New Forward module

2021/9/30

Shijiang Feng

Version History

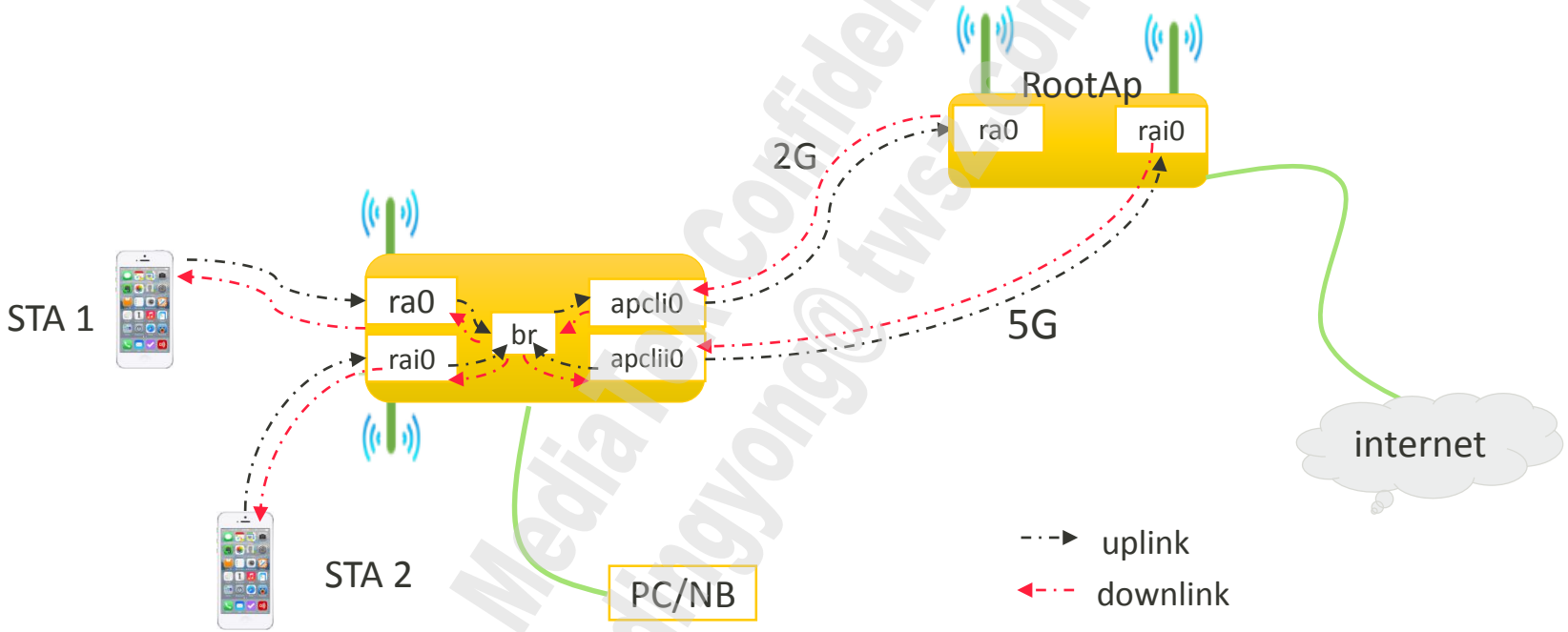
Version	Date	Author (Optional)	Description
0.1	2021-9-23	Shijiang Feng	Initial draft
1.0	2021-9-30	Micheal Su	Official release

