



Upgrade and Downgrade Guide for Cisco Remote PHY Device, Cisco 1x2 / Compact Shelf RPD Software 10.x

First Published: 2021-07-29

Last Modified: 2021-10-29

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883



CONTENTS

PREFACE

Cisco RPD and Cisco cBR-8 Router Version Compatibility v

CHAPTER 1

Upgrade to Cisco 1x2 / Compact Shelf RPD Software 10.x 1

Upgrade Cisco RPD and Cisco cBR-8 Router 1

Upgrade Cisco RPD 4

Upgrade Cisco cBR-8 Router 6

CHAPTER 2

Downgrade from Cisco 1x2 / Compact Shelf RPD Software 10.x 9

Downgrade Cisco RPD and Cisco cBR-8 Router 9

Downgrade Cisco RPD 12

Downgrade Cisco cBR-8 Router 14



Cisco RPD and Cisco cBR-8 Router Version Compatibility

Before proceeding with the upgrading or downgrading operation, be aware that the versions of Cisco cBR-8 router and RPD must be compatible. If the versions are not compatible, the RPD remains in the **init(gcp)** state. The following table provides information on the compatible cBR-8 and RPD versions:

Cisco RPD Software Version	Compatible Cisco cBR-8 Router Software Version
Cisco 1x2 / Compact Shelf RPD Software 10.2	Cisco IOS XE Bengaluru 17.6.1w
Cisco 1x2 / Compact Shelf RPD Software 10.1	Cisco IOS XE Bengaluru 17.6.1
Cisco 1x2 / Compact Shelf RPD Software 9.5	Cisco IOS XE Amsterdam 17.3.1z
Cisco 1x2 / Compact Shelf RPD Software 9.3 and 9.4	Cisco IOS XE Amsterdam 17.3.1x
Cisco 1x2 / Compact Shelf RPD Software 9.1 and 9.2	Cisco IOS XE Amsterdam 17.3.1w
Cisco 1x2 / Compact Shelf RPD Software 8.5 and 8.6	Cisco IOS XE Amsterdam 17.2.1 Cisco IOS XE Gibraltar 16.12.1z
Cisco 1x2 / Compact Shelf RPD Software 8.4	Cisco IOS XE Gibraltar 16.12.1z
Cisco 1x2 / Compact Shelf RPD Software 8.3	Cisco IOS XE Amsterdam 17.2.1
Cisco 1x2 / Compact Shelf RPD Software 8.2	Cisco IOS XE Gibraltar 16.12.1y Cisco IOS XE Amsterdam 17.2.1
Cisco 1x2 / Compact Shelf RPD Software 8.1	Cisco IOS XE Amsterdam 17.2.1
Cisco 1x2 / Compact Shelf RPD Software 7.7, 7.8 and 7.8.1	Cisco IOS XE Gibraltar 16.12.1y
Cisco 1x2 / Compact Shelf RPD Software 7.6.1	Cisco IOS XE Gibraltar 16.12.1z
Cisco 1x2 / Compact Shelf RPD Software 7.6	Cisco IOS XE Gibraltar 16.12.1x Cisco IOS XE Gibraltar 16.12.1y
Cisco 1x2 / Compact Shelf RPD Software 7.5	Cisco IOS XE Gibraltar 16.12.1x

