



# Release Notes for Catalyst 6000 Family and Cisco 7600 Series Internet Router Supervisor Engine 2 ROMMON

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Current Release: 7.1(1)—December 28, 2001  
Past Releases: 6.1(4)

This publication describes how to determine if you need to upgrade the ROMMON on your Catalyst 6000 family or Cisco 7600 series Internet Router Supervisor Engine 2 (WS-X6K-S2-MSFC2, WS-X6K-S2U-MSFC2) and also provides the procedure to download the new ROMMON image from Cisco.com and then upgrade the ROMMON on your Supervisor Engine 2.

With this procedure, you can upgrade the ROMMON image similar to the way that you upgrade the operating system software (supervisor engine software or MSFC Cisco IOS software). Without this procedure, you have to order the upgrade kit and physically replace the ROMMON (boot ROM).



## Note

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The ROMMON software upgrade procedure in this publication applies only to Supervisor Engine 2 with ROMMON software release 6.1(3) or later. If your ROMMON is not software release 6.1(3) or later, refer to the *Catalyst 6000 Family Supervisor Engine 2 Boot ROM and Bootflash Device Upgrade Installation Note* for information on upgrading your ROMMON (Boot ROM) hardware to software release 6.1(3). The publication is located at this URL:  
[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/cfgnotes/78\\_12667.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/cfgnotes/78_12667.htm)

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ROMMON software releases 7.1(1) and 6.1(4) support the Catalyst 6000 family and Cisco 7600 series Supervisor Engine 2.

ROMMON software releases 6.1(4) and 7.1(1) are supported in Catalyst 6000 family and Cisco 7600 series systems that are running ROMMON software release 6.1(3) on the Supervisor Engine 2 and either:

- Catalyst operating software on the Supervisor Engine 2 and Cisco IOS software on the MSFC2
- or
- Cisco IOS software on the Supervisor Engine 2 and on the MSFC2



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# Minimum Required Cisco IOS Software Release

Using this ROMMON software upgrade requires that your system is running Cisco IOS release 12.1(8a)EX or 12.1(11b)E or later on your Supervisor Engine 2 and MSFC2.



Note

Cisco IOS releases 12.2(9)YO and 12.2(9)ZA do not support this ROMMON software upgrade.

## Contents

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## Software Images

[Table 1](#) lists the software releases for the Catalyst 6000 family and Cisco 7600 series Internet Router ROMMON Supervisor Engine 2 software. The ROMMON upgrade kit orderable product number is WS-X6K-S2-KIT.

**Table 1** *Upgradable Modules*

ROMMON Software Release	Filename
<b>Supervisor Engine 2</b>	
7.1(1) resident module ROMMON image	cat6000-SUP2-rm1.7-1-1.srec
7.1(1) upgradable module ROMMON image	cat6000-SUP2-rm2.7-1-1.srec
6.1(4) resident module ROMMON image	cat6000-SUP2-rm1.6-1-4.srec
6.1(4) upgradeable module ROMMON image	cat6000-SUP2-rm2.6-1-4.srec

# ROMMON Image Overview

The Supervisor Engine 2 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

Supervisor Engine 2 ROMMON software release 7.1(1) introduces support for the MEM-C6K-ATA-1-64M= (64MB) PCMCIA ATA FlashDisk device.

The following guidelines apply to the PCMCIA ATA FlashDisk device:

- After a reset, ROMMON release 7.1(1) implements a delay of 200 micro seconds ( $\mu$ s) before you can access the PCMCIA ATA FlashDisk device.
- The Read/Write access time for the PCMCIA ATA FlashDisk device is 150 nano second (ns), and the Read/Write cycle time is 280 ns.
- ROMMON release 7.1(1) allows a maximum of 300 ns for each of these parameters.



Note

Support for the PCMCIA ATA FlashDisk is for Catalyst 6000 family and Cisco 7600 series systems that are running Cisco IOS Release 12.1(8a)EX or 12.1(11b)E and later on the Supervisor Engine 2 and on the MSFC2. Support for the PCMCIA ATA FlashDisk in systems running Cisco IOS on the MSFC and Catalyst operating software on the supervisor engine requires Catalyst software release 7.5(1) or later releases.



Note

In a system running Cisco IOS on both the MSFC and the supervisor engine, **disk0:** refers to the PCMCIA device. In a system running Cisco IOS on the MSFC and Catalyst operating software on the supervisor engine, **slot0:** refers to the PCMCIA device (with the exception of the ATA FlashDisk, which is accessed using **disk0:**).

## Caveats

The following sections contain caveat information:

- [Open and Resolved Caveats in Supervisor Engine 2 ROMMON Software Release 7.1\(1\)](#), page 3
- [Resolved Caveats in Supervisor Engine 2 ROMMON Software Release 6.1\(4\)](#), page 4

## Open and Resolved Caveats in Supervisor Engine 2 ROMMON Software Release 7.1(1)

- [Open Caveats](#), page 4
- [Resolved Caveats](#), page 4

## Open Caveats

- Entering the **upgrade rom-monitor slot 1 rp preference** *region-no* command over a Telnet connection causes a system reset.

