

# RDK-C - Dunfell Migration

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## Introduction

This page is dedicated to bring up yocto 3.1 upgradation for RDK generic camera image.

## Host Setup

The OpenEmbedded build system should be able to run on Ubuntu 18.04 distribution/other compatible linux distribution with the following versions for Git, tar, and Python.

- Git 1.8.3.1 or greater
- tar 1.27 or greater
- Python 3.4.0 or greater
- Coreutils(E.g realpath)

**Note:** You should also have about 50 Gbytes of free disk space for building images.

The essential packages you need for a supported Ubuntu or Debian distribution are shown in the following command:

```
$ sudo apt-get install gawk wget git-core diffstat unzip texinfo gcc-multilib \
build-essential chrpath socat cpio python python3 python3-pip python3-pexpect \
xz-utils debianutils iputils-ping python3-git python3-jinja2 libegl1-mesa libsdl1.2-dev \
pylint3 xterm bmap-tools
```

## Repo Setup

In order to use Yocto build system, the repo tool must be properly installed on the machine.

To install Repo make sure you have a /bin directory in your home directory and that it is included in your path

### Repo Setup Steps

```
$ mkdir ~/bin
$ PATH=~/.bin:$PATH
Download the repo tool and ensure that it is executable
$ curl http://commondatastorage.googleapis.com/git-repo-downloads/repo > ~/bin/repo
$ chmod a+x ~/bin/repo
```

**Note:** it is also recommended to put credentials in ~/.netrc when interacting with repo.

A sample ~/.netrc file is illustrated below

### .netrc

```
machine code.rdkcentral.com
login YOUR_USERNAME
password YOUR_PASSWORD
```

## Build Procedure

### Build step

```
$ repo init -u "https://code.rdkcentral.com/r/manifests" -m rdkc-nosrc.xml -b yocto-dunfell-upgrade
$ repo sync
$ source meta-cmf-raspberrypi/setup-environment (Choose 11 `meta-cmf-raspberrypi/conf/machine/raspberrypi0-rdk-camera.conf`)
$ bitbake rdk-generic-camera-image
```

## Image Flash Procedure

### Flash step

```
$ bzcat ImageName.wic.bz2 | sudo dd of=/dev/sdc bs=4M iflag=fullblock oflag=direct conv=fsync
```

Ex:

```
bzcat rdk-generic-camera-image-raspberrypi0-rdk-camera.wic.bz2 | sudo dd of=/dev/sdc bs=4M iflag=fullblock oflag=direct conv=fsync
```

## Errors and Challenges

| S. NO | Errors/challenges                                                                                                                  | Receipes/Repos                                                                                 | Updates                                                                                                                                                                                                                      | Change sets                                                                                                                                                                                                                                                                                                                                                        | Status |
|-------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1.    | Add camera manifest files                                                                                                          | <a href="#">manifests</a>                                                                      | Added rdkc-nosrc and rdkc-extsrc manifest file in yocto-dunfell-upgrade branch                                                                                                                                               | <a href="https://code.rdkcentral.com/r/c/manifests/+41610">https://code.rdkcentral.com/r/c/manifests/+41610</a>                                                                                                                                                                                                                                                    | Merged |
| 2     | Create dunfell branch for camera component                                                                                         | configmgr, httpclients-utility<br>ledmgr-camera, plugins, rms<br>cvr, mediastreamer, thumbnail | Created yocto dunfel upgrade branch for camera specific component                                                                                                                                                            | Branch Created                                                                                                                                                                                                                                                                                                                                                     |        |
| 3     | ERROR: ExpansionError during parsing <a href="#">ems_git.bb</a><br>fatal: remote error: rdkc/components/opensource/ems unavailable | <a href="#">meta-rdk-camera/recipes-extended/ems/ems_git.bb</a>                                | Moved meta-rdk-camera and meta-cmf-camera latest update upto 23Jul20 from "rdk-next" into "yocto-dunfell-upgrade" branch                                                                                                     | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42088">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42088</a><br><a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-camera/+42090">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-camera/+42090</a> | Merged |
| 4     | ERROR: ExpansionError during parsing <a href="#">webpacamera_git.bb</a>                                                            | <a href="#">meta-rdk-camera/recipes-common/webpacamera/webpacamera_git.bb</a>                  | FetchError: Fetcher failure: Unable to resolve 'yocto-dunfell-upgrade' in upstream git repository in git<br><br>Specific component source codes are not available in rdkcentral. so, masked this component in rdkc.inc file. | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42095">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42095</a>                                                                                                                                                                                    | Merged |
| 5     | ERROR: ExpansionError during parsing <a href="#">audioserver-sample-apps.bb</a>                                                    | <a href="#">meta-rdk-video/recipes-extended/audioserver/audioserver-sample-apps.bb</a>         |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |        |
| 6     | ERROR: ExpansionError during parsing <a href="#">ctrlm-testapp.bb</a>                                                              | <a href="#">meta-rdk-video/recipes-extended/ctrlm/ctrlm-testapp.bb</a>                         |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |        |
| 7     | ERROR: ExpansionError during parsing <a href="#">audioserver-headers.bb</a>                                                        | <a href="#">meta-rdk-video/recipes-extended/audioserver/audioserver-headers.bb</a>             |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |        |
| 8     | ERROR: ExpansionError during parsing <a href="#">audioserver.bb</a>                                                                | <a href="#">meta-rdk-video/recipes-extended/audioserver/audioserver.bb</a>                     |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |        |
| 9     | ERROR: ExpansionError during parsing <a href="#">ctrlm-main.bb</a>                                                                 | <a href="#">meta-rdk-video/recipes-extended/ctrlm/ctrlm-main.bb</a>                            |                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |        |

