CMC

1	Waterproof rubber	2	EMI gasket

Before You Begin

- Ensure that the waterproof rubber and EMI gasket on the Cisco CMC are not worn out. Wipe off any excess dirt and debris. If the waterproof rubber or EMI gasket is worn out, contact the Cisco Technical Assistance Center (TAC) for further assistance.
- Have the following tools ready before performing this task:
  - Torque wrench
  - Hex driver or ratchet

Procedure

Step 1 Close the lid.

Caution Ensure that all the cables are out of the way when closing the lid.

Step 2 Lightly secure the six 1/2-inch closure bolts using a hex driver or ratchet.

Step 3 Tighten the six housing closure bolts from 5 ft-lb to 12 ft-lb (6.8 Nm to 16.3 Nm) using a torque wrench in the correct sequence as shown in the figure below.

Figure 6: Torque Sequence

Step 4 Using the same sequence, tighten the closure bolts again with the same torque specification to ensure proper closure.

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