Cisco RPD Software Version	Compatible Cisco cBR-8 Router Software Version
Cisco 1x2 / Compact Shelf RPD Software 7.4 and 7.4.1	Cisco IOS XE Gibraltar 16.12.1w Cisco IOS XE Gibraltar 16.12.1x
Cisco 1x2 / Compact Shelf RPD Software 7.3	Cisco IOS XE Gibraltar 16.12.1w
Cisco 1x2 / Compact Shelf RPD Software 7.1 and 7.2	Cisco IOS XE Gibraltar 16.10.1g Cisco IOS XE Gibraltar 16.12.1
Cisco 1x2 / Compact Shelf RPD Software 6.7, 6.7.1 and 6.7.2	Cisco IOS XE Gibraltar 16.10.1d Cisco IOS XE Gibraltar 16.10.1f (Cisco IOS XE Gibraltar 16.10.1f is not recommended for RPD deployment)
Cisco 1x2 / Compact Shelf RPD Software 6.6 and 6.6.1	Cisco IOS XE Gibraltar 16.10.1f (Cisco IOS XE Gibraltar 16.10.1f is not recommended for RPD deployment)
Cisco 1x2 / Compact Shelf RPD Software 6.4, 6.4.1, 6.5 and 6.5.1	Cisco IOS XE Gibraltar 16.10.1d
Cisco 1x2 / Compact Shelf RPD Software 6.1, 6.2 and 6.3	Cisco IOS XE Gibraltar 16.10.1c
Cisco 1x2 / Compact Shelf RPD Software 5.x	Cisco IOS XE Fuji 16.9.x
Cisco 1x2 / Compact Shelf RPD Software 4.x	Cisco IOS XE Fuji 16.8.x
Cisco 1x2 / Compact Shelf RPD Software 3.x	Cisco IOS XE Fuji 16.7.x
Cisco 1x2 / Compact Shelf RPD Software 2.x	Cisco IOS XE Everest 16.6.x



CHAPTER 1

Upgrade to Cisco 1x2 / Compact Shelf RPD Software 10.x

- Upgrade Cisco RPD and Cisco cBR-8 Router, on page 1
- Upgrade Cisco RPD, on page 4
- Upgrade Cisco cBR-8 Router, on page 6

Upgrade Cisco RPD and Cisco cBR-8 Router

Before you begin

Before upgrading the system, make sure that the following requirements are met:

- Download the images from the Cisco.com Software Center.
 - Cisco cBR-8 router image: <https://software.cisco.com/download/home/286283913/type/282046477>
 - Cisco Remote PHY Device image: <https://software.cisco.com/download/home/286316518/type/286316917>
- Console access for both SUPs are required.



Note For more information on how to upgrade the Cisco cBR-8 router, see [Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Bengaluru 17.6.x](#).

When upgrading Cisco cBR-8 router, if there is any difference between the procedure for upgrading the Cisco cBR-8 Routers for Cisco IOS XE Bengaluru 17.6.x and the following steps, the Cisco cBR-8 Upgrade Guide prevails.

Step 1

Copy the required Cisco IOS XE package to bootflash and stby-bootflash:

```
copy <location>/<Cisco IOS XE software filename> bootflash:  
copy <location>/<Cisco IOS XE software filename> stby-bootflash:
```

Step 2 Verify the Cisco IOS XE package against the md5 hash as provided in the Cisco.com Software center.

```
verify /md5 bootflash:<Cisco IOS XE software filename>
verify /md5 stby-bootflash:<Cisco IOS XE software filename>
```

Step 3 Back up the current running config to bootflash.

```
copy running-config bootflash:pre-upgrade.cfg
```

Step 4 Check the system status before the upgrade.

Save the information to compare against the system status after the upgrade. For commands on checking the status, see the **show** commands at the end of this section.

Step 5 Copy the Cisco RPD image to a TFTP server that is accessible by the RPDs.

Step 6 Verify the current RPD software version by running the following command:

```
show cable rpd sw-version
```

Step 7 Upgrade all RPD images to the required version using one of the following methods:

- Use SSD from the Cisco cBR-8 router:

```
cable rpd all ssd <tftp_server_ip> tftp <rpd_version_file_path>
```

Note The **all** command is not recommended in large-scale RPD deployments. If you have a larger number of RPDs, it is recommended to upgrade the RPD per line card or per Organizationally Unique Identifier (OUI).

