

EdgeRouter EdgePoint

Bootloader Firmware Update

- Written by JohnB, 2024-10
- Updating EdgePoint R6 units from v2.0.9-hotfix7 to v3.0.0-rc9

Updating Bootloader

- <https://help.ui.com/hc/en-us/articles/360009932554-EdgeRouter-How-to-Update-the-Bootloader> for this device, the EP-R6, while <https://help.ui.com/hc/en-us/articles/360013965454-EdgeSwitch-How-to-Update-the-Bootloader> is for EdgeSwitch 48 and EdgeSwitch 24 units
- The bootloader can only be updated from a CLI/SSH. There is no Web GUI indication that the bootloader needs updating
- There are apparently issues with incompatibility between certain bootloader versions and certain firmware versions. It is a good practice to run the latest bootloader and the latest firmware available
- After updating to a new firmware and logging in, the CLI will indicate that a bootloader update is available. Run `add system boot-image` and then `reboot` to apply the new bootloader and reboot

```
Linux nycmesh-1340-epr6 4.14.54-UBNT #1 SMP Thu Jun 15 09:00:10 UTC 2023 mips
```

```
Boot image can be upgraded to version [ e52_002_4c817 ].
```

```
Run "add system boot-image" to upgrade boot image.
```

```
ubnt@nycmesh-1340-epr6: ~$ add system boot-image
```

```
Uboot version [UNKNOWN] is about to be replaced
```

```
Warning: Don't turn off the power or reboot during the upgrade!
```

```
Are you sure you want to replace old version? (Yes/No) [Yes]: yes
```

```
Preparing to upgrade...Done
```

```
Copying upgrade boot image...Done
```

```
Checking boot version: Current is UNKNOWN; new is e52_002_4c817 ...Done
```

```
Checking upgrade image...Done
```

```
Writing image...Boot image has been upgraded.
```

```
Reboot is needed in order to apply changes!
```

Done

Upgrade boot completed

```
ubnt@nycmesh-1340-epr6: ~$ reboot
```

```
Proceed with reboot? [confirm][y]
```

- Diagnostics: `show system boot-image` can display the current and newly available bootloader

```
ubnt@nycmesh-1340-epr6: ~$ show system boot-image
```

The system currently has the following boot image installed:

Current boot version: UNKNOWN

Current boot md5sum : 66a2e1597e506c5ffbb4c59ebaf23f88

New uboot version is available: boot_e52_002_4c817.tar.gz

New boot md5sum : 94c3575f363a1297f875a65b338cbd42

Run "add system boot-image" to upgrade boot image.

Preparing for Firmware

- <https://help.ui.com/hc/en-us/articles/205146110-EdgeRouter-How-to-Upgrade-the-EdgeOS-Firmware>
- EP-R6 units store a cached/backup firmware in addition to the current/running/active firmware. This backup firmware is just the previous version that had been running before the last firmware update
- Some devices apparently have issues where the backup firmware takes up too much space so any new firmware update fails
- Remove the older secondary firmware with `delete system image` to make room for the new firmware. The command will ask for confirmation before proceeding

```
ubnt@nycmesh-731-epr6: ~$ delete system image
```

The system currently has the following image(s) installed:

v2. 0. 9-hotfix. 7. 5622731. 230615. 0857 (running image) (default boot)

v2. 0. 9-hotfix. 6. 5574651. 221230. 1015

You are about to delete image [v2. 0. 9-hotfix. 6. 5574651. 221230. 1015]

Are you sure you want to delete ? (Yes/No) [Yes]:

Removing old image... Done

```
ubnt@nycmesh-731-epr6: ~$
```

- Diagnostics: Check what firmware is installed in the primary and secondary slots with `show system image`. This will also tell whether or not there's a new firmware that will be applied after reboot

```
ubnt@nycmesh-1340-epr6: ~$ show system image
```

The system currently has the following image(s) installed:

v3. 0. 0-rc. 9. 5753457. 240911. 0646 (default boot)

v2. 0. 9-hotfix. 7. 5622731. 230615. 0857 (running image)

