



Release Notes for Catalyst 6000 Family and Cisco 7600 Series Internet Router DFC ROMMON Software

Current Release: 12.1(11r)E2—March 28, 2002
Past Release: 12.1(5r)E1

This publication describes how to upgrade the ROMMON on your Catalyst 6000 family or Cisco 7600 series Internet Router Distributed Forwarding Card (DFC). The ROMMON upgrade is supported on fabric-enabled modules that have the WS-F6K-DFC daughter card.



You should consider the 12.1(11r)E2 ROMMON software upgrade if you need the bug fixes documented in the [“Caveats” section on page 3](#).

With this procedure, you can upgrade the ROMMON image similar to the way that you upgrade the Cisco IOS operating system software.

ROMMON software release 12.1(11r)E2 is supported in Catalyst 6000 family and Cisco 7600 series systems that are running Cisco IOS software on the Supervisor Engine 2 and on the MSFC2.

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System Software Requirements

The DFC ROMMON software upgrade requires the following system software:

- DFC ROMMON software release 12.1(4r)E1 or later on the DFC.
- For Catalyst 6000 family and Cisco 7600 series systems running Cisco IOS software on the Supervisor Engine 2 and on the MSFC2, Cisco IOS Release 12.1(8a)EX is the first software release that supports a software upgrade of the DFC ROMMON.

Software Images

[Table 1](#) lists the software releases for the DFC ROMMON software.

Table 1 Upgradable Modules

DFC ROMMON Software Release	Filename
12.1(11r)E2 upgradable module ROMMON image	c6dfc-rm2.srec.121-11r.E2

ROMMON Image Overview

The DFC ROMMON consists of two modules:

- A resident module that is not changed during the upgrade procedure.
- An upgradable module that is updated during the upgrade procedure. This is the only module that you will download from Cisco.com.

New and Changed Information

DFC ROMMON software release 12.1(11r)E2 contains bug fixes; no new feature support is added.

Caveats

The following section contains resolved caveat information.

Resolved Caveats in DFC ROMMON Software Release 12.1(11r)E2

- This problem could cause a DFC-configured module to not come up on a fully loaded chassis due to a failure to download the image when the EOBC is under stress traffic conditions. This problem is resolved in DFC ROMMON software release 12.1(11r)E2. (CSCdu19133)
- Under some circumstances, after doing an online insertion and removal (OIR) or resetting the module with the DFC through the switch console, the DFC might report a Bus Error and fail to boot. This problem is resolved in DFC ROMMON software release 12.1(11r)E2. (CSCdw24401)
- The system might fail to recognize the newly installed memory after upgrading the DFC memory to 256 MB using the upgrade kit (MEM-DFC-256MB=). You should upgrade the ROMMON on the DFC to ROMMON software release 12.1(11r)E2. If you are running Cisco IOS Release 12.1(8a)E or later, you can upgrade the ROMMON of the DFC through the software upgrade procedure documented in this publication.

To identify the ROMMON version running on the DFC, enter the **remote command module module-no show version** command and find the following line in the display output:

```
System Bootstrap, Version 12.1(4r)E, RELEASE SOFTWARE (fc1)
```

In this example, the ROMMON version is 12.1(4r)E.
(CSCdw69150)

Upgrading the DFC ROMMON



Note Before performing this procedure, you must download the new ROMMON image from Cisco.com. The download procedure is the same as downloading Catalyst software images.

To upgrade the ROMMON version on your DFC, perform these steps (in this example, the module with the DFC is in slot 4):

Step 1 Check the active ROMMON information:

```
Router# show rom-monitor slot 4

Region F1:APPROVED, preferred
Region F2:INVALID
Currently running ROMMON from F1 region
Router#
```

The display indicates that the active ROMMON is running in region1.

