cd

1. Remove and install some software

carl@ubuntu:~$ **sudo apt-get update**

carl@ubuntu:~$ **sudo apt-get remove modemmanager**

carl@ubuntu:~$ **sudo apt-get install vim git busybox dos2unix**

2. get Quectel Linux Drivers Package, and extract it

carl@ubuntu:~$ ls quectel\_linux\_20161116.zip

quectel\_linux\_20161116.zip

carl@ubuntu:~$ unzip -x quectel\_linux\_20161116.zip

carl@ubuntu:~$ cd quectel\_linux/

carl@ubuntu:~/quectel\_linux$ ls

Quectel\_Android\_GPS\_SR01A05V07.tgz

Quectel\_Android\_RIL\_Driver\_User\_Guide\_V1.5.pdf

Quectel\_Android\_RIL\_SR01A40V43.tgz

Quectel\_Linux\_CMUX\_SR01A07V01.tgz

Quectel\_Linux\_ConnectManager\_SR01A01V23.tgz

Quectel\_Linux\_GobiNet\_SR01A02V16.tgz

Quectel\_Linux\_PPP\_Scripts\_SR01A01V01.tgz

Quectel\_Linux\_RIL.zip

Quectel\_Linux\_USB\_Drivers\_Sample\_SR01A01V01.tgz

Quectel\_WCDMA&LTE\_Linux\_USB\_Driver\_User\_Guide\_V1.6.pdf

3. install Quectel Linux USB drivers

carl@ubuntu:~/quectel\_linux$ tar -xf Quectel\_Linux\_USB\_Drivers\_Sample\_SR01A01V01.tgz

carl@ubuntu:~/quectel\_linux$ cd Quectel\_USB\_Drivers\_Sample/

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample$ ls

2.6.14 2.6.24 2.6.28.10 2.6.32.27 3.13.0 3.19.0 3.5.0 4.0.9

3.1 check ubuntu's Linux Kernel Version, for example 3.19.0

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample$ **uname -r**

3.19.0-25-generic

3.2 for my kernel version is 3.19.0, so switch to 3.19.0

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample$ cd 3.19.0/

3.3 run command "git diff" to see the modify descried in Quectel\_WCDMA&LTE\_Linux\_USB\_Driver\_User\_Guide\_V1.6.pdf

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0$ **git diff**

3.3 run command "make install" to install drivers for UC15/UC20/EC20/EC25, including usb-serial-option usb-cd-acm qmi\_wwan

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0$ **sudo make install**

rm -rf \*~ .tmp\_versions modules.order Module.symvers

find . -type f -name \*~ -o -name \*.o -o -name \*.ko -o -name \*.cmd -o -name \*.mod.c | xargs rm -rf

make -C /lib/modules/3.19.0-25-generic/build M=/home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0 modules

make[1]: Entering directory `/usr/src/linux-headers-3.19.0-25-generic'

CC [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/class/cdc-acm.o

CC [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/usb\_wwan.o

CC [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/option.o

CC [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/qcserial.o

CC [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/net/usb/qmi\_wwan.o

Building modules, stage 2.

MODPOST 5 modules

CC /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/net/usb/qmi\_wwan.mod.o

LD [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/net/usb/qmi\_wwan.ko

CC /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/class/cdc-acm.mod.o

LD [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/class/cdc-acm.ko

CC /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/option.mod.o

LD [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/option.ko

CC /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/qcserial.mod.o

LD [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/qcserial.ko

CC /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/usb\_wwan.mod.o

LD [M] /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/./drivers/usb/serial/usb\_wwan.ko

make[1]: Leaving directory `/usr/src/linux-headers-3.19.0-25-generic'

cp /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/drivers/usb/serial/option.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/

cp /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/drivers/usb/serial/usb\_wwan.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/

cp /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/drivers/usb/serial/qcserial.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/

cp /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/drivers/usb/class/cdc-acm.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/class/

cp /home/carl/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0/drivers/net/usb/qmi\_wwan.ko /lib/modules/3.19.0-25-generic/kernel/drivers/net/usb/