|    |                                                                                                                                                                                                                                                                                                                |                                                                                                      |                                                                                    |                                                                                                                                                                                           |        |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 10 | ERROR: ExpansionError during parsing <a href="#">ctrlm-headers.bb</a>                                                                                                                                                                                                                                          | <a href="#">meta-rdk-video/recipes-extended/ctrlm/ctrlm-headers.bb</a>                               |                                                                                    |                                                                                                                                                                                           |        |
| 11 | ERROR: ExpansionError during parsing <a href="#">base64_git.bb</a>                                                                                                                                                                                                                                             | <a href="#">meta-rdk-ext/recipes-support/base64/base64_git.bb</a>                                    |                                                                                    |                                                                                                                                                                                           |        |
| 12 | ERROR: Nothing RPROVIDES 'ems'                                                                                                                                                                                                                                                                                 | <a href="#">meta-cmf-raspberrypi/recipes-core/packagegroups/packagegroup-rdk-oss-camera.bbappend</a> | Changed ems into rms because we have recently modified this in rdk-next            | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42105">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42105</a> | Merged |
| 13 | ERROR: Nothing PROVIDES 'ffmpeg'<br><br>ffmpeg was skipped: because it has a restricted license 'commercial'. Which is not whitelisted in LICENSE_FLAGS_WHITELIST                                                                                                                                              | <a href="#">openembedded-core/meta/recipes-multimedia/gstreamer/gstreamer1.0-libav_1.16.2.bb</a>     | Configured gstreamer1.0-libav preferred version as 1.14.1                          | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42106">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42106</a>                         | Merged |
| 14 | ERROR: rtmessage-git-r0 do_fetch: Fetcher failure for URL: ' <a href="https://code.rdkcentral.com/r/rdkc/components/opensource/rtmessage">git://code.rdkcentral.com/r/rdkc/components/opensource/rtmessage</a> '<br><br>Please set a valid SRCREV for url                                                      | <a href="#">meta-rdk-ext/recipes-common/rtmessage/rtmessage_git.bb</a>                               | Added SRC_REV in rtmessage_git.bb                                                  | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42108">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42108</a>                 | Merged |
| 15 | ERROR: rtmessage-git-r0 do_fetch: Fetcher failure: Unable to find file <a href="#">file://rtrouted.conf</a>                                                                                                                                                                                                    | <a href="#">meta-rdk-ext/recipes-common/rtmessage/rtmessage/</a>                                     | Added rtrouted.conf file in rtmessage directory                                    |                                                                                                                                                                                           |        |
| 16 | ERROR: gstreamer1.0-plugins-bad-1.16.2-r0 do_patch<br><br>Applying patch gstreamer1.0-plugins-bad_1.patch<br><br>Hunk #1 FAILED at 101.                                                                                                                                                                        | <a href="#">meta-rdk-camera/recipes-multimedia/gstreamer/gstreamer1.0-plugins-bad_%.bbappend</a>     | Removed meta-rdk-camera/recipes-multimedia/gstreamer folder                        | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42113">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42113</a>           | Merged |
| 17 | ERROR: QA Issue: rms: The LIC_FILES_CHKSUM does not match for <a href="#">file://LICENSE;md5=ae6150f078ea1c81960d0595a46a293a</a>                                                                                                                                                                              | <a href="#">rdkc/components/opensource/rms</a>                                                       | Moved rms source latest changes upto 24Jul20 from rdk-next into dunfell branch     | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/rms/+42114">https://code.rdkcentral.com/r/c/rdkc/components/opensource/rms/+42114</a>                                 | Merged |
