

# RDKB - Yocto 3.1 Migration for Turris-Omnia Reference platform - User manual - M4 - 2020

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## Introduction

Upgrading Turris-Omnia Reference Platform for Yocto 3.1 ie., from morty to dunfell

Considerations for broadband & extender build:

- OpenEmbedded and Yocto Dunfell.
- Linux kernel 4.14.
- Version upgrades for bitbake and other oe recipes(if needed).

## Environment Setup

### • Host- environment

1. In Ubuntu 18.04 version, consider the versions of **git**(1.8.3.1 or greater), **tar**(1.27 or greater), **Python**(3.4.0 or greater), **Coreutils**.
2. Take a look on the following packages,

```
$ 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
```

3. Configure repo

4. Ensure the .netrc and .gitconfig files

### • Build instructions for creating core-image-minimal build

The following commands fetches the source code of turris using repo tool and create the image using bitbake

```
repo init -u https://code.rdkcentral.com/r/manifests -m rdkb-turris-extsrc.xml -b yocto-dunfell-upgrade

repo sync -j4 --no-clone-bundle

MACHINE=turris source meta-turris/setup-environment

bitbake core-image-minimal
```

Currently we are in the process of building rdk-generic-broadband-image. The main source for errors can be classified into 4 categories.

- > Incompatible license with RDK.
- > Trying to apply older patches into newer version of recipes.
- > Recipe version changes due to dependency.
- > If there is a license upgrade to a new recipe which is not compatible with RDK terms then we need to stick to the older version.

## Error Handling

For core-minimal image,

Error/ Warning	Layer and Recipe	Fix	Reference
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1	Unable to start bitbake server (None) ERROR: Server log for this session	meta-java	In layer.conf  Added LAYERSERIES_COMPAT_ meta-java = " dunfell"	NA
2	Unable to parse Var <AVAILABLE_LICENSES[:=]>  bb.data_smart.ExpansionError: Failure expanding variable AVAILABLE_LICENSES[:=], expression was \${@' '.join(available_licenses(d))} which triggered exception FileNotFoundError: [Errno 2] No such file or directory	meta-cmf	Need to create a licenses directory under the meta-layer and add RDK license file to it	NA
3	Deprecated variable(s) found: "IMAGE_DEPENDS_wic". Use do_image_<type>[depends] += "<recipe>:<task>" instead  Failed to parse recipe: /meta-java/recipes-images/images/java-test-image.bb	meta-marvell	In armada38x-base.inc ,  Removed IMAGE_DEPENDS_wic_append_armada38x = " virtual /bootloader" added WKS_FILE_DEPENDS ?= ""	<a href="https://patchwork.openembedded.org/patch/143213/">https://patchwork.openembedded.org/patch/143213/</a>
4	ParseError at /meta-marvell/recipes-kernel/linux/linux-marvell.inc:16: Could not include required file recipes-kernel/linux/linux-dtb.inc	meta-turris	In recipes-kernel/linux, added linux-dtb.inc	<a href="https://code.rdkcentral.com/r/plugins/gitiles/rdk/components/opensource/oe/openembeddedco/re/+849b67b2e4820564b5e5c9bd4bb293c44351c5f3/meta/recipes-kernel/linux/linux-dtb.inc">https://code.rdkcentral.com/r/plugins/gitiles/rdk/components/opensource/oe/openembeddedco/re/+849b67b2e4820564b5e5c9bd4bb293c44351c5f3/meta/recipes-kernel/linux/linux-dtb.inc</a>
5	ExpansionError during parsing / meta-cmf-mesh/recipes-common/mesh-agent/mesh-agent.bb  ExpansionError during parsing /meta-rdk-broadband/recipes-rdkb/sysinit-broadband/sysinit-broadband.bb	meta-cmf-mesh  mesh-agent.bb  meta-rdk-broadband  sysinit-broadband.bb	In mesh-agent.bb replace base_contains by bb.utils.contains	NA
6	ParseError at /meta-browser/recipes-mozilla/mozilla-devscripts/mozilla-devscripts_git.bb:15: Could not inherit file classes/distutils.bbclass	meta-cmf-broadband	In rdk-bbmask-broadband.inc,  add BBMASK .= " meta-browser/"	NA
7	ParseError at /Migration-3.1/meta-rdk-broadband/recipes-ccsp/ccsp/ccsp-webui.bb:32: Could not inherit file classes/lxc.bbclass	meta-virtualization	Under classes, remove inherit lxc from ccsp-webui.bb	NA
8	ExpansionError during parsing /meta-rdk-broadband/recipes-ccsp/ccsp/ccsp-wifi-agent.bb  ExpansionError during parsing /meta-rdk-broadband/recipes-ccsp/ccsp/parodus2ccsp.bb	meta-rdk-broadband  ccsp-wifi-agent.bb  parodus2ccsp.bb	replace base_contains by bb.utils.contains	NA