Outline

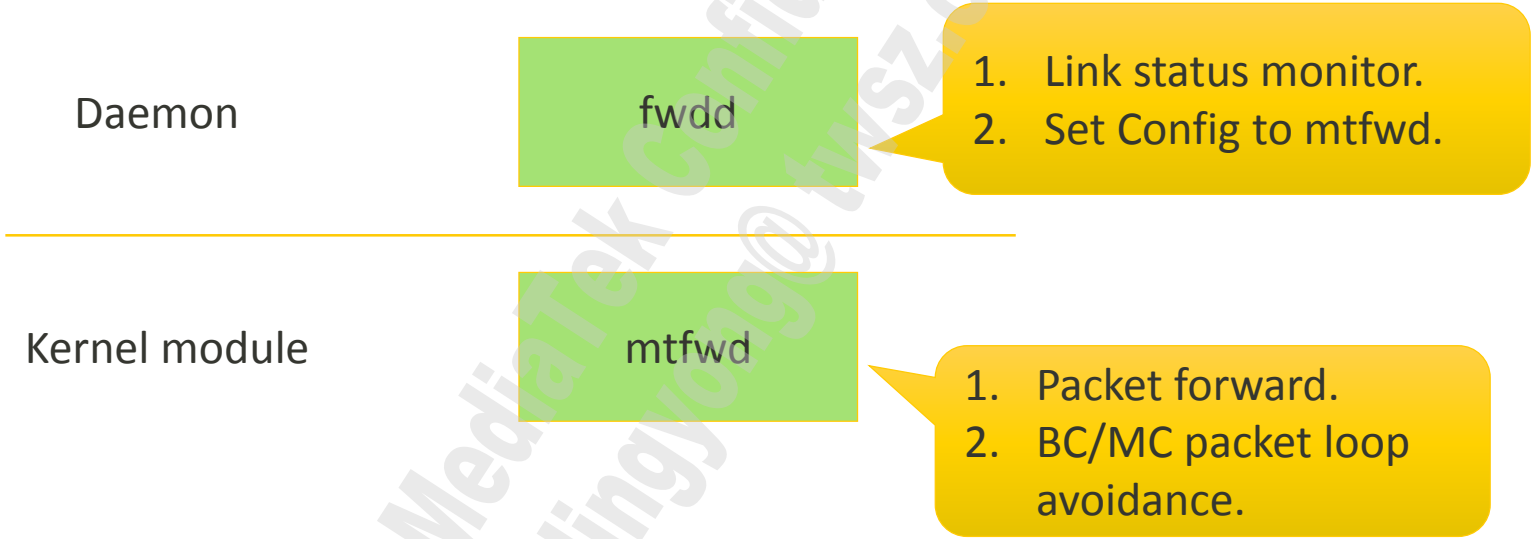
- Feature Description
- Support Topology
- How to use fwdd/mtfwd