| 18 | ERROR: bcm2835-bootfiles-20180619-r3 do_fetch: Fetcher failure for URL: ' <a href="https://github.com/raspberrypi/firmware/archive/748fb17992426bb29d99224b93cb962fefbdc833.tar.gz">https://github.com/raspberrypi/firmware/archive/748fb17992426bb29d99224b93cb962fefbdc833.tar.gz</a> ' . Checksum mismatch! | <a href="#">meta-cmf-raspberrypi/recipes-bsp/bootfiles/bcm2835-bootfiles.bbappend</a>                | Masked bcm2835-bootfiles.bbappend                                                  | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42115">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42115</a>                         | Merged |
| 19 | No rule to make target 'arch/arm/boot/dts/bcm2711-rpi-4-b.dtb'<br><br>ERROR: Task <a href="#">linux-raspberrypi_4.14.bb:do_compile</a> failed with exit code '1'                                                                                                                                               | <a href="#">meta-rdk/conf/distro/include/rdkc.inc</a>                                                | Upgrade linux kernel version from 4.14 to 4.19                                     | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42223">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42223</a>                         | Merged |
| 20 | ERROR: lighttpd-1.5-r0 do_compile: oe_runmake failed<br><br>Makefile:1663: recipe for target 'lemon.o' failed                                                                                                                                                                                                  | <a href="#">meta-cmf-raspberrypi/conf/machine/raspberrypi0-rdk-camera.conf</a>                       | Changed lighttpd preferred version as 1.4.53                                       | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42116">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42116</a> | Merged |
| 21 | configmgr : fatal error: PRO_file.h: No such file or directory                                                                                                                                                                                                                                                 | <a href="#">rdkc/components/opensource/configMgr</a>                                                 | Moved configmgr source code changes upto 24Jul20 from rdk-next into dunfell branch | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/configMgr/+42149">https://code.rdkcentral.com/r/c/rdkc/components/opensource/configMgr/+42149</a>                     | Merged |
| 22 | plugins: error: 'RdkCVideoCapturer' does not name a type                                                                                                                                                                                                                                                       | <a href="#">rdkc/components/opensource/plugins</a>                                                   | Moved plugins source code changes upto 27Jul20 from rdk-next into dunfell branch   | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/plugins/+42151">https://code.rdkcentral.com/r/c/rdkc/components/opensource/plugins/+42151</a>                         | Merged |
| 23 | ERROR: mediastreamer-git-r0 do_package_qa                                                                                                                                                                                                                                                                      | <a href="#">meta-rdk-camera/recipes-multimedia/mediastreamer/mediastreamer_git.bb</a>                | Added RDEPENDS mediasreamer_git.bb file                                            | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42152">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42152</a>           | Merged |
| 24 | Thumbnail : CMake Error at CMakeLists.txt:40 (ADD_SUBDIRECTORY : normal_thumbnail )                                                                                                                                                                                                                            | <a href="#">rdkc/components/opensource/thumbnail</a>                                                 | Moved thumbnail source code changes upto 27Jul20 from rdk-next into dunfell branch | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/thumbnail/+42167">https://code.rdkcentral.com/r/c/rdkc/components/opensource/thumbnail/+42167</a>                     | Merged |
| 25 | smart_thumbnail.h:53:10: fatal error: RdkCVideoCapturer.h: No such file or directory                                                                                                                                                                                                                           | <a href="#">meta-rdk-camera/recipes-multimedia/thumbnail/thumbnail_git.bb</a>                        | Added plugins dependency at thumbnail receipes.                                    | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42173">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42173</a>           | Merged |
| 26 | thumbnail : fatal error: opencv2/opencv.hpp: No such file or directory                                                                                                                                                                                                                                         | <a href="#">meta-openembedded/meta-oe/recipes-support/opencv/opencv_4.1.0.bb</a>                     | Avoid to store opencv header files under opencv4 in sysroot.                       | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42201">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42201</a>                 | Merged |
| 27 | thumbnail : fatal error: mongoose.h: No such file or directory                                                                                                                                                                                                                                                 | <a href="#">meta-rdk-camera/recipes-multimedia/thumbnail/thumbnail_git.bb</a>                        | Added mongoose dependency at thumbnail receipes                                    | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42204">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-camera/+42204</a>           | Merged |

