



Upgrading the ROMMON Versions

The ROMMON image upgrade from Cisco IOS XE 3.x to Cisco IOS XE Everest 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.



Note

We recommend you to reload the router two times for successful ROMMON and software image upgrade.



Note

You cannot expand the Cisco IOS XE 16.x image into the Cisco IOS XE 3.x images. The bin. file may be used to reload the image.

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Upgrading the ROMMON

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.

Step 1

Check the RSP bootup ROMMON region (ROM0 or ROM1). The example, shows the RSP boots up from ROM0 region.

Example:

```
System Bootstrap, Version 15.2(1r)S1, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2011 by cisco Systems, Inc.
```

Compiled Wed 07-Dec-11 07:33 by tinhuang
Current image running: Boot ROM0

Step 2 Copy the ROMMON image to the bootflash on the active and standby RSP.

Example:

```
copy bootflash:rsp2_15_6_15r_s_rommon.pkg
```

Step 3 Use the **upgrade rom-monitor filename** *rsp2_15_6_15r_s_rommon.pkg* **R0** command to upgrade the version.

Note R0 represents RSP in slot0 of the chassis. Step 3 upgrades the ROMMON region of the RSP that is not used (ROM1 region) as ROM 0 region is used (in this procedure) in Step 1 to boot up the RSP.

Step 4 Reload the router.

Example:

```
System Bootstrap, Version 15.6(12r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2016 by cisco Systems, Inc.
Compiled Sun 29-May-16 08:45 by sabind
Starting Initialization of FMAN0
Loading ucode for FMAN0, size: 31424, ver: 106.04.14
fixup address:7ffff278 contentsoffixup:7ffff000
DCFG_CCSR_PORSR1(cfg_0_9 pins):22FB7F7F
RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]
```

```
Current image running: Boot ROM0
Last reset cause: RSP-Board
Rommon upgrade requested
Flash upgrade reset 1 in progress
.....BootPage Setting Done - Next DDR-init
```

```
System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind
Starting Initialization of FMAN0
Loading ucode for FMAN0, size: 31424, ver: 106.04.14
fixup address:7ffff278 contentsoffixup:7ffff000
DCFG_CCSR_PORSR1(cfg_0_9 pins):22FB7F7F
RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]
```

```
Current image running: *Upgrade in progress* Boot ROM1
Last reset cause: BootRomUpgrade
Configuring zarlink...
We're coming up from a flash upgrade reset cookie
C-Inlet temp 32C
ARAD-0 temp 44C
UEA platform with 3670016 Kbytes of main memory
```

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

```
=====

System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
```

```

Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind
Starting Initialization of FMAN0
Loading ucode for FMAN0, size: 31424, ver: 106.04.14
fixup address:7ffff278 contentsoffixup:7ffff000
DCFG_CCSR_PORSR1(cfg 0 9 pins):22FB7F7F
RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]

```

```

Current image running: *Upgrade in progress* Boot ROM1
Last reset cause: BootRomUpgrade
Configuring zarlink...
We're coming up from a flash upgrade reset cookie
C-Inlet temp 32C
ARAD-0 temp 44C
UEA platform with 3670016 Kbytes of main memory

```

Step 5 Reload the router again to confirm bootup from upgraded ROMMON region ROM1.

Example:

```

System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind

```

```
Current image running: Boot ROM1
```

Step 6 Repeat Step 3 to Step 6 to update the other region on the RSP (ROM0) region in this procedure.

Note We recommend that both region ROM0 and ROM1 are upgraded.

Example: Verifying ROMMON Upgrade on the RSP2 Module

Use the show platform command to verify the ROMMON upgrade.

```

Router# show platform
Chassis type: ASR-903

```

Slot	Type	State	Insert time (ago)
0/0	A900-IMA2Z	ok	00:00:47
0/1	A900-IMA8T1Z	booting	00:00:47
0/2	A900-IMA8T1Z	booting	00:00:47
0/3	A900-IMA1X	ok	00:00:47
0/4	A900-IMA8T	ok	00:00:47
R0	A900-RSP2A-128	ok, active	00:03:11
R1	A900-RSP2A-128	init, standby	00:03:11
F0		init, active	00:03:11
F1		init, standby	00:03:11
P0	A900-PWR550-A	ok	00:02:29
P1	Unknown	N/A	never
P2	A903-FAN	ok	00:02:26
Slot	CPLD Version	Firmware Version	
R0	16032304	15.6(15r)S	
R1	16032304	15.6(15r)S	
F0	16032304	15.6(15r)S	
F1	16032304	15.6(15r)S	

Upgrading the ROMMON on the RSP3 Module

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.

