



Upgrading the ROMMON

Table 1: Feature History

Feature Name	Release Information	Description
Secondary ROMMON Version Auto Upgrade	Cisco IOS XE Bengaluru 17.5.1	After primary ROMMON version is auto upgraded, secondary ROMMON version auto upgrade process takes place. The secondary ROMMON upgrade is only completed during the next planned manual reload of the router.

Starting with Cisco IOS XE Bengaluru release 17.5.1, after primary ROMMON version is auto upgraded, secondary ROMMON version auto upgrade process takes place. The secondary ROMMON upgrade is only completed during the next planned manual reload of the router.



Note If the secondary ROMMON version is lesser than that of the primary ROMMON version, the secondary ROMMON gets auto upgraded.

The router has two ROMMON regions (ROM0 and ROM1). We recommend that the upgrade is performed on both the regions.



Caution To avoid actions that might make your system unable to boot, read this entire section before starting the upgrade.

1. Check the booted ROMMON region (ROM0 or ROM1). The example, shows an ASR920 device booting up from ROM0 region.

Example:

```
System Bootstrap, Version 15.6(32r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2018 by cisco Systems, Inc.
Compiled Thu 30-Aug-18 06:23 by pallavik
*Upgrade in progress* Boot ROM1
Last reset cause: BootRomUpgrade
link status 0
```

```
link status 0
UEA platform with 3670016 Kbytes of main memory
```

2. Copy the ROMMON pkg file `asr920_15_6_43r_s_rommon.pkg` to the bootflash on the Cisco ASR 920 router.
3. Use the `upgrade rom-monitor filename asr920_15_6_43r_s_rommon.pkg all` command to upgrade the version.
4. Reload the router and ensure device is booted from upgrade region ROM0.

Example:

```
System Bootstrap, Version 15.6(32r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2018 by cisco Systems, Inc.
Compiled Thu 30-Aug-18 06:23 by pallavik
Boot ROM1
Last reset cause: RSP-Board
Rommon upgrade requested
Flash upgrade reset 1 in progress
.....
System Bootstrap, Version 15.6(43r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2020 by cisco Systems, Inc.
Compiled Tue 19-May-20 22:55 by pallavik
*Upgrade in progress* Boot ROM0
Last reset cause: BootRomUpgrade
link status 0
link status 0
UEA platform with 3670016 Kbytes of main memory

We're coming up from a flash upgrade reset cookie
rommon 1 >
```

5. Repeat steps 3 and 4 to update the other region on the Cisco ASR920 router (ROM1) region in this procedure.



Note We recommend you to upgrade that both ROM0 and ROM1 regions.

Starting with Cisco IOS XE Amsterdam 17.3.1 and higher, secondary partition upgrade is performed only after loading version 17.3.1 or higher.

- [Example: Verifying ROMMON Upgrade on the ASR-920-12SZ-IM, on page 2](#)
- [Example: Verifying ROMMON Upgrade on the ASR-920-12CZ-A, on page 3](#)
- [Auto Upgrade, on page 4](#)

Example: Verifying ROMMON Upgrade on the ASR-920-12SZ-IM

Use the `show platform` command to verify the ROMMON upgrade.

```
Router# show platform
Chassis type: ASR-920-12SZ-IM

Slot      Type                State                Insert time (ago)
-----
0/0       12xGE-4x10GE-FIXED ok                    00:06:26
```

```

R0      ASR-920-12SZ-IM      ok, active      00:10:31
F0      ASR920-PSU0         N/A             never
P1      ASR920-PSU1         ok              00:06:50
P2      ASR920-FAN          ok              00:06:29

```

```

Slot    CPLD Version      Firmware Version
-----
R0      16112910           15.6(16r)S
F0      16112910           15.6(16r)S

```

Example: Verifying ROMMON Upgrade on the ASR-920-12CZ-A

Use the show platform command to verify the ROMMON upgrade.

```

Router# show platform
Chassis type: ASR-920-12CZ-A

```

```

Slot    Type                State                Insert time (ago)
-----
 0/0    12xGE-2x10GE-FIXED  ok                  00:33:22
R0      ASR-920-12CZ-A      ok, active          00:39:10
F0      ASR920-PSU0         ok, active          00:39:10
P0      ASR920-PSU0         ok                  never
P1      ASR920-PSU1         ps, fail            never
P2      ASR920-FAN          ok                  never

Slot    CPLD Version      Firmware Version
-----
R0      161123EE         15.6(17r)S
F0      161123EE         15.6(17r)S

```

Auto Upgrade

Table 2: Feature History

Feature Name	Release Information	Description
Secondary ROMMON Version Auto Upgrade	Cisco IOS XE Bengaluru 17.5.1	After primary ROMMON version is auto upgraded, secondary ROMMON version auto upgrade process takes place. The secondary ROMMON upgrade is only completed during the next planned manual reload of the router.