modprobe -r option qcserial cdc-acm qmi\_wwan

depmod

4. Now reboot your computer, and insert Quectel Modules

carl@ubuntu:~/quectel\_linux/Quectel\_USB\_Drivers\_Sample/3.19.0$ sudo dmesg

[ 7964.109503] usb 1-2: new high-speed USB device number 5 using ehci-pci

[ 7964.473003] usb 1-2: New USB device found, idVendor=2c7c, idProduct=0125

[ 7964.473009] usb 1-2: New USB device strings: Mfr=1, Product=2, SerialNumber=0

[ 7964.473012] usb 1-2: Product: Android

[ 7964.473014] usb 1-2: Manufacturer: Android

[ 7964.964431] usbcore: registered new interface driver usbserial

[ 7964.964668] usbcore: registered new interface driver usbserial\_generic

[ 7964.964856] usbserial: USB Serial support registered for generic

[ 7964.965017] usb\_wwan: module verification failed: signature and/or required key missing - tainting kernel

[ 7964.969013] usbcore: registered new interface driver option

[ 7964.969080] usbserial: USB Serial support registered for GSM modem (1-port)

[ 7964.969135] option 1-2:1.0: GSM modem (1-port) converter detected

[ 7964.969397] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB0

[ 7964.969461] option 1-2:1.1: GSM modem (1-port) converter detected

[ 7964.969726] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB1

[ 7964.969780] option 1-2:1.2: GSM modem (1-port) converter detected

[ 7964.969943] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB2

[ 7964.970003] option 1-2:1.3: GSM modem (1-port) converter detected

[ 7964.970163] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB3

[ 7964.987915] usbcore: registered new interface driver cdc\_wdm

[ 7964.989197] qmi\_wwan 1-2:1.4: cdc-wdm0: USB WDM device

[ 7964.989199] qmi\_wwan 1-2:1.4: Quectel EC21&EC25 work on RawIP mode

[ 7964.991341] qmi\_wwan 1-2:1.4 wwan0: register 'qmi\_wwan' at usb-0000:02:03.0-2, WWAN/QMI device, 72:0a:3c:b4:8b:dd

[ 7964.991651] usbcore: registered new interface driver qmi\_wwan

5. Test AT Commands

carl@ubuntu:~/quectel\_linux$ **sudo busybox microcom /dev/ttyUSB2**

at

OK

at+cops?

+COPS: 0,0,"CHN-UNICOM",7

OK

ati

Quectel

EC25

Revision: EC25EFAR02A04M4G

OK

at+cgreg?

+CGREG: 0,1

OK

+CMTI: "ME",7

5. Test PPP

carl@ubuntu:~/quectel\_linux$ tar -xf Quectel\_Linux\_PPP\_Scripts\_SR01A01V01.tgz

carl@ubuntu:~/quectel\_linux$ cd linux-ppp-scripts/

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ ls

ip-up quectel-chat-disconnect quectel-pppd.sh readme

quectel-chat-connect quectel-ppp quectel-ppp-kill

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ **dos2unix \***

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ sudo cp quectel-chat-connect /etc/ppp/peers/

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ sudo cp quectel-chat-disconnect /etc/ppp/peers/

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ sudo cp quectel-ppp /etc/ppp/peers/

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ **pppd call quectel-ppp &**

pppd options in effect:

debug # (from /etc/ppp/peers/quectel-ppp)

nodetach # (from /etc/ppp/peers/quectel-ppp)

dump # (from /etc/ppp/peers/quectel-ppp)

noauth # (from /etc/ppp/peers/quectel-ppp)

user test # (from /etc/ppp/peers/quectel-ppp)

password ?????? # (from /etc/ppp/peers/quectel-ppp)

remotename 3gppp # (from /etc/ppp/peers/quectel-ppp)

/dev/ttyUSB3 # (from /etc/ppp/peers/quectel-ppp)

......

