



## **Upgrading and downgrading guide for Cisco Remote PHY for Cisco 1x2 / Compact Shelf RPD Software 6.5**

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## CHAPTER 1

# Upgrading to Cisco Remote PHY for Cisco 1x2 / Compact Shelf RPD Software 6.5

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## Upgrading RPD and cBR-8 Router

The following scenarios are supported for upgrading the RPD and cBR-8 router.

cBR-8 original version	RPD original version	RPD state before upgrade	cBR-8 upgrade version	RPD upgrade version	RPD state after upgrade
Lower than 16.10.1d	Lower than 6.5	online	16.10.1d	6.5	online
Lower than 16.10.1d	Lower than 6.5	init(gcp)	16.10.1d	6.5	online



**Note** The versions of Cisco cBR-8 router and RPD must be compatible. Cisco IOS XE Everest 16.6.x works with RPD 2.x, IOS XE Fuji 16.7.x works with RPD 3.x, IOS XE Fuji 16.8.x works with RPD 4.x, IOS XE Fuji 16.9.x works with RPD 5.x and IOS XE Gibraltar 16.10.x works with RPD 6.x. If the versions are not compatible, the RPD remains in the `init(gcp)` state.

### Before you begin

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

- Download the two files from the following Cisco.com Software Center URL:
  - IOS XE Software Version 16.10.1d **cbrsup-universalk9.16.10.01d.SPA.bin**: <https://software.cisco.com/download/home/286283913/type>
  - RPD V6.5 **RPD-V6-5.itb.SSA**: <https://software.cisco.com/download/home/286316518/type>

- Console access for both SUP line cards is required.



**Note** For more information about upgrading the Cisco cBR-8 router, see [https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b\\_cbr\\_upgrade\\_16\\_10.html](https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b_cbr_upgrade_16_10.html).

- Step 1** Copy the Cisco IOS XE Gibraltar 16.10.1d package to bootflash and stby-bootflash:
- ```
copy <location>/cbrsup-universalk9.16.10.01d.SPA.bin bootflash:
copy <location>/cbrsup-universalk9.16.10.01d.SPA.bin stby-bootflash:
```
- Step 2** Verify the Cisco IOS XE Gibraltar 16.10.1d package against the md5 hash as provided in the Cisco.com Software center.
- ```
verify /md5 bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
verify /md5 stby-bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
```
- 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 version 6.5 by using SSD from the Cisco cBR-8 router.
- ```
cable rpd all ssd <tftp_server_ip> tftp <rpd_v6.5_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 OUI.
- Step 8** Verify RPD SSD status.
- The status will show as `downloading`.
- ```
cable rpd all ssd status
```
- Step 9** Verify that all RPDs have downloaded the new image.
- ```
cable rpd all ssd status
show cable rpd
```
- Step 10** Configure the chassis to boot the system with Cisco IOS XE Gibraltar 16.10.1d image. Save the running configuration.
- ```
configure terminal
no boot system
boot system bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
config-register 0x2102
end
copy running-config startup-config
```
- Step 11** Reload and start the Cisco cBR-8 router.

Reload

**Step 12** 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 13** Verify that the RPDs have been upgraded to new version and are online.

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

---

### What to do next

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**

# Upgrading RPD Only

## 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>

- RPD V6.5: **RPD-V6-5.itb.SSA**

---

**Step 1** Copy the Cisco RPD V6.5 image package to a TFTP server where it can be accessed by the RPDs.

**Step 2** Verify current RPD software version.

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

**Step 3** Upgrade all RPDs image to V6.5 through SSD.

```
cable rpd all ssd <tftp_server_ip> tftp <rpd_v6.5_file_path>
```

**Note** The **all** command is not recommended in large scale RPD deployment. If you have many RPDs, it is recommended to upgrade the RPD per line card or per OUI.

**Step 4** Verify the RPD SSD status. It will show the status as `downloading`.

```
cable rpd all ssd status
```

**Step 5** Verify that all RPDs have downloaded the new image.

