



# Rolling Back from Cisco IOS XR 64-bit to 32-bit OS

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This section provides the procedure to rollback from Cisco IOS XR 64-bit to 32-bit operating system on the ASR 9000 series routers.

This chapter covers information on these procedures:

- [Prepare System for Rollback, on page 1](#)
- [Rollback to IOS XR OS, on page 2](#)
- [Verify Rollback, on page 5](#)

## Prepare System for Rollback

### Before you begin

Before you proceed, ensure that you have completed these pre-requisites:

- **Connect port:** Connect console port to terminal server. After the rollback to Cisco IOS XR, the console port will be connected the IOS XR plane. If necessary, the AUX port can be used to connect to XR plane.
- **Insert card:** Ensure all supported RSP, RP, FC, and LCs are inserted. Perform rollback using RSP/RP in slot 0.
- **Backup data:** Back up data on the router, the system admin plane, and the XR plane configurations to an external server. All data drives including `harddiskb:/` (also known as `eusb:/`) drive are formatted during migration. All available data drives can be viewed using the `show media location <location id>` command.
- **Configure processor:** Ensure RSP4 and RP2 are configured to reach the external server to download the IOS XR ISO image.
- **Download software:** Ensure `ASR9K-iosxr-px-<version>-turboboot.tar` file is downloaded from the [Cisco Software Download](#) page for the specific release to be downgraded. This tarball contains the `asr9k-mini-px.vm-<version>` pie file that is needed to rollback to IOS XR 32-bit software.

### What to do next

The router is prepared for migration. Roll back the system from IOS XR 64-bit to IOS XR OS.

# Rollback to IOS XR OS

## Before you begin

Ensure that you have completed [Prepare System for Rollback, on page 1](#).

Back up configuration in XR and admin plane to an external server.

## Rollback Using Embedded USB

Use the following procedure to rollback from 64-bit to 32-bit OS. This option does not rely on the management port on RP/RSP.

### Procedure

**Step 1** Copy target VM image to harddiskb:/ location.

For releases 6.1.2, 6.1.3 and 6.1.4, copy the image to harddiskb: directly.

```
Router# copy <image-path>/asr9k-mini-px.vm-6.1.3 harddiskb:
```

For releases 6.2.1 and later, perform these steps:

a. Copy image from external server to harddisk:/ of XR VM mode.

```
Router# copy <image-path>/asr9k-mini-px.vm-5.3.3 harddisk:
Wed Nov 16 01:30:04.681 PST
Destination filename [/harddisk:/asr9k-mini-px.vm-5.3.3]?
Accessing tftp://223.255.254.245/auto/tftp-platform-reg/533/asr9k-mini-px.vm-5.3.3
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
543436327 bytes copied in 646 sec (840094)bytes/sec
```

b. Login to System Admin mode.

```
Router# admin
```

c. Copy from harddisk:/ of XR VM to harddiskb:/ in System Admin mode.

```
sysadmin-vm:# copy harddisk:/asr9k-mini-px.vm-5.3.3 location 0/RP0/CPU0/VM1 harddiskb:/
Copying harddisk:/asr9k-mini-px.vm-5.3.3 to harddiskb:/
asr9k-mini-px.vm-5.3.3 100% 518MB 129.6MB/s 00:04

543436327 bytes copied in 877 sec (619136)bytes/sec
```

**Note** Any ASR 9000 32-bit image can be used. In the above example, image from releases 6.1.3 and 5.3.3 is used.

**Step 2** Log in to System Admin plane and run the script.

```
sysadmin-vm:0_RP0# run /etc/rc.d/init.d/migrate_to_cXR -b eusb -m <RSP-boot-slot> -r
Mon Oct 31 09:05:05.664 UTC
```

```
Executing the migration script on RSP0/RP0...
Updated MIGRATE flag.
```

```

Updated boot mode to turbo boot IOS XR 32 Bit
Updated Turbo boot flag in IOS XR 32 Bit
Updated boot filename to asr9k-mini-px.vml-6.1.3
Executing the migration script on RSP1/RP1...
Updated MIGRATE flag.
Updated boot mode to turbo boot IOS XR 32 Bit
Updated Turbo boot flag in IOS XR 32 Bit
No ASR9K 32 Bit IOS XR image in harddiskb:/. Take as standby node.
Reload to boot IOS XR 32 Bit image.
*** IMPORTANT *** Please back up your admin and XR configurations before reloading.
sysadmin-vm:0_RP0# run /etc/rc.d/init.d/migrate_to_cXR -b eusb -r
Mon Oct 31 09:53:33.570 UTC

