

**MEDIATEK**

# New Forward module

2021/9/30

Shijiang Feng

# Version History

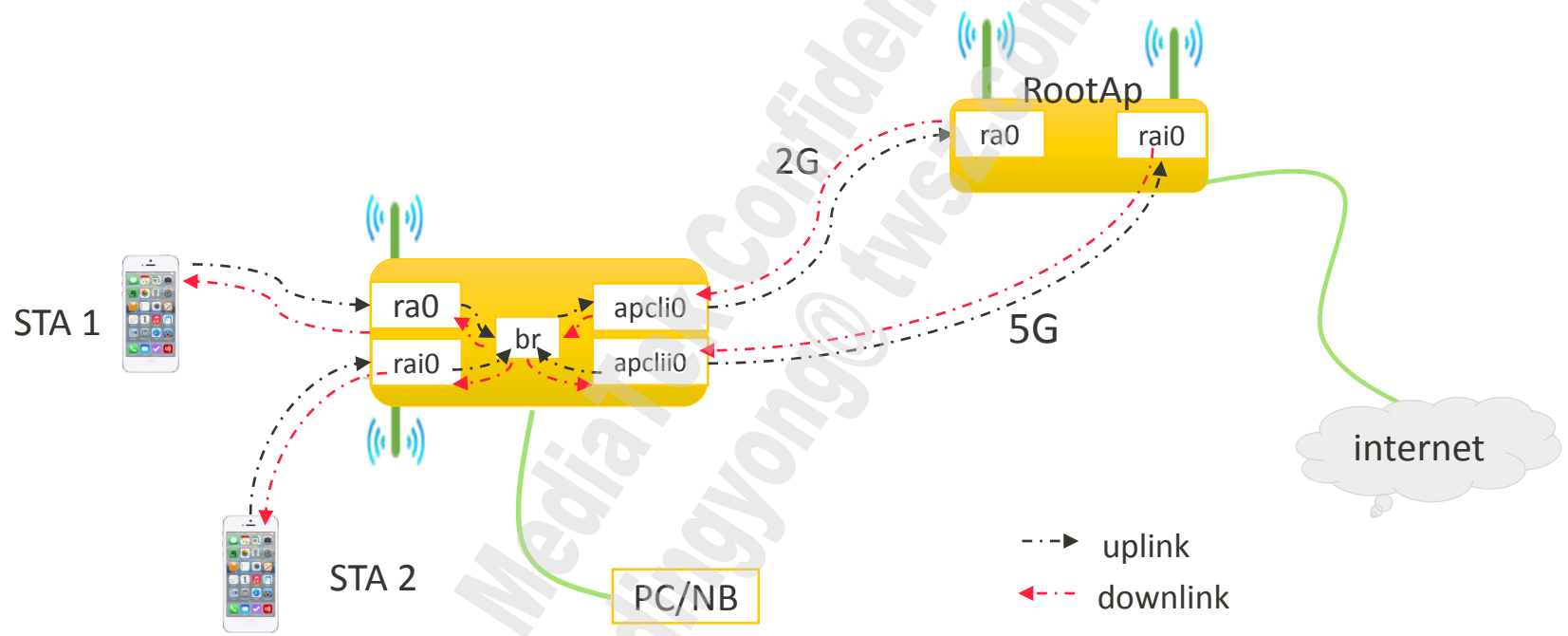
Version	Date	Author (Optional)	Description
0.1	2021-9-23	Shijiang Feng	Initial draft
1.0	2021-9-30	Micheal Su	Official release