- Use SSD profile.
 - a. Configure SSD profile ID.

```
configure terminal
cable profile ssd <rpd ssd profile id>
ssd <ssd server ip> tftp <rpd_file_path>
end
```

- b. Bind SSD ID to the RPD which needs upgrade/downgrade.

```
configure terminal
cable rpd <rpd_name>
ssd <1-64>
end
```

- c. Delete/reset RPD. RPD will download the SSD profile specified image when it is back online.

Step 8 Verify that all RPDs have downloaded the new image using one of the following methods:

- Use **cable rpd all ssd status** command. The status shows as **CodeFileVerified**.

```
Router#cable rpd all ssd status
RPD-ID          ServerAddress      Protocol  Status
Filename
1004.9fb1.1300  10.79.41.66       TFTP     CodeFileVerified
<rpd_image_name>
```

- Use **show cable rpd event** command.

- a. Check the RPD event profile number for the target RPD and configure rpd-event profile priority notice level to 0x3.

```
configure terminal
cable profile rpd-event <RPD_event_profile_number>
enable-notify
priority notice 0x3
end
```

- b. Use **show cable rpd event** to check whether the RPD image download is successful.

```
Router#show cable rpd event | i 660704
1004.9fb1.1300 66070401 Notic 1 Jul29 04:12:49 SW download INIT - via GCP; Filename:
<rpdc_image_name>; Server IP: 10.79.41.66; Image Index: 0; RPD-ID: 10:04:9f:b1:13:00;
1004.9fb1.1300 66070411 Notic 1 Jul29 04:14:16 SW download successful - via GCP;
Filename: <rpdc_image_name>; Server IP: 10.79.41.66; RPD-ID: 10:04:9f:b1:13:00;
```

- Step 9** Configure the chassis to boot the system with Cisco IOS XE version image. Save the running configuration.

```
configure terminal
no boot system
boot system bootflash:<Cisco IOS XE software filename>
config-register 0x2102
end
copy running-config startup-config
```

- Step 10** Reload and start the Cisco cBR-8 router.

```
Reload
```

- Step 11** Adjust the RPD type/max-carrier/base-power as necessary.

If you upgrade the Compact Shelf from Cisco IOS XE Everest 16.5.x or Cisco IOS XE Everest 16.6.x to Cisco IOS XE Fuji 16.7.x or later, you must change the RPD type to **shelf**. By default the RPD type is **Node**. Adjust the related base-power according to your requirement.

- Step 12** Verify that the RPDs have been upgraded to new version and are online.

```
show cable rpd
show cable rpd sw-version
```

The following **show** commands can be used during the verification test:

- **show version**
- **show platform**
- **show platform diag**
- **show environment**
- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**
- **show redundancy line card all**

- **show ip ospf neighbor**
 - **show cable modem voice**
 - **show cable calls**
 - **show cable licenses all**
 - **show inventory**
 - **show log**
 - **show cable rpd**
 - **show cable modem summary total**
 - **show cable rpd lcha**
 - **show running**
 - **show tech**
-

Upgrade Cisco RPD

Before you begin

Before upgrading the system, make sure the following requirements are met:

- All RPDs are in `init(gcp)`, `init(clock)`, or `online` state.
 - Download new image file from the following Cisco.com Software Center URL:
<https://software.cisco.com/download/home/286316518/type>
-

Step 1 Copy the Cisco RPD software image package to a TFTP server where it can be accessed by the RPDs.

Step 2 Verify the current RPD software version.

```
show cable rpd sw-version
```

Step 3 Upgrade all RPD images to the required version using one of the following methods:

- Use SSD from the Cisco cBR-8 router:

```
cable rpd all ssd <tftp_server_ip> tftp <rpd_version_file_path>
```

Note The **all** command is not recommended in large-scale RPD deployments. If you have a larger number of RPDs, it is recommended to upgrade the RPD per line card or per Organizationally Unique Identifier (OUI).