```

```

Executing the migration script on RSP0/RP0...
Updated MIGRATE flag.
Updated boot mode to turbo boot IOS XR 32 Bit
Updated Turbo boot flag in IOS XR 32 Bit
Updated boot filename to asr9k-mini-px.vml-6.1.3
Rebooting Automatically
Setting up the reload option
Successfully connected to SM service

```

Migration script parameters:

Script Parameter	Parameter Description
-b	Boot mode
-r	Reload router
-m	RSP boot slot  <b>Note</b> The parameter -m is supported from release 6.1.3 and later. The accepted values are -m RSP0/RSP1 or -m RP0/RP1.

**Step 3** Reload the router if not reloaded in previous step using -r parameter.

```

sysadmin-vm:0_RP0# hw-module location all reload
Mon Oct 31 10:00:53.339 UTC
Reload hardware module ? [no,yes]

```

System boots with IOS XR followed by reload, and will boot from the disk. The standby RP, if present, will boot from active RP.

### What to do next

Verify that the rollback from IOS XR 64-bit to IOS XR OS is successful.

## Rollback Using ROMMON Settings

This option uses management port on active RP or RSP to rollback.

## Procedure

**Step 1** Log in to System Admin plane and execute the script.

```
sysadmin-vm:0_RP0# run /etc/rc.d/init.d/migrate_to_cXR -b tftp -a <ip-address> -n
<ip-subnet-mask> -g
<default-gateway> -s <tftp-server> -p /<image-path>/asr9k-mini-px.vm -m <rsp-boot-slot>
Mon Oct 31 10:05:06.630 UTC
```

```
Executing the migration script on RSP0/RP0...
Updated the Migration Flag
Updated the BOOT Parameter Flag
Updated IP_ADDRESS to <ip-address>
Updated DEFAULT_GATEWAY to <default-gateway>
Updated IP_SUBNET_MASK to <ip-subnet-mask>
Updated TFTP_SERVER to <tftp-server>
Updated TFTP_FILE to /<image-path>/asr9k-mini-px.vm
Updated boot mode to turbo boot IOS XR 32 Bit
Updated Turbo boot flag in IOS XR 32 Bit
Executing the migration script on RSP1/RP1...
Updated the Migration Flag
Updated the BOOT Parameter Flag
Updated IP_ADDRESS to <ip-address>
Updated DEFAULT_GATEWAY to <default-gateway>
Updated IP_SUBNET_MASK to <ip-subnet-mask>
Updated TFTP_SERVER to <tftp-server>
Updated TFTP_FILE to /<image-path>/asr9k-mini-px.vm
Updated boot mode to turbo boot IOS XR 32 Bit
Updated Turbo boot flag in IOS XR 32 Bit
Reload to boot IOS XR 32 Bit image.
*** IMPORTANT *** Please back up your admin and XR configurations before reloading.
```

Migration script parameters:

Script Parameter	Parameter Description
-a	IP_ADDRESS
-n	IP_SUBNET_MASK
-g	DEFAULT_GATEWAY
-p	Path to vm image
-s	Server IP
-b	Boot mode
-r	Reload router
-m	RSP boot slot
	<p><b>Note</b> The parameter <code>-m</code> is supported from release 6.1.3 and later. The accepted values are <code>-m RSP0/RSP1</code> or <code>-m RP0/RP1</code>.</p>

**Step 2** Reload the router if not reloaded in previous step using `-r` parameter.

```
sysadmin-vm:0_RP0# hw-module location all reload
Mon Oct 31 10:37:53.339 UTC
Reload hardware module ? [no,yes]
```

System boots with IOS XR OS followed by reload, and will boot from the disk. The standby RP, if present, will boot from active RP.

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### What to do next

Verify that the rollback from IOS XR 64-bit to 32-bit OS is successful.

## Verify Rollback

After the rollback to IOS XR from IOS XR 64 bit, verify that the operation was successful.

### Procedure

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**Step 1** Load required software packages using install CLIs.

For more information about upgrading the software packages, see *Upgrading and Managing Software on Cisco ASR 9000 Series Router* in the [Cisco ASR 9000 Series Aggregation Services Router System Management Configuration Guide](#).

**Step 2** Load the saved configuration from external server and commit the configuration.

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The router is rolled back to IOS XR successfully.