# Outline

- Feature Description
- Support Topology
- How to use fwdd/mtfwd

# Feature Description

# ApCli & MacRepeater Fast Path Selection



# Module Naming

Daemon

fwdd

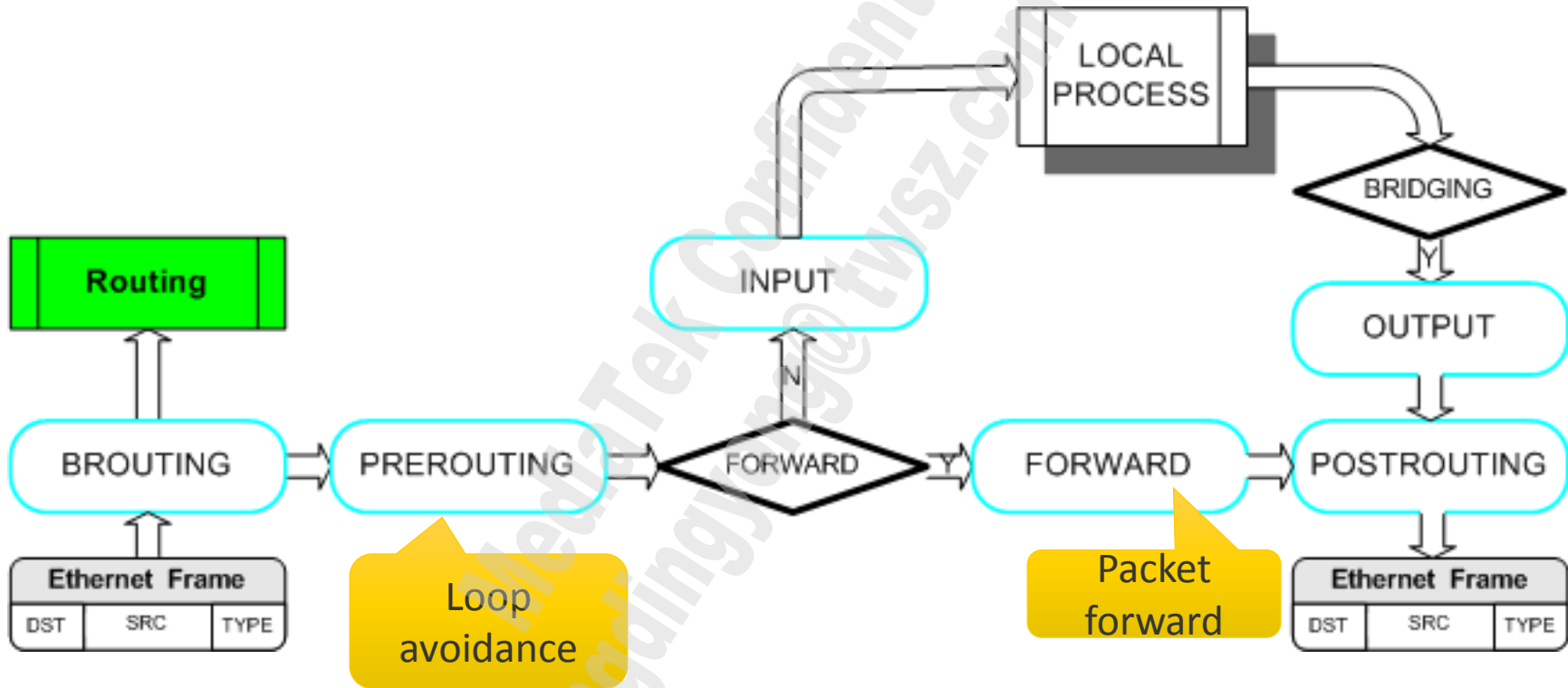
1. Link status monitor.
2. Set Config to mtfwd.