A reboot is needed to boot default image

- Diagnostics: Check the overall free space on the device with `show system storage` and check the respective size of the system images with `show system image storage`. Note the 64% storage in use

```
ubnt@nycmesh-1340-epr6: ~$ show system storage
```

Filesystem	Size	Used	Available	Use%	Mounted on
ubi0_0	214.9M	133.8M	76.4M	64%	/root.dev
overlay	214.9M	133.8M	76.4M	64%	/
devtmpfs	122.9M	0	122.9M	0%	/dev
tmpfs	123.6M	4.0K	123.6M	0%	/dev/shm
tmpfs	123.6M	316.0K	123.3M	0%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
tmpfs	123.6M	0	123.6M	0%	/sys/fs/cgroup
tmpfs	123.6M	0	123.6M	0%	/run/shm
tmpfs	123.6M	0	123.6M	0%	/lib/init/rw
tmpfs	123.6M	64.0K	123.6M	0%	/var/log
tmpfs	123.6M	4.0K	123.6M	0%	/tmp
none	123.6M	216.0K	123.4M	0%	/opt/vyatta/config
tmpfs	24.7M	0	24.7M	0%	/run/user/1000
overlay	123.6M	4.0K	123.6M	0%	

/opt/vyatta/config/tmp/new_config_c6697351ff4aec29cdbaabf2fbe3467c

```
ubnt@nycmesh-1340-epr6: ~$ show system image storage
```

Image name	Read-Only	Read-Write	Total
v2. 0. 9-hotfix. 7. 5622731. 230615. 0857	70060	1340	71400

Updating Firmware

- (again) <https://help.ui.com/hc/en-us/articles/205146110-EdgeRouter-How-to-Upgrade-the-EdgeOS-Firmware>
- Find the new firmware URL, for example <https://community.ui.com/releases/EdgeRouter-3-0-0-rc-9/3b3e6900-c2a3-4202-93a1-18f1c4b9e483> points to
`https://dl.ui.com/firmwares/edgemax/v3.0.0-rc.9/ER-e50.v3.0.0-rc.9.5753457.tar`
- Download and apply the new firmware with `add system image`
`https://dl.ui.com/firmwares/edgemax/v3.0.0-rc.9/ER-e50.v3.0.0-rc.9.5753457.tar` and then
run `show system image` to verify that it was applied and will take effect at the next reboot

```
ubnt@nycmesh-595-epr6: ~$ add system image https://dl.ui.com/firmwares/edgemax/v3.0.0-rc.9/ER-e50.v3.0.0-rc.9.5753457.tar
Trying to get upgrade file from https://dl.ui.com/firmwares/edgemax/v3.0.0-rc.9/ER-e50.v3.0.0-rc.9.5753457.tar
```

% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current
			Dload Upload	Total	Spent	Left	Speed
100 70.4M	100 70.4M	0 0	4546k 0	0:00:15	0:00:15	--:--:--	4644k

```
Download succeeded
Checking upgrade image...Done
Preparing to upgrade...Done
Clearing directory /var/cache/apt (1.1M)...Done
Copying upgrade image...Done
Removing old image...Done
Checking upgrade image...Done
Copying config data...Done
Finishing upgrade...Done
Upgrade completed
ubnt@nycmesh-595-epr6: ~$ show system image
The system currently has the following image(s) installed:

v3.0.0-rc.9.5753457.240911.0646 (default boot)
v2.0.9-hotfix.7.5622731.230615.0857 (running image)

A reboot is needed to boot default image
```

- If there is an error such as `Could not resolve host: dl.ui.com Unable to get upgrade file from https://dl.ui.com` it could be that the DNS is not set. Expand the System settings at the bottom of the screen and add a Name Server such as the Mesh DNS server 10.10.10.10 and then press Save at the bottom of the pop-up
- Reboot the device to apply the new firmware

```
ubnt@nycmesh-155-epr6: ~$ reboot  
Proceed with reboot? [confirm][y]
```

```
Broadcast message from ubnt@nycmesh-155-epr6 (pts/0) (Fri Oct 25 15:24:00 2024)
```

```
The system is going down for reboot NOW!
```

```
Connection to 10.96.38.240 closed by remote host.
```

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