Feature Description

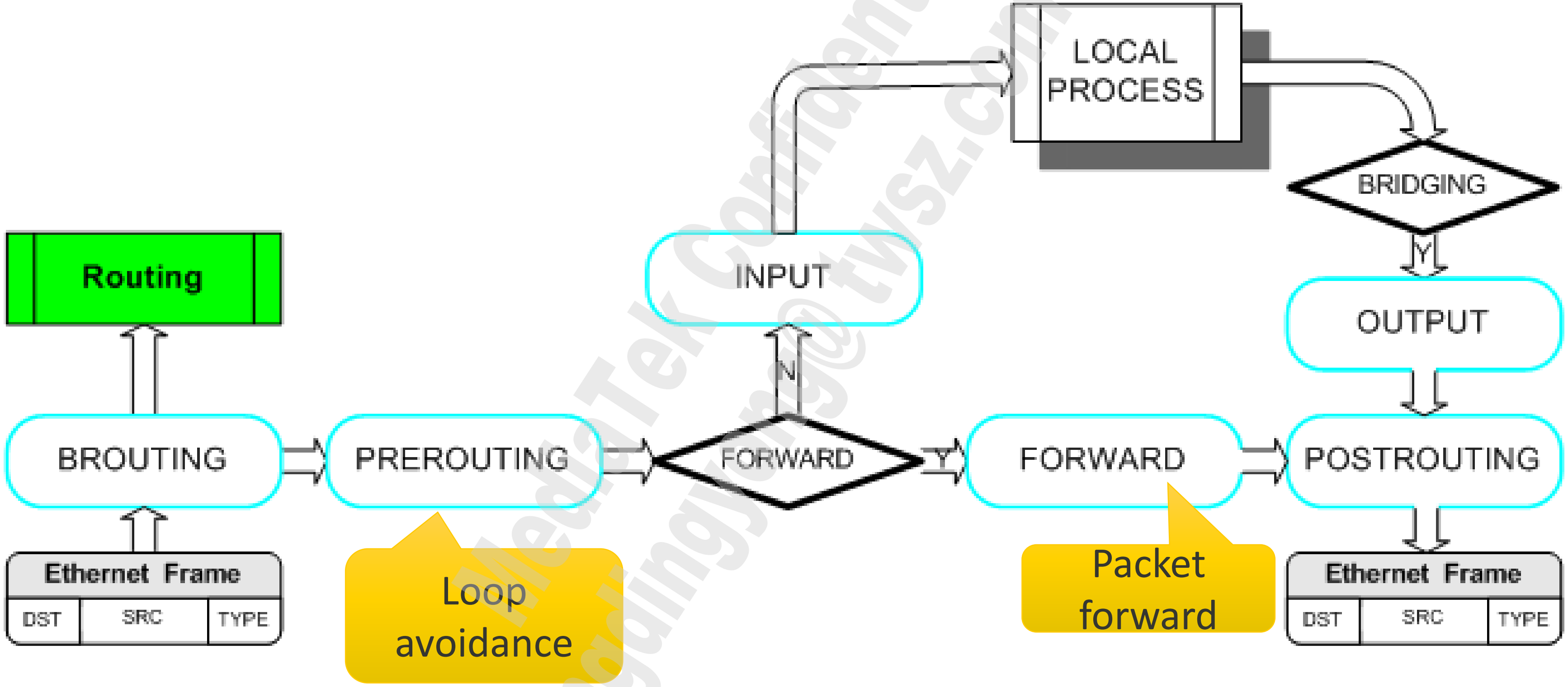
ApCli & MacRepeater Fast Path Selection



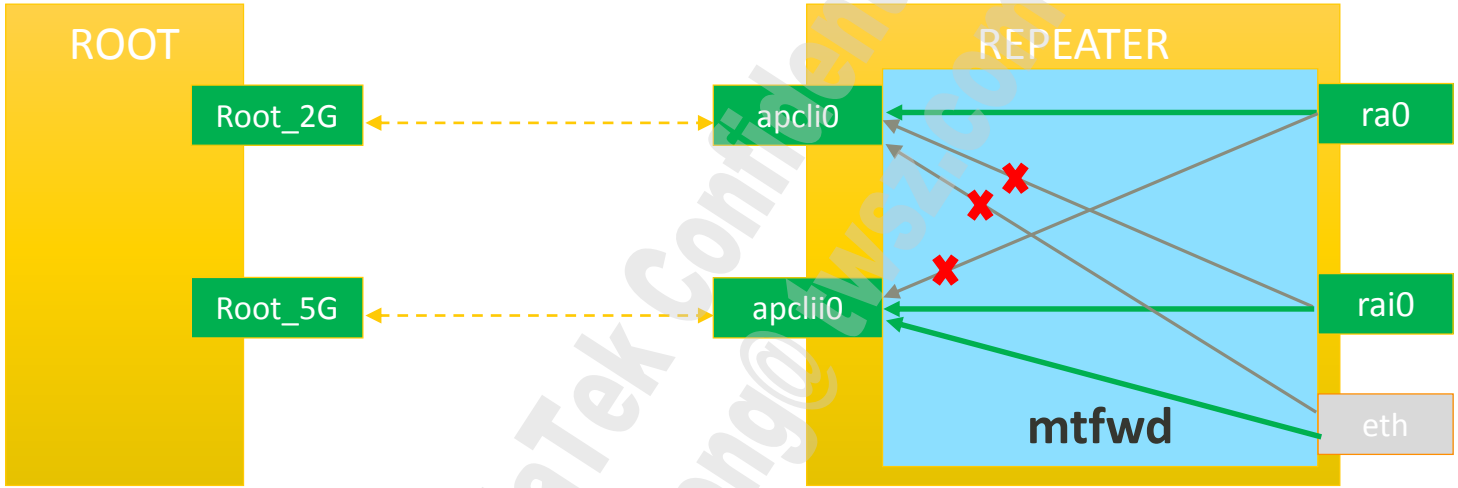
Module Naming



mtfwd was implemented based-on netfilter



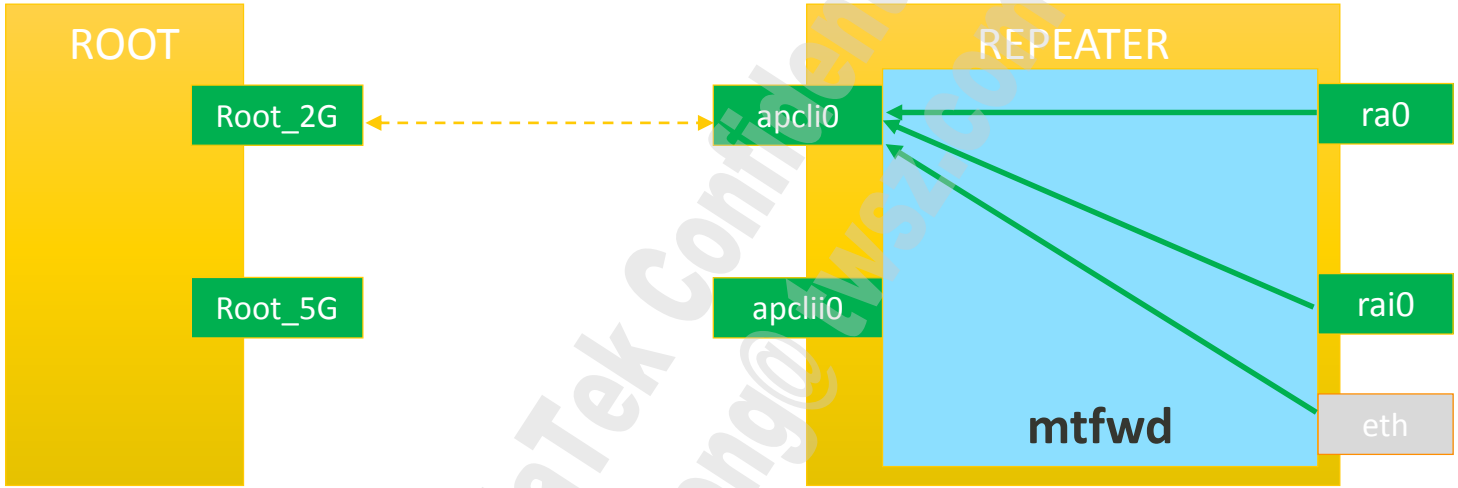
Packet forward