- Use SSD profile.
 - a. Configure SSD profile ID.

```
configure terminal
cable profile ssd <rpd ssd profile id>
ssd <ssid server ip> tftp <rpd_file_path>
end
```

- b. Bind SSD ID to the RPD which needs upgrade/downgrade.

```
configure terminal
cable rpd <rpd_name>
ssd <1-64>
end
```

- c. Delete/reset RPD. RPD will download the SSD profile specified image when it is back online.

Step 4 Verify that all RPDs have downloaded the new image using one of the following methods:

- Use **cable rpd all ssd status** command. The status shows as `CodeFileVerified`.

```
Router#cable rpd all ssd status
RPD-ID          ServerAddress          Protocol  Status          Filename
1004.9fb1.1300  10.79.41.66           TFTP     CodeFileVerified
<rpd_image_name>
```

- Use **show cable rpd event** command.

- a. Check the RPD event profile number for the target RPD and configure `rpd-event` profile priority notice level to `0x3`.

```
configure terminal
cable profile rpd-event <RPD_event_profile_number>
enable-notify
priority notice 0x3
end
```

- b. Use **show cable rpd event** to check whether the RPD image download is successful.

```
Router#show cable rpd event | i 660704
1004.9fb1.1300 66070401 Notic    1 Jul29 04:12:49 SW download INIT - via GCP; Filename:
<rpd_image_name>; Server IP: 10.79.41.66; Image Index: 0; RPD-ID: 10:04:9f:b1:13:00;
1004.9fb1.1300 66070411 Notic    1 Jul29 04:14:16 SW download successful - via GCP; Filename:
<rpd_image_name>; Server IP: 10.79.41.66; RPD-ID: 10:04:9f:b1:13:00;
```

Step 5 Verify that the RPDs have been upgraded to new version and are online.

```
show cable rpd
show cable rpd sw-version
```

These **show** commands might be used during the verification test:

- **show version**
- **show platform**
- **show platform diag**
- **show environment**

- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**
- **show redundancy line card all**
- **show ip ospf neighbor**
- **show cable modem voice**
- **show cable calls**
- **show cable licenses all**
- **show inventory**
- **show log**
- **show cable rpd**
- **show cable modem summary total**
- **show cable rpd lcha**
- **show running**
- **show tech**

Upgrade Cisco cBR-8 Router

Before upgrading the system, make sure the following requirements are met:

- The firmware versions are not lower than the ones listed in [Firmware versions table](#). Otherwise upgrade the firmware versions, see [Upgrading the Cisco cBR-8 Router Firmware](#).
- Download new image file from the following Cisco.com Software Center URL:
<https://software.cisco.com/download/home/286283913/type>
- Console access for both SUPs are required.



Note For information on how to upgrade the cBR-8 router, see [Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Bengaluru 17.6.x](#).

These **show** commands might be used during the verification test:

- **show version**
- **show platform**

- **show platform diag**
- **show environment**
- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**
- **show redundancy line card all**
- **show ip ospf neighbor**
- **show cable modem voice**
- **show cable calls**
- **show cable licenses all**
- **show inventory**
- **show log**
- **show cable rpd**
- **show cable modem summary total**
- **show cable rpd lcha**
- **show running**
- **show tech**



CHAPTER 2

Downgrade from Cisco 1x2 / Compact Shelf RPD Software 10.x

- Downgrade Cisco RPD and Cisco cBR-8 Router, on page 9
- Downgrade Cisco RPD, on page 12
- Downgrade Cisco cBR-8 Router, on page 14

Downgrade Cisco RPD and Cisco cBR-8 Router

Before you begin

Before downgrading the system, make sure the following requirements are met:

- Download the images from the Cisco.com Software Center.
 - Cisco cBR-8 router image: <https://software.cisco.com/download/home/286283913/type/282046477>
 - Cisco Remote PHY Device image: <https://software.cisco.com/download/home/286316518/type/286316917>
- Console access for both SUPs are required.