Could not determine remote IP address: defaulting to 10.64.64.64

local IP address 10.21.95.21

remote IP address 10.64.64.64

primary DNS address 58.242.2.2

secondary DNS address 218.104.78.2

Script /etc/ppp/ip-up started (pid 14501)

Script /etc/ppp/ip-up finished (pid 14501), status = 0x0

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ ifconfig ppp0

ppp0 Link encap:Point-to-Point Protocol

inet addr:10.21.95.21 P-t-P:10.64.64.64 Mask:255.255.255.255

UP POINTOPOINT RUNNING NOARP MULTICAST MTU:1500 Metric:1

RX packets:7 errors:0 dropped:0 overruns:0 frame:0

TX packets:7 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:3

RX bytes:666 (666.0 B) TX bytes:233 (233.0 B)

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ cat /etc/resolv.conf

# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)

# DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN

nameserver 58.242.2.2

nameserver 218.104.78.2

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ route -n

Kernel IP routing table

Destination Gateway Genmask Flags Metric Ref Use Iface

0.0.0.0 0.0.0.0 0.0.0.0 U 0 0 0 ppp0

10.64.64.64 0.0.0.0 255.255.255.255 UH 0 0 0 ppp0

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ ping www.baidu.com

PING www.a.shifen.com (61.135.169.121) 56(84) bytes of data.

64 bytes from 61.135.169.121: icmp\_seq=1 ttl=53 time=50.4 ms

64 bytes from 61.135.169.121: icmp\_seq=2 ttl=53 time=53.2 ms

carl@ubuntu:~/quectel\_linux/linux-ppp-scripts$ sudo killall pppd

Terminating on signal 15

Connect time 0.1 minutes.

Sent 113 bytes, received 370 bytes.

6. Test qmi\_wwan and quectel-CM

carl@ubuntu:~/quectel\_linux$ tar -xf Quectel\_Linux\_ConnectManager\_SR01A01V23.tgz

carl@ubuntu:~/quectel\_linux$ cd quectel-CM/

carl@ubuntu:~/quectel\_linux/quectel-CM$ chmod a+x default.script

carl@ubuntu:~/quectel\_linux/quectel-CM$ dos2unix default.script

carl@ubuntu:~/quectel\_linux/quectel-CM$ sudo mkdir -p /etc/udhcpc

carl@ubuntu:~/quectel\_linux/quectel-CM$ sudo cp default.script /etc/udhcpc/

carl@ubuntu:~/quectel\_linux/quectel-CM$ make

rm -rf quectel-CM \*~

gcc -Wall -s QmiWwanCM.c GobiNetCM.c main.c MPQMUX.c QMIThread.c util.c udhcpc.c -o quectel-CM -lpthread

carl@ubuntu:~/quectel\_linux/quectel-CM$ **sudo ./quectel-CM &**

[1] 14884

carl@ubuntu:~/quectel\_linux/quectel-CM$

[12-07\_21:58:05:085] Quectel\_Linux\_ConnectManager\_SR01A01V23

[12-07\_21:58:05:090] ./quectel-CM profile[1] = (null)/(null)/(null)/0, pincode = (null)

[12-07\_21:58:05:090] Find qmichannel = /dev/cdc-wdm0

[12-07\_21:58:05:090] Find usbnet\_adapter = wwan0

[12-07\_21:58:05:099] cdc\_wdm\_fd = 7

[12-07\_21:58:05:138] Get clientWDS = 19

[12-07\_21:58:05:150] Get clientDMS = 1

[12-07\_21:58:05:162] Get clientNAS = 3

[12-07\_21:58:05:176] Get clientUIM = 1

[12-07\_21:58:05:185] Get clientWDA = 1

[12-07\_21:58:05:195] requestBaseBandVersion EC25EFAR02A04M4G 1 [Nov 10 2016 17:00:00]

[12-07\_21:58:05:220] requestGetSIMStatus SIMStatus: SIM\_READY

[12-07\_21:58:05:232] requestGetProfile[1] 3gnet///0

[12-07\_21:58:05:242] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE

[12-07\_21:58:05:250] requestQueryDataCall ConnectionStatus: DISCONNECTED

[12-07\_21:58:05:266] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE

[12-07\_21:58:05:294] requestSetupDataCall WdsConnectionIPv4Handle: 0x8798d620

[12-07\_21:58:05:305] requestQueryDataCall ConnectionStatus: CONNECTED

[12-07\_21:58:05:319] Fail to access /usr/share/udhcpc/default.script, errno: 2 (No such file or directory)

[12-07\_21:58:05:321] udhcpc (v1.21.1) started

[12-07\_21:58:05:323] Sending discover...