-- 2.4G&5G Backhuals



User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apclii0
eth2	apclii0

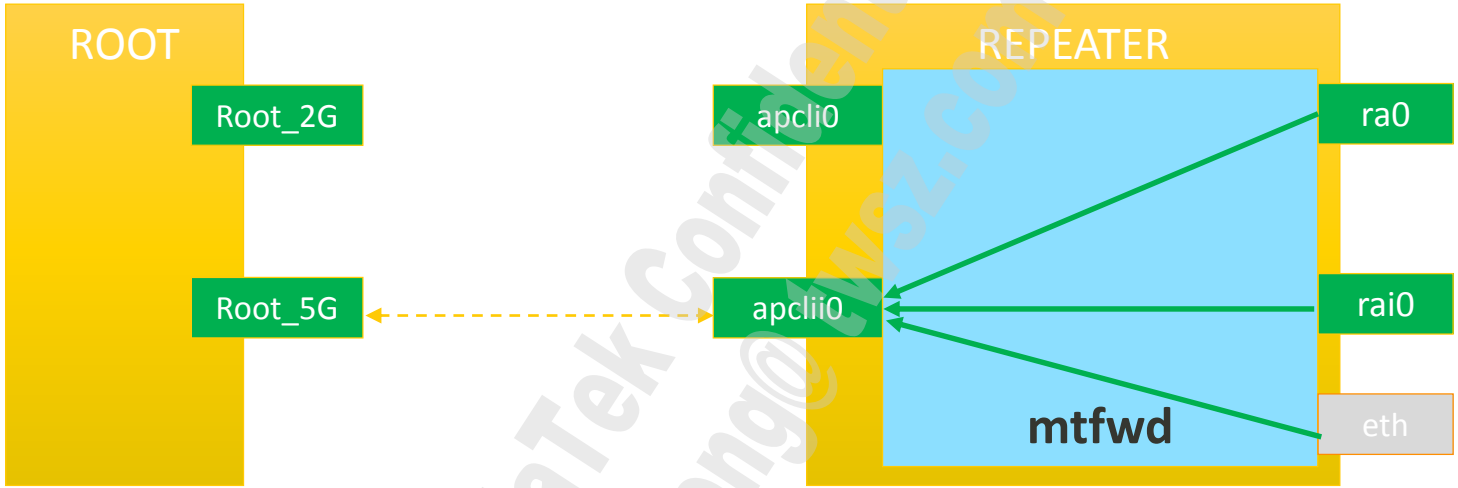
Packet forward
-- 2G Backhual



User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apclii0
eth2	apclii0