Step 1 Check the RSP bootup ROMMON region (ROM0 or ROM1). The example, shows the RSP boots up from ROM0 region.

Example:

```
System Bootstrap, Version 15.2(1r)S1, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2011 by cisco Systems, Inc.
Compiled Wed 07-Dec-11 07:33 by tinhuang
Current image running: Boot ROM0
```

Step 2 Copy the ROMMON image to the bootflash on the active and standby RSP.

Example:

```
copy bootflash:rsp3_15_6_14r_s_rommon.pkg
```

Step 3 Use the **upgrade rom-monitor filename** *rsp3_15_6_14r_s_rommon.pkg* **R0** command to upgrade the version.

Note R0 represents RSP in slot0 of the chassis. Step 3 upgrades the ROMMON region of the RSP that is not used (ROM1 region) as ROM 0 region is used (in this procedure) in Step 1 to boot up the RSP.

Step 4 Upgrade the ROMMON on the Standby RSP (for High Availability) using **upgrade rom-monitor filename** *bootflash:rsp3_15_6_14r_s_rommon.pkg* **R1** command.

Note R1 represents the RSP in slot1 of the chassis. Step 4 upgrades the ROMMON region of the RSP that is not used (ROM 0 region).

Step 5 Reload the router.

Example:

```
System Bootstrap, Version 15.6(12r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2016 by cisco Systems, Inc.
Compiled Sun 29-May-16 08:45 by sabind
Starting Initialization of FMAN0
Loading ucode for FMAN0, size: 31424, ver: 106.04.14
fixup address:7ffff278 contentsuffixup:7ffff000
DCFG_CCSR_PORSR1(cfg_0_9 pins):22FB7F7F
RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]

Current image running: Boot ROM0
Last reset cause: RSP-Board
Rommon upgrade requested
Flash upgrade reset 1 in progress
.....BootPage Setting Done - Next DDR-init
```

```

System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind
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fixup address:7ffff278 contentsoffixup:7ffff000
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RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]

```

```

Current image running: *Upgrade in progress* Boot ROM1
Last reset cause: BootRomUpgrade
Configuring zarlink...
We're coming up from a flash upgrade reset cookie
C-Inlet temp 32C
ARAD-0 temp 44C
UEA platform with 3670016 Kbytes of main memory

We're coming up from a flash upgrade reset cookie

```

```

System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind
Starting Initialization of FMAN0
Loading ucode for FMAN0, size: 31424, ver: 106.04.14
fixup address:7ffff278 contentsoffixup:7ffff000
DCFG_CCSR_PORSR1(cfg_0_9 pins):22FB7F7F
RC Vendor ID[0x8241957]
PEX up stream Vendor ID[0x860910b5]
PEX down stream vendor ID [0x860910b5]
FPGA vendor ID[0x5f1137]
PCI Configuration done..
IOFPGA version[16040627]

```

```

Current image running: *Upgrade in progress* Boot ROM1
Last reset cause: BootRomUpgrade
Configuring zarlink...
We're coming up from a flash upgrade reset cookie
C-Inlet temp 32C
ARAD-0 temp 44C
UEA platform with 3670016 Kbytes of main memory

```

Step 6

Reload the router again to confirm bootup from upgraded ROMMON region ROM1.

Example:

```

System Bootstrap, Version 15.6(14r)S, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2017 by cisco Systems, Inc.
Compiled Sat 07-Jan-17 10:23 by sabind

```

Current image running: Boot ROM1

Step 7

Repeat Step 3 to Step 6 to update the other region on the RSP (ROM0) region in this procedure.

Note We recommend that both region ROM0 and ROM1 are upgraded.

Example: Verifying ROMMON Upgrade on the RSP3 Module

Use the show platform command to verify the ROMMON upgrade.

Router# **show platform**

Chassis type: ASR-903

Slot	Type	State	Insert time (ago)
0/0	A900-IMA1X	ok	18:23:52
0/1	A900-IMA8S	ok	18:23:52
0/2	A900-IMA8S1Z	ok	18:22:19
0/3	A900-IMA2Z	ok	18:21:43
0/4	A900-IMA8Z	ok	18:23:52
0/5	A900-IMA8T	ok	18:23:52
R0	A900-RSP3C-200-S	ok, active	18:25:38
R1		unknown	18:25:38
F0		ok, active	18:25:38
F1		unknown	18:25:38
P0	A900-PWR550-A	ok	18:24:54
P1	A900-PWR550-D	ps, fail	18:24:52
P2	A903-FAN	ok	18:24:50

Slot	CPLD Version	Firmware Version
R0	16040627	15.6(14r)S
R1	16040627	15.6(14r)S
F0	16040627	15.6(14r)S
F1	16040627	15.6(14r)S