```
cable rpd all ssd status
show cable rpd
```

You can also use **cable rpd slot <slot\_num> ssd status** to check upgrade status for each line card.

**Step 6** Verify that the RPDs have been upgraded to new version and are online.

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

---



**What to do next**

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**

## Upgrading cBR-8 Router Only

The following scenarios are supported in upgrading the cBR-8 router.

<b>cBR-8 original version</b>	<b>RPD version</b>	<b>RPD state before upgrade</b>	<b>cBR-8 upgrade version</b>	<b>RPD state after upgrade</b>
Lower than 16.10.1d	6.5	init(gcp)	16.10.1d	online

**Before you begin**

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>
  - IOS XE Software Version 16.10.1d: **cbrsup-universalk9.16.10.01d.SPA.bin**
- Console access for both SUPs are required.




---

**Note** For information on upgrading the cBR-8 router, see [https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b\\_cbr\\_upgrade\\_16\\_10.html](https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b_cbr_upgrade_16_10.html).

---

**Step 1** Copy Cisco IOS XE Gibraltar 16.10.1d package to bootflash: and stby-bootflash:.

```
copy <location>/cbrsup-universalk9.16.10.01d.SPA.bin bootflash:
copy <location>/cbrsup-universalk9.16.10.01d.SPA.bin stby-bootflash:
```

**Step 2** Verify Cisco IOS XE Gibraltar 16.10.1d package against the md5 hash as provided in the Cisco.com Software center.

```
verify /md5 bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
verify /md5 stby-bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
```

**Step 3** Backup the current running config to bootflash:.

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

**Step 4** Check system status prior to upgrade. Save the information to compare against the system status after upgrade. For commands that are used to check status, see the **show** commands at the end of this section.

**Step 5** Configure the chassis to boot the system with Cisco IOS XE Gibraltar 16.10.1d image and save the running configuration.

```
Configure terminal
no boot system
boot system bootflash:cbrsup-universalk9.16.10.01d.SPA.bin
config-register 0x2102
end
copy running-config startup-config
```

**Step 6** Reload and start the cBR-8 router.

```
Reload
```

**Step 7** Adjust RPD type/max-carrier/base-power based on real scenario if necessary. If you upgrade Compact Shelf from Cisco IOS XE 16.5.x or 16.6.x to 16.7.x or later releases, you need to change RPD type to shelf (by default the type is Node), and adjust related base-power per requirement.

**Step 8** Check that all RPDs are online successfully with version 6.5.

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

---

### What to do next

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

# Downgrading from Cisco Remote PHY for Cisco 1x2 / Compact Shelf RPD Software 6.5

- [Downgrading RPD and cBR-8 Router, on page 9](#)
- [Downgrading RPD Only, on page 12](#)
- [Downgrading cBR-8 Router Only, on page 14](#)

## Downgrading RPD and cBR-8 Router

The following scenarios are supported in downgrading the RPD and cBR-8 router.

cBR-8 original version	RPD original version	RPD state before upgrade	cBR-8 upgrade version	RPD upgrade version	RPD state after upgrade
16.10.1d	6.5	online	Lower than 16.10.1d	Lower than 6.5	online
16.10.1d	6.5	online	Lower than 16.10.1d	Lower than 6.5	init(gcp)



### Note

The versions of Cisco cBR-8 router and RPD must be compatible. That is Cisco IOS XE 16.6.x works with RPD 2.x, IOS XE 16.7.x works with RPD 3.x, IOS XE 16.8.x works with RPD 4.x, IOS XE 16.9.x works with RPD 5.x and IOS XE 16.10.x works with RPD 6.x. If the versions are not matched, RPD is then in the `init(gcp)` state.

### Before you begin

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

- Download two files from the following Cisco.com Software Center URL:
  - IOS XE Software: <https://software.cisco.com/download/home/286283913/type>
  - IOS XE Software Version 16.9.1: **cbrsup-universalk9.16.09.01.SPA.bin**,
  - IOS XE Software Version 16.8.1: **cbrsup-universalk9.16.08.01.SPA.bin**,

- IOS XE Software Version 16.7.1: **cbrsup-universalk9.16.07.01.SPA.bin**, or
- IOS XE Software Version 16.6.1: **cbrsup-universalk9.16.06.01.SPA.bin**
- RPD Software: <https://software.cisco.com/download/home/286316518/type>
  - RPD V6.3: **RPD-V6-4.itb.SSA**
  - RPD V6.3: **RPD-V6-3.itb.SSA**
  - RPD V6.2: **RPD-V6-2.itb.SSA**
  - RPD V6.1: **RPD-V6-1.itb.SSA**
  - RPD V5.4: **RPD-V5-4.itb.SSA**
  - RPD V5.3: **RPD-V5-3.itb.SSA**
  - RPD V5.2: **RPD-V5-2.itb.SSA**
  - RPD V5.1.0: **RPD-V5-1.itb.SSA**
  - RPD V4.1.1: **RPD-V4-1-1.itb.SSA**,
  - RPD V3.1.1: **RPD-V3-1-1.itb.SSA**, or
  - RPD V2.1: **RPD-V2.1\_20170725011837.itb.rel.sign.SSA**

- Console access for both SUPs are required.




---

**Note** For more information about upgrading the cBR-8 router, see [https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b\\_cbr\\_upgrade\\_16\\_10.html](https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b_cbr_upgrade_16_10.html).

---

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