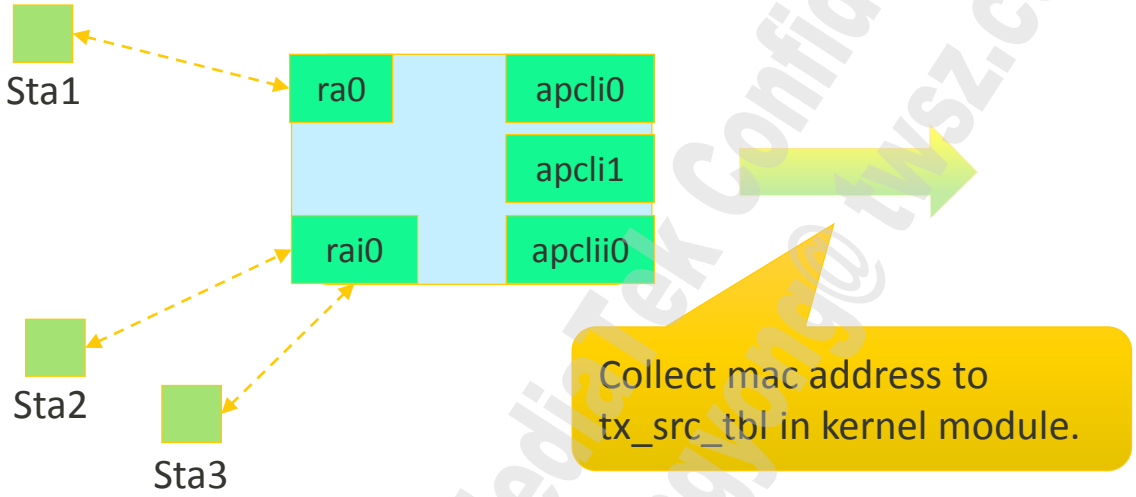
Packet forward
-- 5G Backhual



User Config forward path

Src name	Dest name
ra0	apcli0
rai0	apclii0
eth2	apclii0

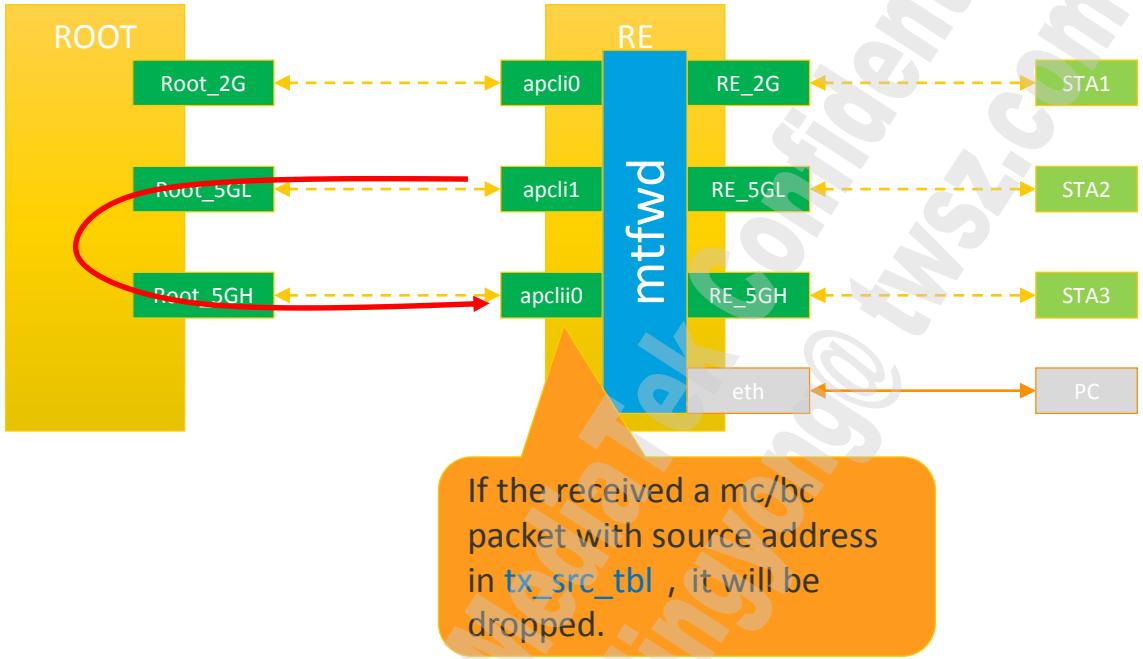
Loop avoidance in kernel module



tx_src_tbl

Interface name	mac
apcli0	
apcli1	