Step 2 Program the new ROMMON image to the Flash device on the DFC (in this example, the image is stored in the route processor bootflash):

```
Router# upgrade rom-monitor slot 4 file bootflash:c6dfc-rm2.srec.121-11r.E2
Copying bootflash:c6dfc-rm2.srec.121-11r.E2 onto bootflash of dfc#4 CCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
Router#
19:40:08: DFC4: ROMMON image upgrade in progress
19:40:08: DFC4: Erasing flash
19:40:11: DFC4: Programming flash
19:40:13: DFC4: Verifying new image
19:40:13: DFC4: ROMMON image upgrade complete
The card must be reset for this to take effect

Router#
```

Step 3 Check the new active ROMMON information:

```
Router# show rom-monitor slot 4
Region F1:APPROVED
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F1 region
Router#
```

Step 4 Reload the DFC for the change to take effect:

```
Router# hw-module module 4 reset
Proceed with reload of module? [confirm]
% reset issued for module 4

<output truncated>
```

Step 5 After the system comes up, check the ROMMON information again:

```
Router# show rom-monitor slot 4
Region F1:APPROVED
Region F2:APPROVED, preferred
Currently running ROMMON from F2 region
Router#
```

The “Region2” field should show “APPROVED, preferred.” The ROMMON stored in the Region2 is now the active ROMMON.

Storing More Than One ROMMON Image

The procedure in this section is optional and should be used only if you have multiple versions of the upgraded ROMMON image stored on the DFC. These procedures describe how to select a particular ROMMON image for booting and how to disqualify a particular ROMMON region.

Selecting a Stored ROMMON Image on the DFC

There are three regions (including the Gold region) where versions of the ROMMON image can be stored. You can use the **upgrade rom-monitor slot preference** command to switch between regions.

The ROMMON software upgrade feature allows you to have two upgraded ROMMON images (one in region F1, the second in region F2) in addition to the “Gold” ROMMON stored on the one-time programmable (OTP) EPROM section of the ROMMON. Use the **upgrade rom-monitor slot preference** command to select which ROMMON will be the preferred ROMMON the next time the system is booted. You can change the preference as often as you like. The changes do not take effect until you reset the system.

To select a particular ROMMON image stored on the DFC, perform these steps:

Step 1 Change the ROMMON preference:

```
Router# show rom-monitor slot 4
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
Router# upgrade rom-monitor slot 4 preference region1
```

You are about to mark F1 region of DFC ROMMON in slot 4 as the boot preference region, proceed[n]? y
Router#

Step 2 Reload the DFC for the change to take effect:

```
Router# hw-module module 4 reset
Proceed with reload of module? [confirm]
% reset issued for module 4
```

<output truncated>

Step 3 Verify the change:

```
Router# show rom-monitor slot 4
Region F1:APPROVED, preferred
Region F2:APPROVED
Currently running ROMMON from F1 region
```

You can also disqualify a specific region of ROMMON and use the other region or go back to using the “Gold” ROMMON stored in the OTP EPROM section by using the **upgrade rom-monitor slot invalidate** command.

To disqualify a specific ROMMON region, perform these steps:

Step 1 Disqualify a specific ROMMON region:

```
Router# show rom-monitor slot 4
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
```

```
Router# upgrade rom-monitor slot 4 invalidate region2
```

```
You are about to mark F2 region of DFC ROMMON in slot 4 as an invalid region,
proceed[n]? y
Router#
```

Step 2 Reload the DFC for the change to take effect:

```
Router# hw-module module 4 reset
Proceed with reload? [confirm]
```

```
<output truncated>
```

Step 3 Verify the change:

```
Router# show rom-monitor slot 4
Region F1:FIRST_RUN
Region F2:INVALID
Currently running ROMMON from S (Gold) region
```

Additional Documentation

The following documents are available for the Catalyst 6000 family switches:

- *Catalyst 6000 Family Quick Software Configuration*
- *Catalyst 6000 Family Installation Guide*
- *Catalyst 6000 Family Module Installation Guide*
- *Catalyst 6000 Family Software Configuration Guide*
- *Catalyst 6000 Family Command Reference*
- *System Message Guide—Catalyst 6000 Family, 4000 Family, 2926G Series, 2948G, and 2980G Switches*
- *ATM Configuration Guide and Command Reference*

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

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 San Jose, CA 95134-9883

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Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.

- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

<http://www.cisco.com/register/>

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the *Catalyst 6000 Family Software Configuration Guide*, *Catalyst 6000 Family Command Reference*, *Cisco 7600 Series Internet Router Software Configuration Guide*, and the *Cisco 7600 Series Internet Router Command Reference* publications.

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