```
copy <location>/<ios_xe_software_file> bootflash:
copy <location>/<ios_xe_software_file> 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:<ios_xe_software_file>
verify /md5 stby-bootflash:<ios_xe_software_file>
```

**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. It is recommended that the information is saved to compare against the system status after 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 RPDs image via SSD from cBR-8.

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

**Note** The **all** command is not recommended in large scale RPD deployment. If you have many RPDs, it is recommended to upgrade the RPD per line card or per OUI.

**Step 8** Verify the RPD SSD status. It will show the status as downloading.

```
cable rpd all ssd status
```

**Step 9** Verify that all RPDs have downloaded the new image.

```
cable rpd all ssd status  
show cable rpd
```

**Step 10** 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 11** Reload and start the cBR-8 router.

```
Reload
```

**Step 12** 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
```

---

### What to do next

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**

## Downgrading RPD Only

### Before you begin

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/286316518/type>
  - RPD V6.4: **RPD-V6-4.itb.SSA**
  - RPD V6.3: **RPD-V6-3.itb.SSA**
  - RPD V6.2: **RPD-V6-2.itb.SSA**
  - RPD V6.1: **RPD-V6-1.itb.SSA**
  - RPD V5.4: **RPD-V5-4.itb.SSA**
  - RPD V5.3: **RPD-V5-3.itb.SSA**
  - RPD V5.2: **RPD-V5-2.itb.SSA**
  - RPD V5.1.0: **RPD-V5-1.itb.SSA**



- RPD V4.1.1: **RPD-V4-1-1.itb.SSA**,
- RPD V3.1.1: **RPD-V3-1-1.itb.SSA**, or
- RPD V2.1: **RPD-V2.1\_20170725011837.itb.rel.sign.SSA**

---

**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 RPDs image via SSD.

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

**Note** The **all** command is not suggested in large scale RPD deployment. If you have too many RPDs, it is recommended to upgrade the RPD per line card or per OUI.

**Step 4** Verify the RPD SSD status. It will show the status as downloading.

```
cable rpd all ssd status
```

**Step 5** Verify that all RPDs have downloaded the new image.

```
cable rpd all ssd status  
show cable rpd
```

**Step 6** 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
```

---

### What to do next

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**

## Downgrading cBR-8 Router Only

The following scenarios are supported in downgrading the cBR-8 router.

<b>cBR-8 original version</b>	<b>RPD version</b>	<b>RPD state before upgrade</b>	<b>cBR-8 upgrade version</b>	<b>RPD state after upgrade</b>
16.10.1d	Lower than 6.5	init(gcp)	Lower than 16.10.1d	online

### Before you begin

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>
  - IOS XE Software Version 16.9.1: **cbrsup-universalk9.16.09.01.SPA.bin**,
  - IOS XE Software Version 16.8.1: **cbrsup-universalk9.16.08.01.SPA.bin**,
  - IOS XE Software Version 16.7.1: **cbrsup-universalk9.16.07.01.SPA.bin**, or
  - IOS XE Software Version 16.6.1: **cbrsup-universalk9.16.06.01.SPA.bin**
- Console access for both SUPs are required.



**Note** For information about upgrading the cBR-8 router, see [https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b\\_cbr\\_upgrade\\_16\\_9.html](https://www.cisco.com/c/en/us/td/docs/cable/cbr/upgrade/guide/b_cbr_upgrade_16_9.html).

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

```
copy <location>/<ios_xe_software_file> bootflash:
copy <location>/<ios_xe_software_file> stby-bootflash:
```

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

```
verify /md5 bootflash:<ios_xe_software_file>
verify /md5 stby-bootflash:<ios_xe_software_file>
```

**Step 3** Backup the current running config to bootflash:.

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

**Step 4** Check system status prior to downgrade. It is recommended that the information is saved to compare against the system status after upgrade. For the commands to use to check the status, see the **show** commands at the end of this section.

**Step 5** Configure the chassis to boot the system with target Cisco IOS XE image and 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 6** Reload and start the cBR-8 router.

```
Reload
```

**Step 7** Check that all the RPDs are successfully online.

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

---

### What to do next

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**