

Yocto-3.1 Turris Image Stabilization - User Manual - 2020 - M6

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1.1. Introduction

This manual describes the up-gradation of Yocto tools, the default build system used in RDK Broadband, from morty(2.2) to dunfell(3.1). In addition to upgrades to opensource packages, Yocto 3.1 also contain Long term Support release feature. The current version lacks the variety of features available in the dunfell.

Considerations for Turris Gateway build:

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

1.2. Environment Setup

• 1.2.1. 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

• 1.2.2. Build instructions for creating rdk-generic-broadband-image 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 rdk-generic-broadband-image
```

1.3. Error Handling

	Error/Issues	Layer/Recipe	Fix
1	ERROR: Configure error in PAM , tr069, dmcli and webui	meta-rdk-broadband	Safec version has been upgraded from 3.5 to 3.5.1 Changed LDFLAGS to libsafec-3.5.1
2	ERROR: Nothing RPROVIDES 'cpp-symlinks' ERROR: Nothing RPROVIDES 'cpp'	meta-openembedded meta-turris	python3-pycparser version has been upgraded from 2.19 to 2.20 renamed the bbappend to 2.20 version
3	ERROR: Mosquitto compile error, build breakage	meta-rdk-ext	patch-set In has been provided to fix this issue with openssl
4	wan interface erouter0 did not get IP	Utopia -repo	service_wan.c code seem not proper, Fails in dhcp_parse_vendor_info API
5	lan interface brlan0 not acquiring the IP	meta-turris /utopia. bbappend	Provided the patch-set as work-around in lan_handler.sh

6	sysseventd is not running on the port Error: Address already in use (inet6 addr)	meta-turris/utopia.bbappend	Added CFLAGS += "-DNO_IPV6" as a work-around in utopia.bbappend
7	Lighttpd fails to run	meta-turris/ccsp-webui.bbappend	Used to sed command to disable server.ipv6 in lighttpd.conf
8	check.php gives the blank image, after logged on in RDKB-WebUI	webui - repo	Replaced the suspicious line in check.php

1.4. Features Supported

- All the Ccsp Services are up and running
- WebUI is Enabled and runs in the ipv4 port.
- Ensured the wireless client is connected to both 2.4Ghz and 5Ghz , acquired the IP.
- dmcli works well and retrieves the information through all components such as pam,wifi,etc

No	Feature	Supported
1	LAN Connected Devices-Ethernet	✗
2	WAN Connected Devices-Wi-Fi	✓
3	Parental Control	✗
4	Firewall settings	✗
5	Advanced Config: Port Triggering	✗
6	Advanced Config: Port Forwarding	✗
7	Advanced Config: Remote Management	✗
8	Advanced Config: DMZ	✗
9	Xfinity Wi-Fi 2.4/5 GHz – Public Hotspot	✗
10	Test and Diagnostics	✗
11	Local WebUI Configuration	✓
12	Factory Reset	✗
13	DHCP /Reserved IP	✗
14	EthWan	✓
15	Eth Agent	✗
16	2.4 GHz Band Support	✓
17	5 GHz Band Support	✓
18	Bridge Mode Support	✗
19	Persistent Storage Management	✓
20	WebPA for Comcast,community	✗
21	Lost and Found	✗
22	Bluetooth	✗
22	Harvester Support	✗
23	TR-69	✗
24	SNMP	✗
27	Boot time data measurement	✗
28	Wireless Protection Setup(WPS)	✗
29	Captive Portal	✗
30	Wi-Fi MAC Filtering	✗

31	Log Rotation Support	✖
32	Firmware Upgrade Support	✖
33	Multiboot Support	✖
34	Telemetry Support	✖
35	IPV6	✖

1.5. Flashing procedure

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

1.6. Known issues and Limitations

- ccspwifiaagent.service has to be manually restarted (systemctl restart ccspwifiaagent.service)
- lighttpd runs only in the port 80
- There is 45 sec delay on the reboot.