Kernel module

mtfwd

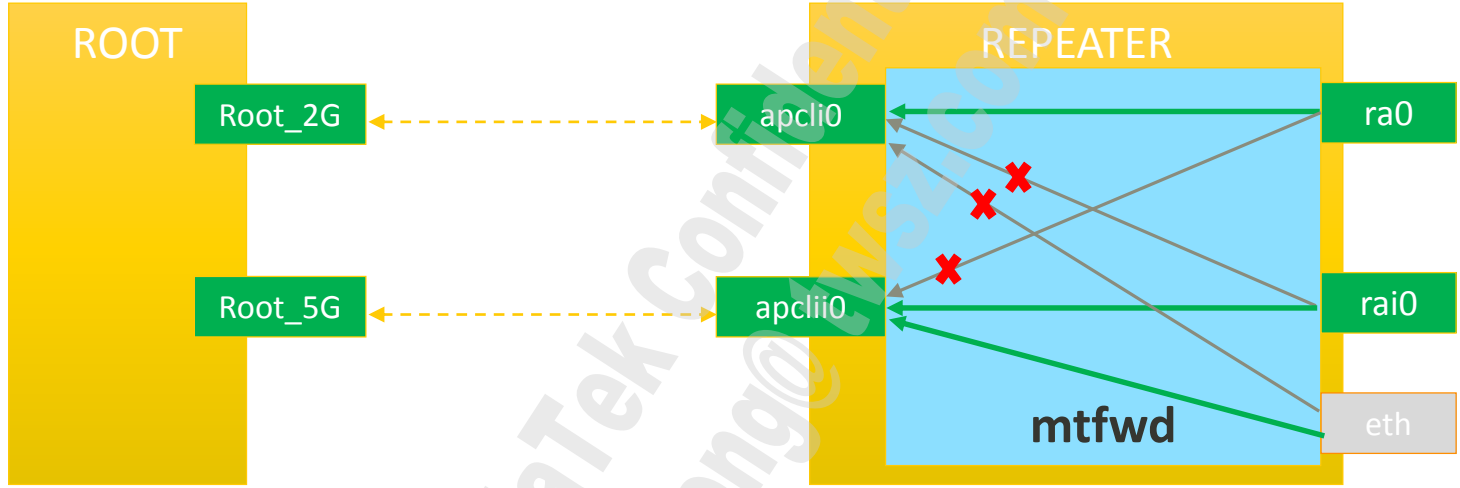
1. Packet forward.
2. BC/MC packet loop avoidance.