Step 1 Copy Cisco IOS XE software package to bootflash: and stby-bootflash:

```
copy <location>/<Cisco IOS XE software filename> bootflash:  
copy <location>/<Cisco IOS XE software filename> stby-bootflash:
```

Step 2 Verify Cisco IOS XE software package against the md5 hash as provided in the Cisco.com Software center.

```
verify /md5 bootflash:<Cisco IOS XE software filename>  
verify /md5 stby-bootflash:<Cisco IOS XE software filename>
```

Step 3 Backup the current running config to bootflash:

```
copy running-config bootflash:pre-upgrade.cfg
```

Step 4 Check the system status prior to upgrade.

We recommend that you save the information to compare against the system status after the upgrade. For commands that are used to check the status, see the **show** commands at the end of this section.

Step 5 Copy the Cisco RPD image package to a TFTP server that is accessible by the RPDs.

Step 6 Verify the current RPD software version.

```
show cable rpd sw-version
```

Step 7 Downgrade all RPD images to the required version using one of the following methods:

- Use SSD from the Cisco cBR-8 router:

```
cable rpd all ssd <tftp_server_ip> tftp <rpd_version_file_path>
```

Note The **all** command is not recommended in large-scale RPD deployments. If you have a larger number of RPDs, it is recommended to upgrade the RPD per line card or per Organizationally Unique Identifier (OUI).

- Use SSD profile.

- a. Configure SSD profile ID.

```
configure terminal
cable profile ssd <rpd ssd profile id>
ssd <ssd server ip> tftp <rpd_file_path>
end
```

- b. Bind SSD ID to the RPD which needs upgrade/downgrade.

```
configure terminal
cable rpd <rpd_name>
ssd <1-64>
end
```

- c. Delete/reset RPD. RPD will download the SSD profile specified image when it is back online.

Step 8 Verify that all RPDs have downloaded the new image using one of the following methods:

- Use **cable rpd all ssd status** command. The status shows as `CodeFileVerified`.

```
Router#cable rpd all ssd status
RPD-ID          ServerAddress      Protocol  Status
Filename
1004.9fb1.1300  10.79.41.66       TFTP     CodeFileVerified
<rpd_image_name>
```

- Use **show cable rpd event** command.

- a. Check the RPD event profile number for the target RPD and configure rpd-event profile priority notice level to 0x3.


```

configure terminal
cable profile rpd-event <RPD_event_profile_number>
enable-notify
priority notice 0x3
end

```

- b.** Use **show cable rpd event** to check whether the RPD image download is successful.

```

Router#show cable rpd event | i 660704
1004.9fb1.1300 66070401 Notic 1 Jul29 04:12:49 SW download INIT - via GCP; Filename:
<rpd_image_name>; Server IP: 10.79.41.66; Image Index: 0; RPD-ID: 10:04:9f:b1:13:00;
1004.9fb1.1300 66070411 Notic 1 Jul29 04:14:16 SW download successful - via GCP;
Filename: <rpd_image_name>; Server IP: 10.79.41.66; RPD-ID: 10:04:9f:b1:13:00;

```

- Step 9** Configure the chassis to boot the system with target Cisco IOS XE image. Save the running configuration.

```

Configure terminal
no boot system
boot system bootflash:<ios_xe_software_file>
config-register 0x2102
end
copy running-config startup-config

```

- Step 10** Reload and start the cBR-8 router.

```
Reload
```

- Step 11** Check that all the RPDs have been downgraded to the target version and that they are online.

```

show cable rpd
show cable rpd sw-version

```

These **show** commands might be used during the verification test:

- **show version**
- **show platform**
- **show platform diag**
- **show environment**
- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**
- **show redundancy line card all**
- **show ip ospf neighbor**
- **show cable modem voice**
- **show cable calls**

- **show cable licenses all**
- **show inventory**
- **show log**
- **show cable rpd**
- **show cable modem summary total**
- **show cable rpd lcha**
- **show running**
- **show tech**

Downgrade Cisco RPD

Before you begin

Make sure the following requirements are met:

- Download new image file from the following Cisco.com Software Center URL:
<https://software.cisco.com/download/home/286316518/type>

Step 1 Copy the Cisco RPD image package to a TFTP server that is accessible by the RPDs.