[12-07\_21:58:05:331] Sending select for 10.21.95.21...

[12-07\_21:58:05:337] Lease of 10.21.95.21 obtained, lease time 7200

[12-07\_21:58:05:342] /etc/udhcpc/default.script: Resetting default routes

SIOCDELRT: No such process

[12-07\_21:58:05:344] /etc/udhcpc/default.script: Adding DNS 58.242.2.2

[12-07\_21:58:05:345] /etc/udhcpc/default.script: Adding DNS 218.104.78.2

carl@ubuntu:~/quectel\_linux/quectel-CM$ ifconfig wwan0

wwan0 Link encap:Ethernet HWaddr 72:0a:3c:b4:8b:dd

inet addr:10.21.95.21 Bcast:10.21.95.23 Mask:255.255.255.252

inet6 addr: fe80::700a:3cff:feb4:8bdd/64 Scope:Link

UP BROADCAST RUNNING NOARP MULTICAST MTU:1500 Metric:1

RX packets:4 errors:0 dropped:0 overruns:0 frame:0

TX packets:38 errors:0 dropped:0 overruns:0 carrier:0

collisions:0 txqueuelen:1000

RX bytes:979 (979.0 B) TX bytes:5996 (5.9 KB)

carl@ubuntu:~/quectel\_linux/quectel-CM$ cat /etc/resolv.conf

nameserver 58.242.2.2

nameserver 218.104.78.2

carl@ubuntu:~/quectel\_linux/quectel-CM$ route -n

Kernel IP routing table

Destination Gateway Genmask Flags Metric Ref Use Iface

0.0.0.0 10.21.95.22 0.0.0.0 UG 0 0 0 wwan0

10.21.95.20 0.0.0.0 255.255.255.252 U 0 0 0 wwan0

carl@ubuntu:~/quectel\_linux/quectel-CM$ ping www.baidu.com

PING www.a.shifen.com (61.135.169.121) 56(84) bytes of data.

64 bytes from 61.135.169.121: icmp\_seq=1 ttl=53 time=48.4 ms

64 bytes from 61.135.169.121: icmp\_seq=2 ttl=53 time=51.0 ms

^C

--- www.a.shifen.com ping statistics ---

2 packets transmitted, 2 received, 0% packet loss, time 1001ms

rtt min/avg/max/mdev = 48.497/49.763/51.029/1.266 ms

carl@ubuntu:~/quectel\_linux/quectel-CM$ **sudo killall quectel-CM**

[12-07\_21:58:38:375] requestDeactivateDefaultPDP err = 0

[12-07\_21:58:38:442] QmiWwanThread exit

[12-07\_21:58:38:443] main exit

7. Test GobiNet and quectel-CM

carl@ubuntu:~/quectel\_linux$ tar -xf Quectel\_Linux\_GobiNet\_SR01A02V16.tgz

carl@ubuntu:~/quectel\_linux$ cd GobiNet/

carl@ubuntu:~/quectel\_linux/GobiNet$ sudo make install

ln -sf makefile Makefile

make ARCH=x86\_64 CROSS\_COMPILE= -C /lib/modules/3.19.0-25-generic/build M=/home/carl/quectel\_linux/GobiNet modules

make[1]: Entering directory `/usr/src/linux-headers-3.19.0-25-generic'

CC [M] /home/carl/quectel\_linux/GobiNet/GobiUSBNet.o

CC [M] /home/carl/quectel\_linux/GobiNet/QMIDevice.o

CC [M] /home/carl/quectel\_linux/GobiNet/QMI.o

LD [M] /home/carl/quectel\_linux/GobiNet/GobiNet.o

Building modules, stage 2.