**Workaround:** Enter this command from the console prompt. (CSCdy24680)

## Resolved Caveats

- The Supervisor Engine 2 ROMMON does not support the PCMCIA ATA FlashDisk device. This problem is resolved in Supervisor Engine 2 ROMMON software release 7.1(1). (CSCdr51247)
- If the runtime image is not the first file in the PCMCIA card, auto boot will fail and a manual reboot of the system is required. This problem is resolved in Supervisor Engine 2 ROMMON software release 7.1(1). (CSCdv12150)
- If you specify an invalid boot device from the ROMMON prompt, the boot process hangs and you must power the system off and then on to recover. This problem is resolved in Supervisor Engine 2 ROMMON software release 7.1(1). (CSCdv42286)

## Resolved Caveats in Supervisor Engine 2 ROMMON Software Release 6.1(4)

- Entering the **unset boot** command in ROMMON mode does not remove the BOOT variable. This problem is resolved in ROMMON software release 6.1(4). (CSCds62137)
- The Supervisor Engine 2 ROMMON **reset** command does not function correctly. This problem is resolved in ROMMON software release 6.1(4). (CSCdt69389)
- After a software-forced reload, the switch stays in ROMMON. This problem is resolved in ROMMON software release 6.1(4) and an upgrade to Cisco IOS Release 12.1(8a)E is also required. (CSCdt94262)

# Upgrading the Supervisor Engine 2 ROMMON Using Catalyst Operating Software Commands

To upgrade the ROMMON version on a Supervisor Engine 2 running Catalyst operating software, perform these steps:



## Note

Before performing this procedure, you need to download the new ROMMON image from Cisco.com. The download procedure is the same as downloading supervisor engine software images.

### Step 1 Check the active ROMMON information:

```
Console> (enable) rommon show

Region F1: INVALID
Region F2: INVALID
Currently running ROMMON from S (Gold) region
```

The display indicates that the active ROMMON is running in the “Gold” region.

### Step 2 Download the new ROMMON image from the TFTP server:

```
Console> (enable) copy tftp flash
IP address or name of remote host []? 23.255.254.226
Name of file to copy from []? tftpboot/rommon/cat6000-SUP2-rm2.6-1-4.srec
Flash device [bootflash]? bootflash
Name of file to copy to [cat6000-SUP2-rm2.6-1-4.srec]?

25081216 bytes available on device bootflash, proceed (y/n) [n]? y
CCCCCCCCCCCC
File has been copied successfully.
```

### Step 3 Program the new ROMMON image to the bootflash device on the Supervisor Engine 2:



## Note

The software automatically stores the specified image to a region other than the region that accepted the last upgraded image. For example, if the last upgrade command put the image in Region F1, the current upgrade command will store the image in Region F2 and set it as the “preferred” region when the next system reset occurs. If the last upgrade command stored the image to Region F2, the current upgrade command will store the image to Region F1.

The image that is most recently stored into the Flash is always labeled as the “preferred” image. If you decide you do not want this upgrade image, you can switch to the other region or the Gold region using the **rommon prefer** or **rommon invalidate** commands.

```
Console> (enable) rommon upgrade bootflash:cat6000-SUP2-rm2.6-1-4.srec
CCCCCCCCCCCC
ROMMON image upgrade in progress, will take a minute
Erasing flash
Programming flash
ROMMON image upgrade complete, Supervisor must be reset.
```

**Step 4** Check the new active ROMMON information:

```

Console> (enable) rommon show

Region F1: FIRST_RUN, preferred
Region F2: INVALID
Currently running ROMMON from S (Gold) region
    
```

The “Region F1” field should show “FIRST\_RUN, preferred.”

**Step 5** Reset the Supervisor Engine 2:

```

Console> (enable) reset
This command will reset the system.
Do you want to continue (y/n) [n]? y
. . .
Powering OFF all existing linecards
Console> . . .

System Bootstrap, Version 6.1(4)
Copyright (c) 1994-2001 by cisco Systems, Inc.
c6k_sup2 processor with 131072 Kbytes of main memory

Autoboot executing command: "boot bootflash:"

Self decompressing the image :
#####
#####
.
.
.

Currently running ROMMON from F1 region
ROMMON upgrade successful
Boot image: bootflash:cat6000-sup2.6-1-3.bin
inband gmac link is up

.
.
.
    
```

Note that the Supervisor Engine 2 is booted with the new ROMMON stored in the F1 region.

**Step 6** After the system comes up, check the ROMMON information again:

```

Console> enable

Enter password:
Console> (enable) rommon show

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

The “Region F1” field should show “APPROVED, preferred.” The ROMMON stored in the F1 region is now the active ROMMON.

# Upgrading the Supervisor Engine 2 ROMMON Using Cisco IOS Commands



## Note

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 ROMMON version.

To upgrade the ROMMON version on your Supervisor Engine 2 using Cisco IOS commands, perform these steps:



## Note

Before performing this procedure you need to download the new ROMMON image from Cisco.com. The download procedure is the same as downloading supervisor engine software images.

### Step 1 Check the active ROMMON information:

```
Router# show rom-monitor slot 1 sp

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

The display indicates that the active ROMMON is running in region 1.