apclii0	
Sta1	
Sta2	
Sta3	

Loop avoidance in kernel module



tx_src_tbl

Interface name	mac
apcli0	
apcli1	
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Sta1	
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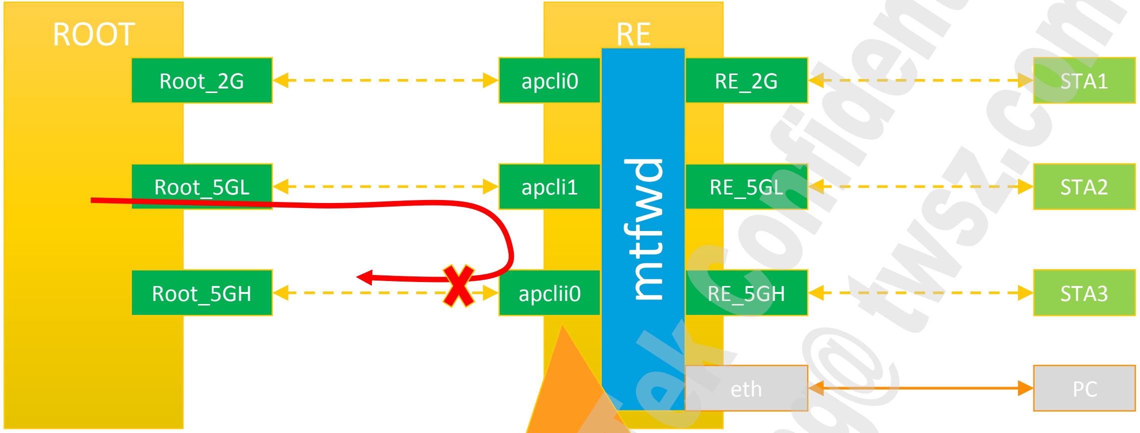
Sta3	