# mtfwd was implemented based-on netfilter



# Packet forward

## -- 2.4G&5G Backhuals

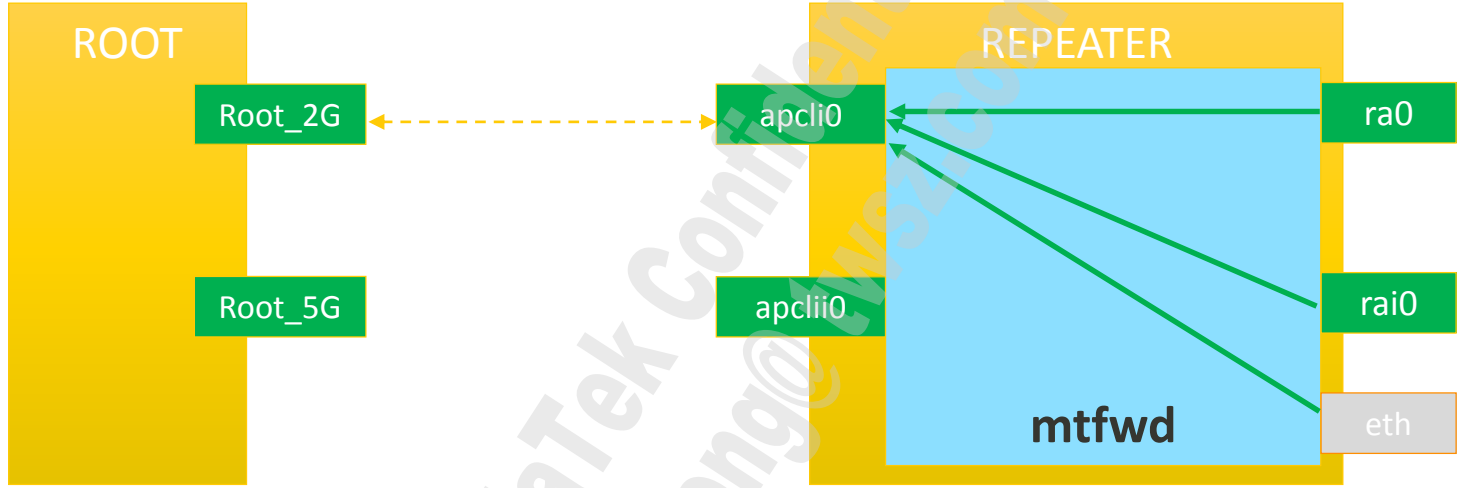


User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apcli10
eth2	apcli10



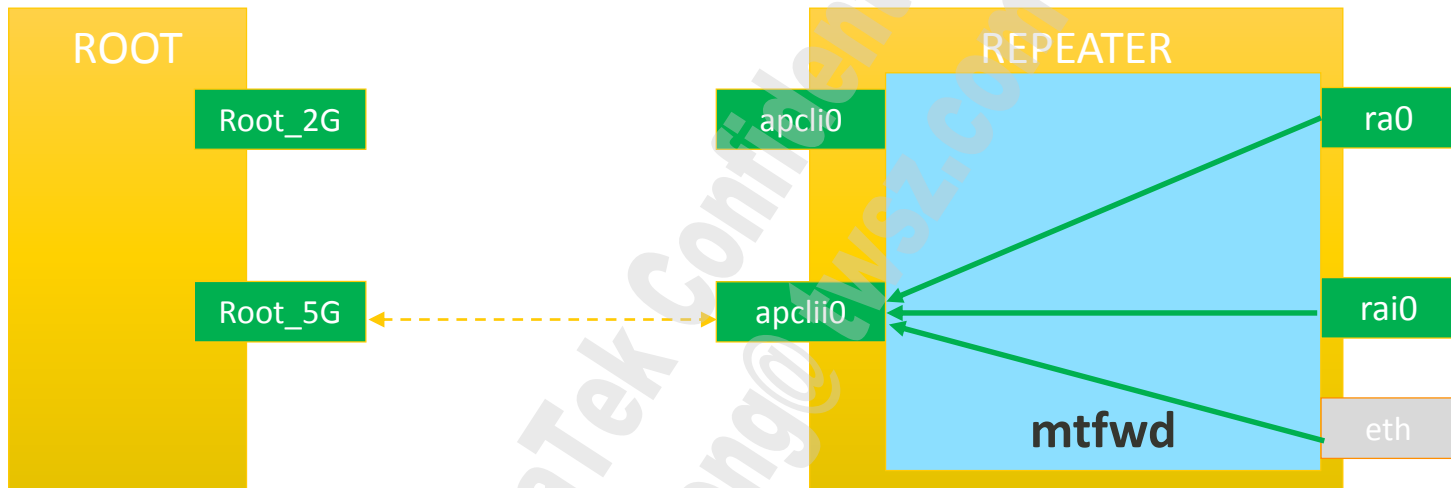
# Packet forward -- 2G Backhual



User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apcli0
eth2	apcli0

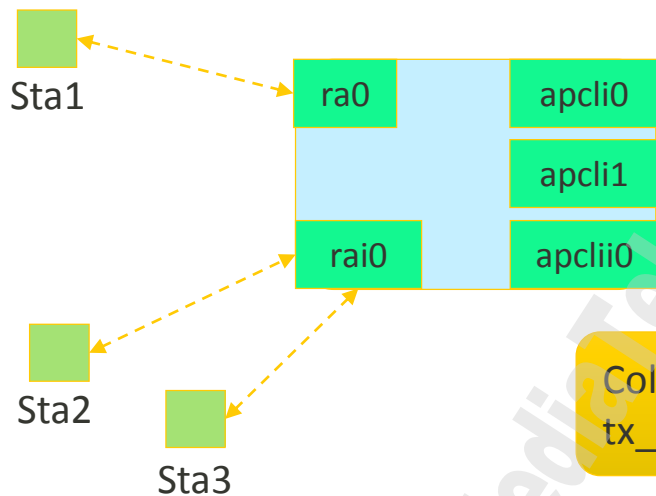