### Step 2 Program the new ROMMON image to the Flash device on the Supervisor Engine 2:

```
Router# upgrade rom-monitor slot 1 sp file tftp://dirt/tftpboot-users/A2_71059.srec

ROMMON image upgrade in progress
Erasing flash
Programming flash
Verifying new image
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 1 sp

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

### Step 4 Reload the runtime image on the Supervisor Engine 2:

```
Router# reload
Proceed with reload? [confirm]
```



## Caution

Be sure to complete Step 5 before performing an online insertion and removal (OIR) of the Supervisor Engine 2 or power cycling the Supervisor Engine 2. The ROMMON upgrade might fail if you perform either of these actions before verifying that the runtime image successfully booted.

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

```
Router# show rom-monitor slot 1 sp
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 procedures in this section are optional and should be used only if you have multiple versions of the upgraded ROMMON image stored on the Supervisor Engine 2. These procedures describe how to select a particular ROMMON image for booting and how to disqualify a particular ROMMON region.

These sections show how to select a stored ROMMON image for booting:

- [Selecting a Stored ROMMON image on Systems Running Catalyst Operating Software on the Supervisor Engine 2, page 8](#)
- [Selecting a Stored ROMMON Image on Systems Running Cisco IOS on the Supervisor Engine 2, page 10](#)

### Selecting a Stored ROMMON image on Systems Running Catalyst Operating Software on the Supervisor Engine 2

There are three regions (including the Gold region) where versions of the ROMMON image can be stored. You can use the **rommon prefer** and **rommon invalidate** commands 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 **rommon 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 Supervisor Engine 2, perform this task:

**Step 1** Change the ROMMON preference.

```
Console> (enable) rommon prefer F2

ROMMON in region F2 now has the highest boot preference.
Supervisor must be reset for this to take effect.
Console> (enable) rommon show

Region F1: FIRST_RUN
Region F2: FIRST_RUN, preferred
Currently running ROMMON from F1 region

Console> (enable) rommon prefer F1

ROMMON in region F1 now has the highest boot preference.
Supervisor must be reset for this to take effect.
```

```

Console> (enable) rommon show

Region F1: FIRST_RUN, preferred
Region F2: FIRST_RUN
Currently running ROMMON from F1 region

```

- Step 2** 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 **rommon invalidate** command.

To disqualify a specific ROMMON region, enter these commands:

```

Console> (enable) rommon invalidate F1
Do you want to mark F1 region INVALID [n]?y

done!
Supervisor must be reset for this to take effect.
Console> (enable) rommon invalidate F2
Do you want to mark F2 region INVALID [n]?y

done!
Supervisor must be reset for this to take effect.
Console> (enable) rommon show

Region F1: INVALID
Region F2: INVALID
Currently running ROMMON from F1 region

Console> (enable) reset
This command will reset the system.
Do you want to continue (y/n) [n]? y
. . .
Powering OFF all existing linecards
Console> . . .

System Bootstrap, Version 6.1(3)
Copyright (c) 1994-2000by cisco Systems, Inc.
c6k_sup2 processor with 131072 Kbytes of main memory

Autoboot executing command: "boot bootflash:"

Self decompressing the image :
#####
#####
. . .

Currently running ROMMON from S (Gold) region
Boot image: bootflash:cat6000-sup2.6-1-3.bin
inband gmac link is up
.
.
.

```

The display indicates that the active ROMMON is running in the “Gold” region.

## Selecting a Stored ROMMON Image on Systems Running Cisco IOS on the Supervisor Engine 2

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** and **upgrade rom-monitor slot preference** commands 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 Supervisor Engine 2, perform this task:

---

### Step 1 Change the ROMMON preference:

```
Router# show rom-monitor slot 1 sp
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
Router# upgrade rom-monitor slot 1 sp preference region1
```

```
You are about to mark F1 region of SP ROMMON in slot 1 as the boot preference region,
proceed[n]? y
Router#
```

### Step 2 Reload the Supervisor Engine for the change to take effect:

```
Router# reload
Proceed with reload? [confirm]

<output truncated>
```

### Step 3 Verify the change:

```
Router# show rom-monitor slot 1 sp
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 1 sp
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
```

```
Router# upgrade rom-monitor slot 1 sp invalidate region2
```

```
You are about to mark F2 region of SP ROMMON in slot 1 as an invalid region,
proceed[n]? y
Router#
```

**Step 2** Reload the Supervisor Engine for the change to take effect:

```
Router# reload
Proceed with reload? [confirm]
```

```
<output truncated>
```

**Step 3** Verify the change:

```
Router# show rom-monitor slot 1 sp
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](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](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>
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# Obtaining Technical Assistance

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## Cisco.com

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Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you to

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

You can self-register on Cisco.com to obtain customized information and service. To access Cisco.com, go to the following URL:

<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.

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

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