|    |                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                  |                                                                                          |                                                                                                                                                                                           |             |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 28 | thumbnail : error: 'CV_YUV2BGR_NV12' was not declared in this scope                                                                                                                                                                                                                                                                                                                            | rdkc/components<br>/opensource/thumbnail                                                         | Included types_c.h at normal_thumbnail.h file.                                           | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/thumbnail/+42205">https://code.rdkcentral.com/r/c/rdkc/components/opensource/thumbnail/+42205</a>                     | Merged      |
| 29 | ERROR: When reparsing /mnt/home/sanil534/Savidha /RDK-C/meta-rdk/recipes-core/images/ <a href="#">rdk-generic-camera-image.bb</a> :do_populate_lic_deploy, the basehash value changed from 1b3e827be261ee60d5bcea3827f4ede9ff99ebbd1c9e101686fe686e5ace3268 to 22d5dc96290d6fa6a5119e634d53e99bdc17d3dd4bf52381e874719822deb742. The metadata is not deterministic and this needs to be fixed. | meta-cmf-raspberrypi<br>/recipes-core/images/rdk-generic-camera-image.bbappend                   | Added BB_HASH_IGNORE_MISMATCH = "1" in rdk-generic-camera-image.bbappend file            | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42206">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42206</a> | Merged      |
| 30 | ERROR: rdk-generic-camera-image-1.0-r0 do_rootfs: Taskhash mismatch 271be5777a813d0312a7a1fba331bf05f45a42cd7249ed412f5bbd966a452c21 versus 66a9d352e30c8c1bcca799a340b7051c2fd97feaf98d379678cae7da6d43afc3 for /mnt/home/sanil534/Savidha /RDK-C/meta-rdk/recipes-core/images/ <a href="#">rdk-generic-camera-image.bb</a> :do_rootfs                                                        | meta-cmf-raspberrypi<br>/recipes-core/images/rdk-generic-camera-image.bbappend                   | Added IMAGE_NAME [vardepsexclude] = "DATETIME" in rdk-generic-camera-image.bbappend file |                                                                                                                                                                                           |             |
| 31 | nothing provides gstreamer1.0-plugins-bad-opengl needed by packagegroup-rdk-gstreamer1-1.0-r0.all                                                                                                                                                                                                                                                                                              | meta-cmf-raspberrypi<br>/recipes-core<br>/packagegroups<br>/packagegroup-rdk-gstreamer1.bbappend | Opengl license was whitelisted                                                           | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42212">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42212</a> | Merged      |
| 32 | ERROR: userland-20190724-r0 do_patch: Command Error:Patch 0013-Implement-triple-buffering-for-wayland.patch is already applied                                                                                                                                                                                                                                                                 | meta-raspberrypi/recipes-graphics/userland/ <a href="#">userland_git.bb</a>                      | Removed morty from machine overrides and distro.                                         | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42248">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42248</a> | Merged      |
| 33 | Bootup Issue                                                                                                                                                                                                                                                                                                                                                                                   | meta-rdk/conf/distro<br>/include/rdkc.inc                                                        | Removed VC4graphics in camera build to avoid bootup issue                                | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42384">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk/+42384</a>                         | Merged      |
| 34 | ERROR: Nothing RPROVIDES 'faad2'                                                                                                                                                                                                                                                                                                                                                               | meta-cmf-raspberrypi<br>/recipes-core<br>/packagegroups<br>/packagegroup-rdk-gstreamer1.bbappend | Allowed fadd2 with LICENSE_FLAGS_WHITE LIST conditional check.                           | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42814">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42814</a> | Merged      |
| 35 | nothing provides gstreamer1.0-plugins-bad-faad needed by packagegroup-rdk-gstreamer1-1.0-r0.all                                                                                                                                                                                                                                                                                                | meta-cmf-raspberrypi<br>/recipes-core<br>/packagegroups<br>/packagegroup-rdk-gstreamer1.bbappend | Allowed gstreamer1.0-plugins-bad-faad with LICENSE_FLAGS_WHITE LIST conditional check.   | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42814">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42814</a> | Merged      |
| 36 | <a href="#">libconfigmgr.so</a> : undefined reference to `PRO_GetStr'                                                                                                                                                                                                                                                                                                                          | rdkc/components<br>/opensource/configMgr                                                         | Moved Configmgr changes from rdk-next branch into yocto-dunfell-upgrade branch           | <a href="https://code.rdkcentral.com/r/c/rdkc/components/opensource/configMgr/+43630">https://code.rdkcentral.com/r/c/rdkc/components/opensource/configMgr/+43630</a>                     | in-progress |
| 37 | ERROR: glib-2.0-native-1_2.62.6-r0 do_patch                                                                                                                                                                                                                                                                                                                                                    | meta-rdk-ext/recipes-core<br>/glib-2.0                                                           | rebase RDK patch from glib 2.62.4 to glib 2.62.6                                         | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+43124">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+43124</a>                 | Merged      |