# Packet forward -- 5G Backhual



User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apcli0
eth2	apcli0

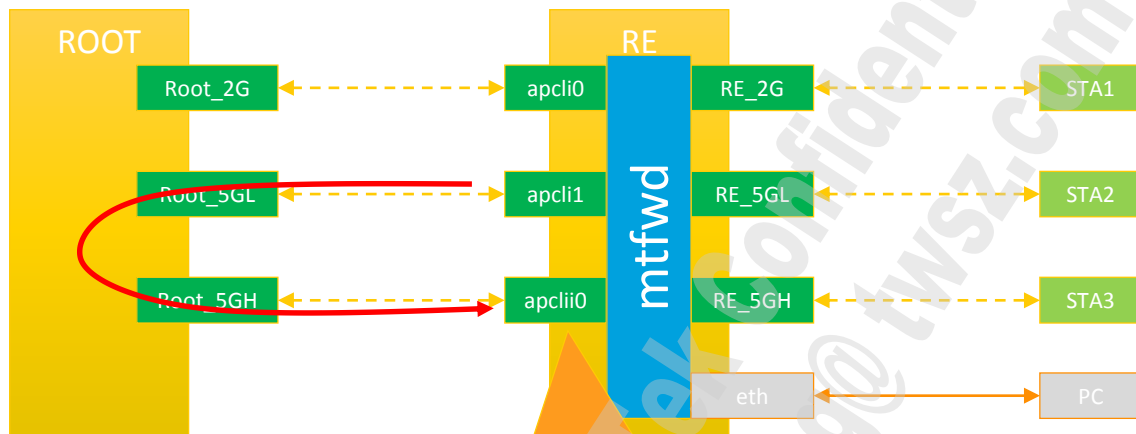
# Loop avoidance in kernel module



tx\_src\_tbl

Interface name	mac
apcli0	
apcli1	
apcli0	
Sta1	
Sta2	
Sta3	

# Loop avoidance in kernel module

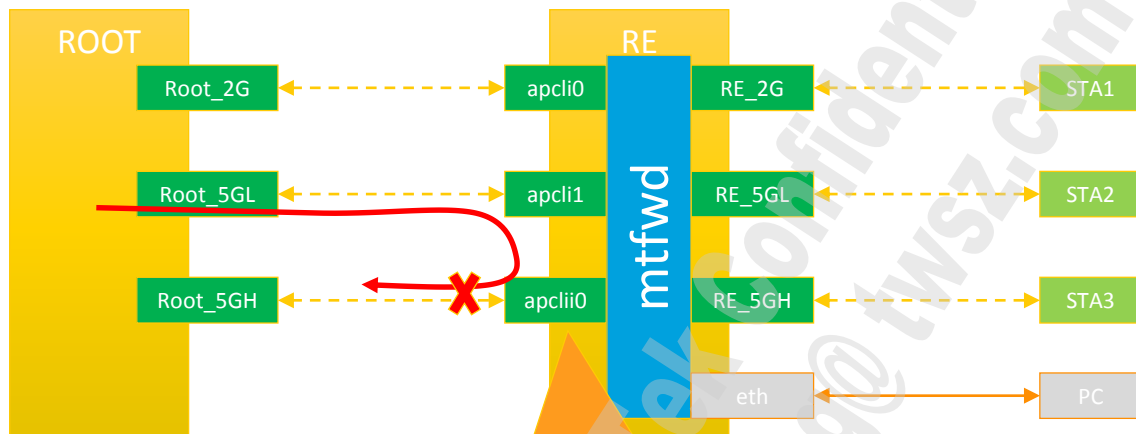


If the received a mc/bc packet with source address in `tx_src_tbl`, it will be dropped.