MODPOST 1 modules

CC /home/carl/quectel\_linux/GobiNet/GobiNet.mod.o

LD [M] /home/carl/quectel\_linux/GobiNet/GobiNet.ko

make[1]: Leaving directory `/usr/src/linux-headers-3.19.0-25-generic'

mkdir -p /lib/modules/`uname -r`/kernel/drivers/net/usb/

cp -f GobiNet.ko /lib/modules/`uname -r`/kernel/drivers/net/usb/

depmod

modprobe -r GobiNet

modprobe GobiNet

carl@ubuntu:~/quectel\_linux/GobiNet$ **sudo modprobe -r qmi\_wwan GobiNet**

carl@ubuntu:~/quectel\_linux/GobiNet$ **sudo modprobe -a GobiNet**

carl@ubuntu:~/quectel\_linux/GobiNet$ sudo dmesg -c

[ 8806.862480] usbcore: deregistering interface driver qmi\_wwan

[ 8806.862525] qmi\_wwan 1-2:1.4 wwan0: unregister 'qmi\_wwan' usb-0000:02:03.0-2, WWAN/QMI device

[ 8806.889236] usbcore: deregistering interface driver cdc\_wdm

[ 8811.077980] usbcore: deregistering interface driver GobiNet

[ 8816.321967] GobiNet: Quectel\_Linux\_GobiNet\_SR01A02V16

[ 8816.337375] GobiNet 1-2:1.4 eth1: register 'GobiNet' at usb-0000:02:03.0-2, GobiNet Ethernet Device, 8a:91:bf:c2:a1:46

[ 8816.342153] creating qcqmi1

[ 8816.344985] usbcore: registered new interface driver GobiNet

carl@ubuntu:~/quectel\_linux/quectel-CM$ **sudo ./quectel-CM &**

[1] 15324

carl@ubuntu:~/quectel\_linux/quectel-CM$ [12-07\_22:02:50:987] Quectel\_Linux\_ConnectManager\_SR01A01V23

[12-07\_22:02:50:992] ./quectel-CM profile[1] = (null)/(null)/(null)/0, pincode = (null)

[12-07\_22:02:50:992] Find qmichannel = /dev/qcqmi1

[12-07\_22:02:50:993] Find usbnet\_adapter = eth1

[12-07\_22:02:51:020] Get clientWDS = 7

[12-07\_22:02:51:028] Get clientDMS = 8

[12-07\_22:02:51:038] Get clientNAS = 9

[12-07\_22:02:51:048] Get clientUIM = 10

[12-07\_22:02:51:060] Get clientWDA = 11

[12-07\_22:02:51:070] requestBaseBandVersion EC25EFAR02A04M4G 1 [Nov 10 2016 17:00:00]

[12-07\_22:02:51:092] requestGetSIMStatus SIMStatus: SIM\_READY

[12-07\_22:02:51:107] requestGetProfile[1] 3gnet///0

[12-07\_22:02:51:116] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE

[12-07\_22:02:51:124] requestQueryDataCall ConnectionStatus: DISCONNECTED

[12-07\_22:02:51:143] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE

[12-07\_22:02:51:172] requestSetupDataCall WdsConnectionIPv4Handle: 0x8798d620

[12-07\_22:02:51:196] requestQueryDataCall ConnectionStatus: CONNECTED

[12-07\_22:02:51:211] Fail to access /usr/share/udhcpc/default.script, errno: 2 (No such file or directory)

[12-07\_22:02:51:233] udhcpc (v1.21.1) started

[12-07\_22:02:51:237] Sending discover...

[12-07\_22:02:51:244] Sending select for 10.21.95.21...

[12-07\_22:02:51:247] Lease of 10.21.95.21 obtained, lease time 7200

[12-07\_22:02:51:251] /etc/udhcpc/default.script: Resetting default routes

SIOCDELRT: No such process

[12-07\_22:02:51:254] /etc/udhcpc/default.script: Adding DNS 58.242.2.2

[12-07\_22:02:51:254] /etc/udhcpc/default.script: Adding DNS 218.104.78.2