Step 2 Verify the current RPD software version.

```
show cable rpd sw-version
```

Step 3 Downgrade all RPD images to the required version using one of the following methods:

- Use SSD from the Cisco cBR-8 router:

```
cable rpd all ssd <tftp_server_ip> tftp <rpd_version_file_path>
```

Note The **all** command is not recommended in large-scale RPD deployments. If you have a larger number of RPDs, it is recommended to upgrade the RPD per line card or per Organizationally Unique Identifier (OUI).

- Use SSD profile.

- a. Configure SSD profile ID.

```
configure terminal
cable profile ssd <rpd ssd profile id>
ssd <ssd server ip> tftp <rpd_file_path>
end
```

- b. Bind SSD ID to the RPD which needs upgrade/downgrade.

```

configure terminal
cable rpd <rpd_name>
  ssid <1-64>
end

```

- c. Delete/reset RPD. RPD will download the SSD profile specified image when it is back online.

Step 4 Verify that all RPDs have downloaded the new image using one of the following methods:

- Use **cable rpd all ssid status** command. The status shows as `CodeFileVerified`.

```

Router#cable rpd all ssid status
RPD-ID          ServerAddress          Protocol  Status          Filename
1004.9fb1.1300  10.79.41.66             TFTP     CodeFileVerified
<rpd_image_name>

```

- Use **show cable rpd event** command.
 - a. Check the RPD event profile number for the target RPD and configure `rpd-event` profile priority notice level to `0x3`.

```

configure terminal
cable profile rpd-event <RPD_event_profile_number>
enable-notify
priority notice 0x3
end

```

- b. Use **show cable rpd event** to check whether the RPD image download is successful.

```

Router#show cable rpd event | i 660704
1004.9fb1.1300  66070401 Notic      1 Jul29 04:12:49 SW download INIT - via GCP; Filename:
<rpd_image_name>; Server IP: 10.79.41.66; Image Index: 0; RPD-ID: 10:04:9f:b1:13:00;
1004.9fb1.1300  66070411 Notic      1 Jul29 04:14:16 SW download successful - via GCP; Filename:
<rpd_image_name>; Server IP: 10.79.41.66; RPD-ID: 10:04:9f:b1:13:00;

```

Step 5 Check that all the RPDs have been downgraded to the target version and that they are online.

```

show cable rpd
show cable rpd sw-version

```

These **show** commands might be used during the verification test:

- **show version**
- **show platform**
- **show platform diag**
- **show environment**
- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**

- **show redundancy line card all**
 - **show ip ospf neighbor**
 - **show cable modem voice**
 - **show cable calls**
 - **show cable licenses all**
 - **show inventory**
 - **show log**
 - **show cable rpd**
 - **show cable modem summary total**
 - **show cable rpd lcha**
 - **show running**
 - **show tech**
-

Downgrade Cisco cBR-8 Router

Before downgrading the system, make sure the following requirements are met:

- Download new image file from the following Cisco.com Software Center URL:
<https://software.cisco.com/download/home/286283913/type>
- Console access for both SUPs are required.



Note For information on how to downgrade the cBR-8 router, see [Upgrading the Cisco cBR Series Converged Broadband Routers for Cisco IOS XE Bengaluru 17.6.x](#).

The following **show** commands might be used during the verification test:

- **show version**
- **show platform**
- **show platform diag**
- **show environment**
- **show environment power**
- **show platform hardware slot P <0-5> mcu status**
- **show facility-alarm status**
- **show redundancy**

- **show redundancy line card all**
- **show ip ospf neighbor**
- **show cable modem voice**
- **show cable calls**
- **show cable licenses all**
- **show inventory**
- **show log**
- **show cable rpd**
- **show cable modem summary total**
- **show cable rpd lcha**
- **show running**
- **show tech**