## Supported feature updates

| S. NO | Errors/challenges                                                                      | Receipes/Repos                                      | Updates                                                                                | Change sets                                                                                                                                                                               | Status |
|-------|----------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1.    | RDK Media Streamer validation ( RMS ) validation                                       | meta-cmf-raspberrypi<br>/recipes-extended<br>/rms/  | Moved automatic bootup process changes from rdk-next into yocto-dunfell-upgrade branch | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42387">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42387</a> | Merged |
|       |                                                                                        | meta-cmf-raspberrypi<br>/recipes-extended/rms       | By default triggered rms and mediastreamer service without any dependency.             | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+43071">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+43071</a> | Merged |
| 2     | Normal Thumbnail validation                                                            | rdkc/devices<br>/raspberrypi<br>/mediastreamer      | Moved needed normal thumbnail changes from rdk-next into yocto-dunfell-upgrade         | <a href="https://code.rdkcentral.com/r/c/rdkc/devices/raspberrypi/mediastreamer/+42390">https://code.rdkcentral.com/r/c/rdkc/devices/raspberrypi/mediastreamer/+42390</a>                 | Merged |
| 3     | CVR validation with kvssink and AWS basic credential( Access id and secret access key) | meta-cmf-raspberrypi<br>/recipes-multimedia<br>/cvr | Moved cvr with kvssink validation related changes from morty into dunfell              | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42824">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+42824</a> | Merged |

|   |                                                       |                                              |                                                                                       |                                                                                                                                                                                           |        |
|---|-------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|   |                                                       | meta-rdk-ext                                 | Moved jsmn,kvs,log4cplus and gtest receipes from morty into dunfell                   | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42825">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-rdk-ext/+42825</a>                 | Merged |
| 4 | Firmware upgrade validation at yocto 3.1 camera image | meta-cmf-raspberrypi/recipes-extended/sysint | Moved firmware upgrade changes from rdk-next branch into yocto-dunfell-upgrade branch | <a href="https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+43480">https://code.rdkcentral.com/r/c/components/generic/rdk-oe/meta-cmf-raspberrypi/+43480</a> | Merged |

## Supported Features

| S.No | Features                                        | Supported Status | Remark                                                                                   |
|------|-------------------------------------------------|------------------|------------------------------------------------------------------------------------------|
| 1    | Ethernet connection( USB Ethernet Adapter )     | ✓                | NA                                                                                       |
| 2    | WiFi Connection                                 | ✓                | NA                                                                                       |
| 3    | RMS ( RDKC Media Server )                       | ✓                | NA                                                                                       |
| 4    | CVR ( Continuous video recording ) with kvssink | ✓                | NA                                                                                       |
| 5    | Normal Thumbnail                                | ✓                | NA                                                                                       |
| 6    | Firmware upgrade with tftp and xconf server     | ✓                | NA                                                                                       |
| 7    | Webpa                                           | ✗                | <a href="#">CMFSUPPORT-38</a> : In-progress to host the webpa-camera in xmidt-org github |

## User Manual for Supported Feature

| S.No | Features                                    | User Manual                                                       |
|------|---------------------------------------------|-------------------------------------------------------------------|
| 1    | RMS ( RDKC Media Server )                   | <a href="#">RDK-C RDKC Media Server( RMS ) - Community</a>        |
| 2    | CVR ( Continuous video recording )          | <a href="#">RDK-C : Continuos Video Recording (CVR)</a>           |
| 3    | Normal Thumbnail                            | <a href="#">RDK-C Normal Thumbnail</a>                            |
| 4    | Firmware upgrade with tftp and xconf server | <a href="#">RDK-C Firmware Upgrade with HTTP and TFTP support</a> |

## Known Issues and Limitations

- WiFi connection:
  - After bootup unable to get the 'WiFi IP' address by default.
  - Once we restart the "wpa\_supplicant.service" forcefully then we can able to get the 'WiFi IP'.
- System date and time is not properly updating