9	<p>ExpansionError during parsing /meta-rdk-opensync/recipes/opensync/opensync_1.4.0.bb</p> <p>ExpansionError during parsing /meta-rdk-ext/recipes-support/base64/base64_git.bb</p>	<p>meta-turris</p> <p>opensync_1.4.0.bbappend</p> <p>meta-rdk-ext</p> <p>base64_git.bb</p>	change branch to master	NA
10	<p>Nothing RPROVIDES '\${ROOTFS_PKGMANAGE_BOOTSTRAP}' (but /openembedded-core/meta/recipes-core/images/core-image-minimal.bb RDEPENDS on or otherwise requires it)</p> <p>ERROR: Required build target 'core-image-minimal' has no buildable providers.</p>	openembedded-core	add ROOTFS_PKGMANAGE_BOOTSTRAP = "postinsts"	NA
11	<p>Nothing RPROVIDES 'wireless-tools' (but /meta-turris/recipes-core/packagegroups/packagegroup-turris-core.bb RDEPENDS on or otherwise requires it)</p> <p>Nothing RPROVIDES 'trace-cmd' (but /meta-turris/recipes-core/packagegroups/packagegroup-turris-core.bb RDEPENDS on or otherwise requires it)</p> <p>Nothing RPROVIDES 'iperf' (but /meta-turris/recipes-core/packagegroups/packagegroup-turris-core.bb RDEPENDS on or otherwise requires it)</p>	<p>openembedded-core</p> <p>openembedded-core</p> <p>meta-openembedded</p>	remove wireless-tools , trace-cmd , iperf from <a href="#">packagegroup-turris-core.bb</a>	NA
12	<p>ERROR: 265 unbuildable tasks were found.</p> <p>These are usually caused by circular dependencies and any circular dependency chains found will be printed below. Increase the debug level to see a list of unbuildable tasks.</p>	<p>openembedded-core</p> <p>python3_3.8.2.bb</p>	BBMASK openssl unused version	NA
13	<p>ERROR: kern-tools-native-0.2+gitAUTOINC+7604d2d1a4-r12 do_patch: Command Error: 'quilt --quiltrc /build-turris/tmp/work/x86_64-linux/kern-tools-native/0.2+gitAUTOINC+7604d2d1a4-r12/recipe-sysroot-native/etc/quiltrc push' exited with 0 Output</p>	meta-rdk-opensync	Recreate the patch file . /meta-rdk-opensync/recipes/kern-tools/files/dont_install_kconfiglib.patch	NA
14	<p>dbus-1.12.16-r0 do_fetch: Fetcher failure: Unable to find file <a href="#">file://01-dbus-ccsp-apis-1.12.16.patch</a> anywhere.</p>	meta-rdk-ext	<p>rename the existing patch for dbus version 1.12.16 and recreate the patch with the following name</p> <p>01-dbus-ccsp-apis-1.12.16.patch</p>	NA
15	<p>u-boot-marvell-2013.01+gitAUTOINC+25998da8b6-r0 do_configure: Execution of /build-turris/tmp/work/turris-rdk-linux-musleabi/u-boot-marvell/2013.01+gitAUTOINC+25998da8b6-r0/temp/run.do_configure.12492' failed with exit code 1</p>	<p>meta-turris</p> <p>u-boot-marvell_2013.01.bbappend</p>	<p>Add,</p> <pre>do_configure_prepend() { touch \${S}/.config cp \${WORKDIR}/recipe-sysroot-native/usr/bin/oldconfig \${WORKDIR}/uboot/oldconfig }</pre>	NA
16	<p>ERROR: /build-turris/tmp/work/turris-rdk-linux-musleabi/u-boot-marvell/2013.01+gitAUTOINC+25998da8b6-r0/uboot/fs/fts2/mini_inflate.c:222: undefined reference to 'cramfs_memset'</p>	<p>meta-turris</p> <p>u-boot-marvell_2013.01.bbappend</p>	<p>Create a patch and apply</p> <p>u-boot-inline-error.patch</p>	NA
17	<p>dnsmasq-2.80-r0 do_patch: Command Error: 'quilt --quiltrc /home/krishna/RAJ/Migration-3.1/build-turris/tmp/work/armv7ahf-neon-rdk-linux-musleabi/dnsmasq/2.80-r0/recipe-sysroot-native/etc/quiltrc push' exited with 0</p>	meta-rdk-ext	<p>recreate the patch</p> <p>130-fingerprint-dhcp-lease-file.patch</p>	NA

