

# Kirkstone (Yocto 4.0) Migration - RDK-B

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## Benefits of Kirkstone:

- There are 93 Security Fixes

<https://docs.yoctoproject.org/migration-guides/release-notes-4.0.html#security-fixes-in-4-0>

- Components where security fixes are added :- binutils, curl, epiphany, expat, ffmpeg, gcc, glibc, gmp, go, grub2, gzip, libarchive, libxml2, libxslt, lighttpd, linux-yocto, amdgpu, lua, openssl, qemu, rpm, seatd, speex, squashfs-tools, systemd, tiff, unzip, vim, virglrenderer, webkitgtk, xz, zlib
- There are 318 opensource component version upgrades

<https://docs.yoctoproject.org/migration-guides/release-notes-4.0.html#recipe-upgrades-in-4-0>

- Major opensource upgrades (Dunfell Kirkstone) are :- GCC (9.3 11.3) , glibc (2.31 2.35) , glib-2.0 (2.62.4 2.72.3), systemd (244.3 250.5) , busybox (1.31.1 1.35.0)
- Netflix upgrade, youtube
- GCC compiler
- Maintainability - Dunfell 4 years ; Kirkstone 2 years ; CVE Dunfell is still open (Refer Yocto mailing list), Upstream dunfell 3.1.24 has open CVE
- Build time - reduce number of default dependency (make build faster in first/second time)
- meta-rust is in core
- software bill of material (security infrastructure)
- share state - c standard. faster sstate performance due to decompression standard cstd (twice faster than xz)
- license management tool improvement (more accurate license compliance)
- Kirkstone need minimum 4.x kernel (refer systemd)
- linux\_kernel\_header does not mandate

Reference :- <https://docs.yoctoproject.org/migration-guides/release-notes-4.0.html>

Reference :-<https://code.rdkcentral.com/r/plugins/gitiles/manifests/+refs/heads/kirkstone/oe-layers.xml> (Kirkstone specific OE layers )

## RPI4 Kirkstone build instructions

### *RPI4 32-bit build*

```
repo init -u https://code.rdkcentral.com/r/manifests -b kirkstone -m rdkb-extsrc.xml
repo sync --no-clone-bundle --no-tags

#Need to Choose below configuration for Rpi4-32 bit
MACHINE=raspberrypi4-rdk-broadband source meta-cmf-raspberrypi/setup-environment

bitbake rdk-generic-broadband-image
```

### *RPI4 64-bit build*

```
repo init -u https://code.rdkcentral.com/r/manifests -b kirkstone -m rdkb-extsrc.xml
repo sync --no-clone-bundle --no-tags

#Need to Choose below configuration for Rpi4-64 bit
MACHINE=raspberrypi4-64-rdk-broadband source meta-cmf-raspberrypi/setup-environment

bitbake rdk-generic-broadband-image
```

## Additional information for building a project:

Docker file for ubuntu 20.04 and 18.04



Dockerfile-20-4.zip



ubuntu\_18.04.txt.zip

## Sanity Test cases :

| S.No | Sanity tested on  | Status |
|------|---|--------|
| 1    | erouter0 interface got Wan IP                                   | Pass   |
| 2    | brlan0 interface got default LAN IP                             | Pass   |
| 3    | Able to take SSH Connection                                     | Pass   |
| 4    | All CCSP process are running                                    | Pass   |
| 5    | Able to Ping <a href="http://www.google.com">www.google.com</a> | Pass   |
| 6    | All systemd services are running                                | Pass   |
| 7    | Able to connect LAN client                                      | Pass   |

|    |   |      |
|----|---|------|
| 8  | LAN client got IP from default pool range   | Pass |
| 9  | LAN client should open with CaptivePortal Page  | Pass |
| 10 | Able to connect wireless client   | Pass |
| 11 | Wireless client got IP from default pool range  | Pass |
| 12 | Wireless client can access the CaptivePortal Page                                       | Pass |
| 13 | Internet should work on Connected clients after changing the default credentials        | Pass |
| 14 | Using dmcli to check the CCSP TR-181 DataModels   | Pass |
| 15 | WebUI page should be loaded on Connected clients after changing the default credentials | Pass |
| 16 | WebUI page should be loaded through erouter0IP via RM                                   | Pass |
| 17 | wlan0 and wlan1 interfaces should be UP and RUNNING                                     | Pass |
| 18 | All ccsp logs files should be generated in /rdklogs/logs folder                         | Pass |
| 19 | dmcli eRT getv Device.  | Pass |

References :

We captured all the kirkstone build errors and its fixes in this link [RDK-B RPI4 64 bit](#) and [RDK-B RPI4 32 bit](#) .

## Code Commits

[https://code.rdkcentral.com/r/q/topic:RPI\\_kirkstone\\_migration](https://code.rdkcentral.com/r/q/topic:RPI_kirkstone_migration)

## Kirkstone (Yocto 4.0) - Epic Story:

**RDK-B RPI4 64 bit:**

[REFPLTB-1805](#) - Getting issue details...

STATUS

**RDK-B RPI4 32 bit:**

[REFPLTB-1806](#) - Getting issue details...

STATUS

## Jira Tickets :

key summary type created updated due assignee reporter priority status resolution



Jira project doesn't exist or you don't have permission to view it.

[View these issues in Jira](#)

## Technical support:

[support@rdkcentral.com](mailto:support@rdkcentral.com)