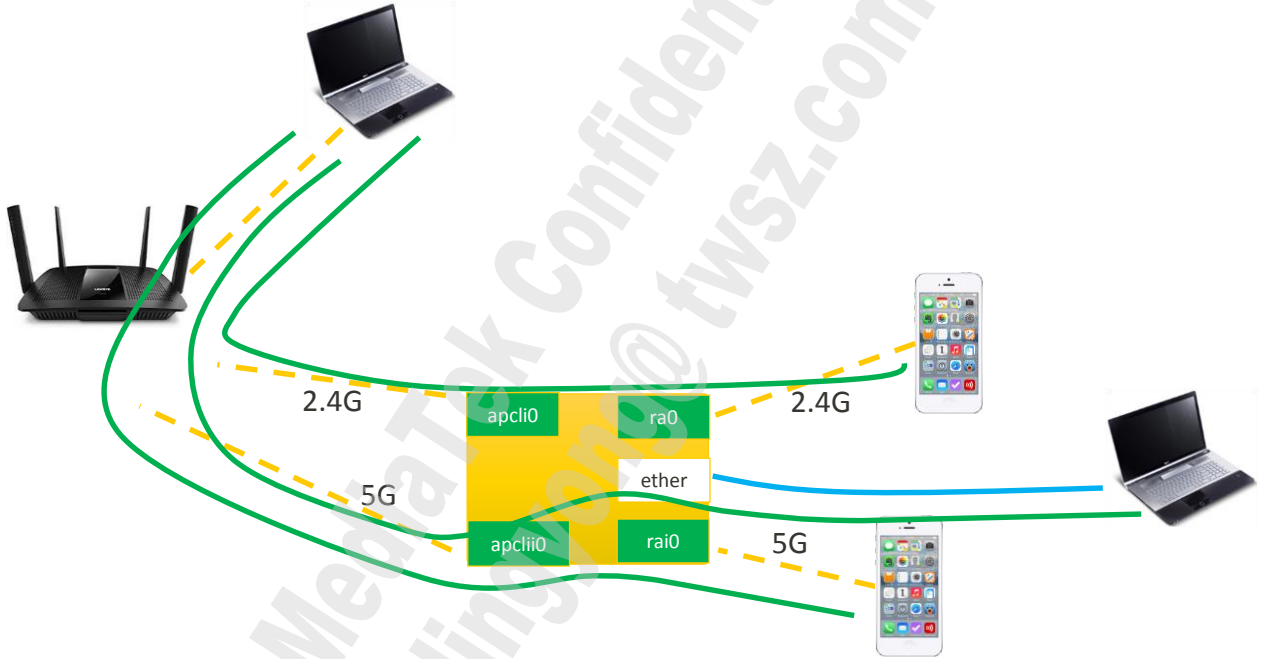
Loop avoidance in kernel module



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

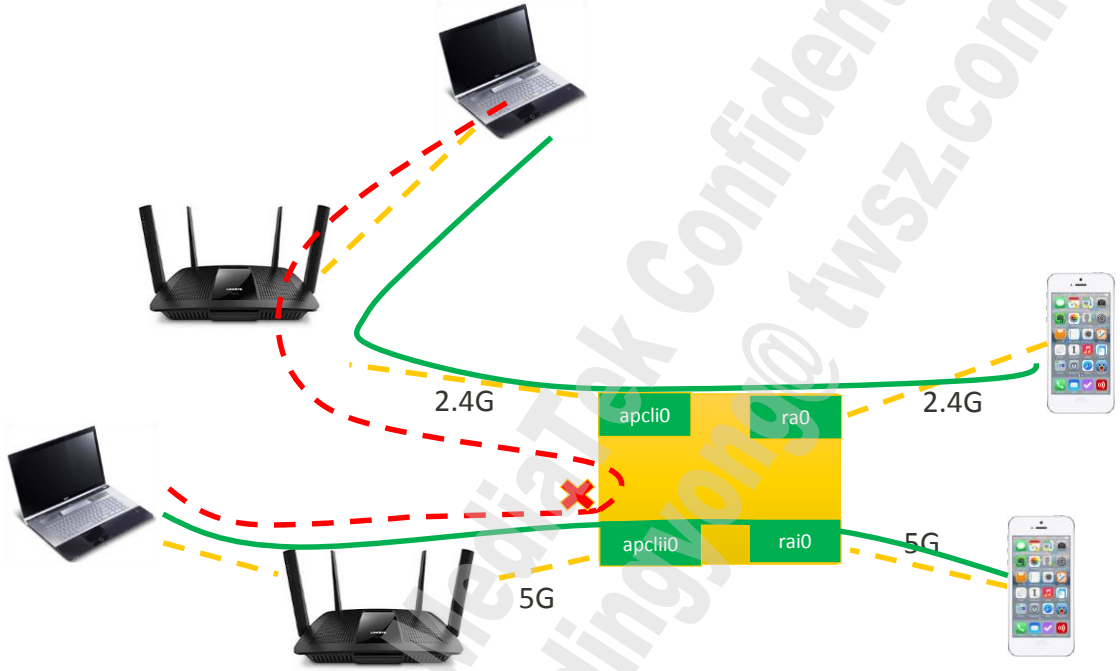
Support Topology

Support Topology1



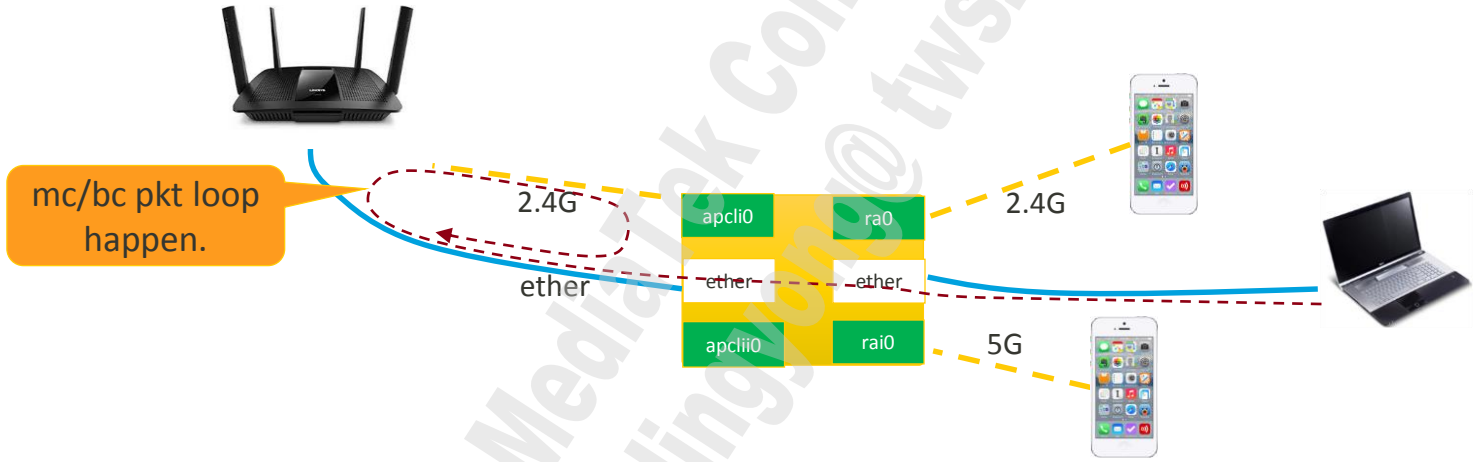
Traffic path wifi connection

Support Topology2



Traffic path wifi connection Not allow traffic path

current not support Topology3 - ethernet backhaul.

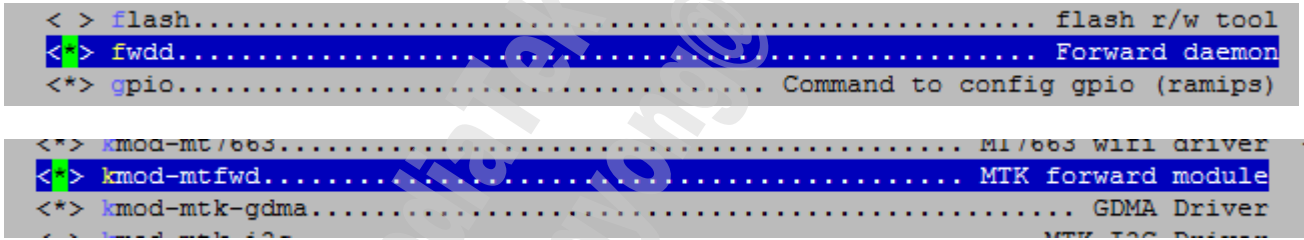


Traffic path wifi connection Ethernet connection mc/bc pkt path

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**



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.