18	kern-tools-native-0.2+gitAUTOINC+7604d2d1a4-r12 do_populate_lic: QA Issue: kern-tools-native: LIC_FILES_CHKSUM points to an invalid file: /build-turris/tmp/work/x86_64-linux/kern-tools-native/0.2+gitAUTOINC+7604d2d1a4-r12/git/git/Kconfiglib/LICENSE.txt [license-checksum]	meta-rdk-opensync  kern-tools-native_%.bbappend	comment  LIC_FILES_CHKSUM = "file://git/Kconfiglib/LICENSE.txt;md5=448ee4da206e9be8f4a79c48e0741295"	NA
19	core-image-minimal-1.0-r0 do_rootfs: Unable to install packages.  - nothing provides fftw needed by packagegroup-turris-core-1.0-r0.all  - do not ask to install a package providing packagegroup-turris-core		add  fftw.bbappend	NA
20	When reparsing /openembedded-core/meta/recipes-core/images/core-image-minimal.bb:do_rootfs, the basehash value changed from 1c76594fd609e77323d32b96b490551409f1dd7494e75119b74115805687e530 to 435cd9fd2595cbf5d3420df8cdf1366179c1c68f804f4ab735b6cff5f84d03f. The metadata is not deterministic and this needs to be fixed.  ERROR: \$ bitbake core-image-minimal -cdo_rootfs -Snone ERROR: \$ bitbake core-image-minimal -cdo_rootfs -Sprintdiff	meta-turris  minimal.bbappend	add BB_HASH_IGNORE_MISMATCH = "1"	
21	ERROR: core-image-minimal-1.0-r0 do_rootfs: Postinstall scriptlets of ['systemd'] have failed. If the intention is to defer them to first boot, then please place them into pkg_postinst_ontarget_\${PN} ()		Removed installing resolv.conf for dunfell branch	NA
22	ERROR: core-image-minimal-1.0-r0 do_rootfs: Taskhash mismatch 8f27e0dbdfe3ca200423ce2c2b7235163592522452134eeb952f0ed25647769d versus 7db8ecb95cf063d5b230c2eefa967d5e6888f6c0455f20a701f8c2113198ce9b for /openembedded-core/meta/recipes-core/images/core-image-minimal.bb:do_rootfs ERROR: Taskhash mismatch	meta-turris  core-image-minimal.bbappend	add IMAGE_NAME [vardepsexclude] = "DATETIME"	NA
23	ERROR: core-image-minimal-1.0-r0 do_image_wic: Execution of /build-turris/tmp/work/turris-rdk-linux-musleabi/core-image-minimal/1.0-r0/temp/run.do_image_wic.29811' failed with exit code 1:  ERROR: _exec_cmd: install -m 0644 -D /build-turris/tmp/deploy/images/turris/zImage-armada-385-turris-omnia.dtb /images/turris/zImage-armada-385-turris-omnia.dtb: No such file or directory	meta-turris  turris.conf	remove zImage-armada-385-turris-omnia.dtb from IMAGE_BOOT_FILES	NA

## Flashing procedure

[Turris Omnia Reference Platform: Flashing Instruction](#)