## tx\_src\_tbl

Interface name	mac
apcli0	
apcli1	
apcli0	
Sta1	
Sta2	
Sta3	

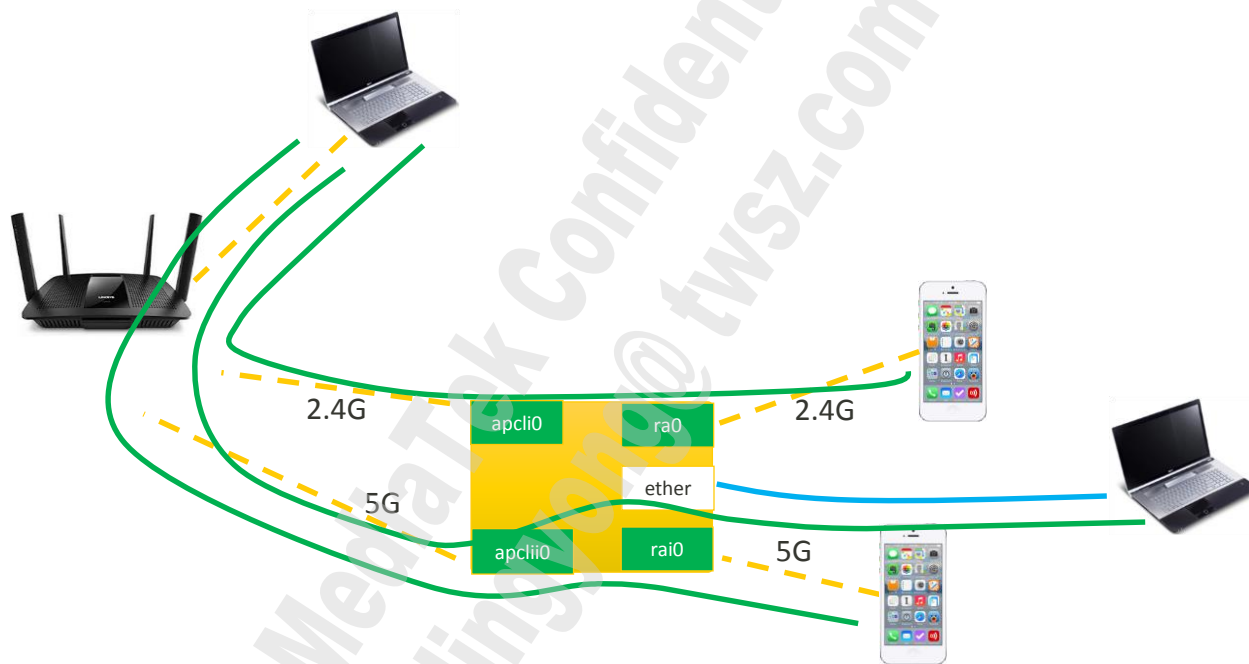
# Loop avoidance in kernel module



If the received a mc/bc packet on apcli interface and send on another cli interface , it will be dropped.

