

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 www.google.com	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

Kirkstone (Yocto 4.0) - Epic Story:

RDK-B RPI4 64 bit:

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

RDK-B RPI4 32 bit:

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

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