- The ROMMON image upgrade from Cisco IOS XE Release 3.x to Cisco IOS XE Everest Release 16.5.1 is *not* mandatory. We recommend a ROMMON upgrade for effective utilization of the new features delivered in Cisco IOS XE Everest 16.5.1 and later releases.
- We recommend you to reload the router two times for successful ROMMON and software image upgrade.
- You cannot expand the Cisco IOS XE Release 16.x image into the Cisco IOS XE Release 3.x images. The bin. file may be used to reload the image.
- Before installing the Cisco IOS XE Amsterdam Release 17.3.1, you *must* upgrade the ROMMON to version 15_6_43r_s or higher to avoid bootup failure. This is applicable to Cisco ASR-920-12SZ-IM, Cisco ASR-920U-12SZ-IM, and Cisco ASR-920U-12SZ-IM-CC. For Cisco ASR-920-12SZ-A and Cisco ASR-920-12SZ-D, Cisco IOS XE Amsterdam Release 17.3.1 has to be installed in sub packages mode. Booting in sub package mode takes care of auto upgrade to ROMMON version 15_6_43r_s on bootup. This workaround is not applicable to devices installed with ROMMON version 15.6(9r)S.
- For Cisco IOS XE Amsterdam Release 17.3.x, a minimum disk space of 2 MB is required in the boot flash memory file system for a successful ROMMON auto upgrade process. For a disk space lesser than 2 MB, ROMMON auto upgrade fails and the router reboots.
- For Cisco IOS XE Amsterdam Release 17.3.x, Cisco IOS XE Bengaluru Release 17.4.x, and earlier, the secondary ROMMON partition is *not* auto upgraded. You must manually upgrade it using the **upgrade rom-mon filename** command.
- Secure ROMMON is supported from Cisco IOS XE Amsterdam Release 17.3.1 onwards. However, it is compatible with all the releases.
- Any future secure ROMMON upgrade or downgrade is only possible from Cisco IOS XE Amsterdam Release 17.3.1 onwards.
- Starting with Cisco IOS XE Bengaluru Release 17.4.1, Cisco ASR-920-24SZ-IM, Cisco ASR-920-24SZ-M, Cisco ASR-920-24TZ-M, Cisco ASR 920-10SZ-PD, Cisco ASR-920-12CZ-A/ASR-920-12CZ-D, Cisco ASR-920-4SZ-A/ASR-920-4SZ-D, and Cisco ASR-920-20SZ-M routers are auto upgraded to ROMMON version 15_6_44r_s.
- Starting with ROMMON release version 15.6(43r)S, ROMMON version is secure. Once the ROMMON version is upgraded, it cannot be downgraded to a non-secure ROMMON version.

- Starting with Cisco IOS XE Bengaluru Release 17.5.1, secondary ROMMON partition is also auto upgraded after a successful primary ROMMON partition upgrade is complete. You can reload the router at the next planned reload to complete the secondary ROMMON upgrade.



Note If the secondary ROMMON version is lesser than that of the primary ROMMON version, the secondary ROMMON gets auto upgraded.

- Any non-secure FPGA bundled releases moving to Cisco IOS XE Bengaluru Release 17.3.x or future releases can result in an FPGA upgrade and a ROMMON upgrade. If FPGA upgrade happens parallelly with the ROMMON upgrade, you can only expect a single reload. If FPGA upgrade gets delayed and happens post ROMMON upgrade, two reloads are expected to complete both the upgrade processes. This is followed by a successful bootup of the target release image.

However, starting with Cisco IOS XE Bengaluru Release 17.5.1, Cisco ASR-920-12SZ-IM, Cisco ASR-920U-12SZ-IM, Cisco ASR-920U-12SZ-IM-CC, Cisco ASR-920-12SZ-A and Cisco ASR-920-12SZ-D, ROMMON and FPGA upgrade are synchronized to happen in a single reload.