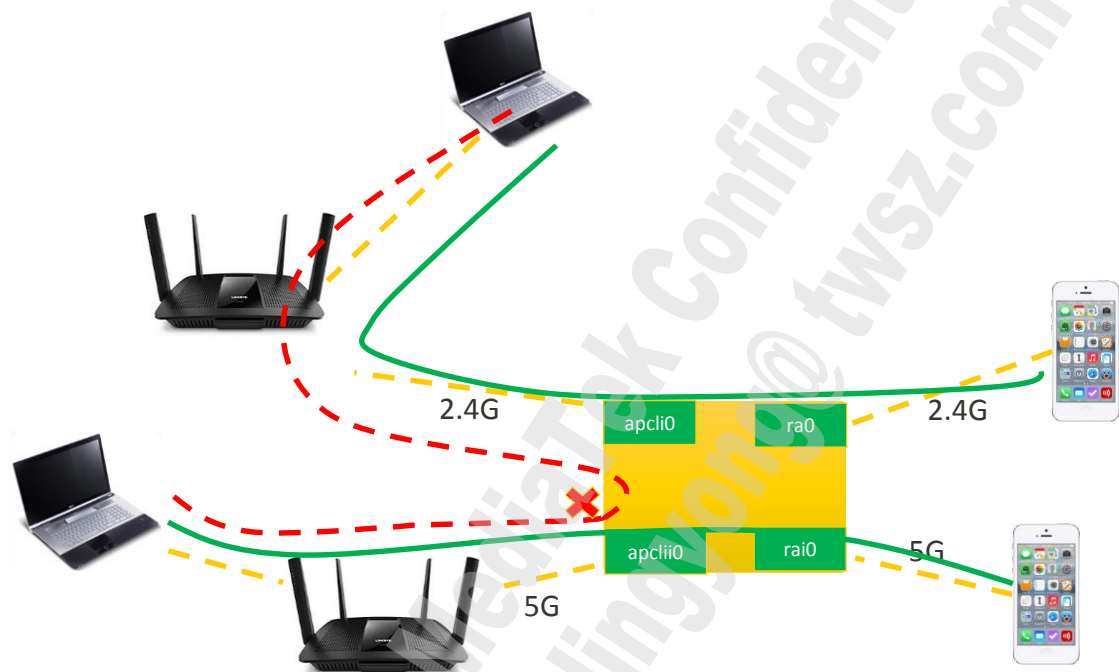
# Support Topology

# Support Topology1



— Traffic path      - - - wifi connection

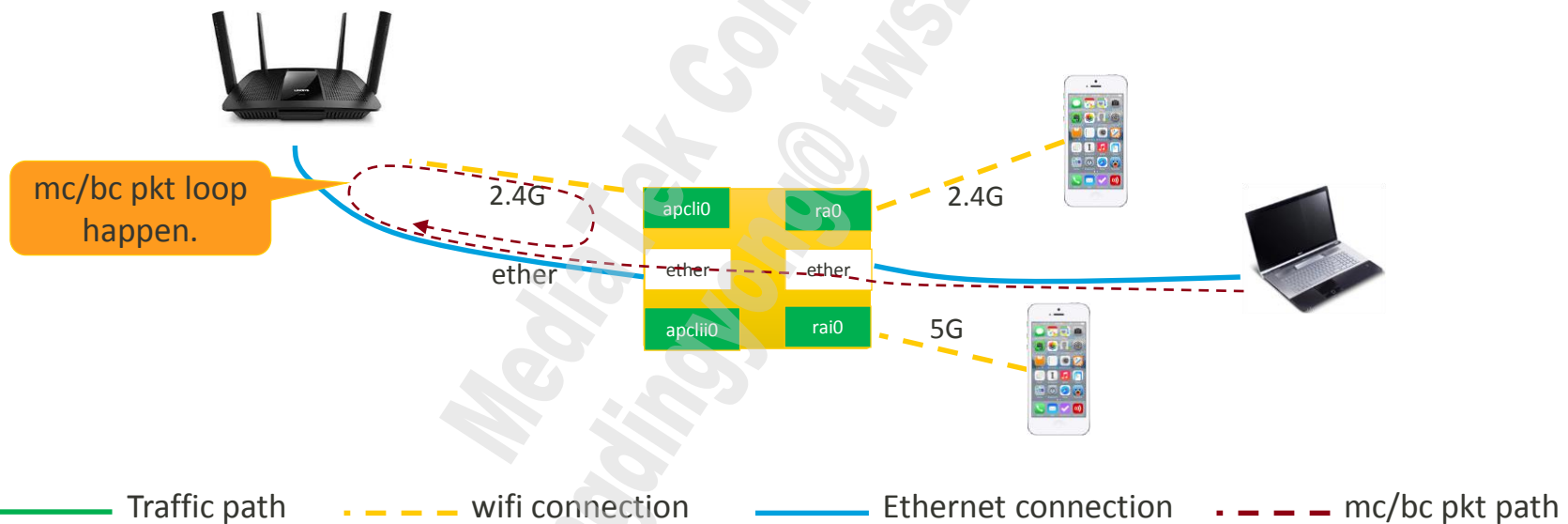
# Support Topology2



— Traffic path    - - - wifi connection    - - - Not allow traffic path



# current not support Topology3 - ethernet backhaul.



# How to use fwdd/mtfwd

# How to Enable MTFWD

- fwdd/mtfwd source code
  - wlan\_daemon/fwdd
  - wlan\_daemon/mtfwd
- Build fwdd/mtfwd to image.
  - make menuconfig

```
< > flash..... flash r/w tool
< * > fwdd..... Forward daemon
< * > gpio..... Command to config gpio (ramips)
```

```
< * > kmod-mt7663..... MT7663 wlan driver
< * > kmod-mtfwd..... MTK forward module
< * > kmod-mtk-gdma..... GDMA Driver
< > kmod-mtk-usb..... MTK USB Driver
```

# Daemon Parameters

- **fwdd** [-d] <debug level> [-e] <ethernet interface> <traffic prefer band>
  - <debug level> is a number between 0~3
  - <ethernet interface> is ethernet interface name, such as: eth0/lan0~lan3
  - <traffic prefer band> ethernet traffic preferred band in DBDC mode, such as 2G/5G
- Example: **fwdd -d1 -e eth0 5G -e lan0 5G -e lan1 5G -e lan2 5G -e lan3 5G&**
- Notes:
  - Ethernet traffic can be configured to 2.4G band or 5G band in DBDC mode.
  - User can list all possible ethernet interface name when launch fwdd.

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