移远EC200T 4G模组的使用

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环境搭建

1. 准备移远官方文档以及内核相应改动代码代码
2. sstar 开发包

修改kernel

将移远的kernel相应改动加到相应目录，需要区分对应内核版本，对应改动可以查看附录。

三种联网方式

EC200T支持ppp拨号,ecm以及rndis三种联网方式。

一、PPP拨号

1. 下载开源工具：PPP

   ```
   wget https://download.samba.org/pub/ppp/ppp-2.4.8.tar.gz
   ```

2. 解压并编译

   ```
   1. tar -xvf ppp-2.4.8.tar.gz

   2. pppdopenssllibcrpto
       pppd/Makefile.linux  #USE_CRYPT=y  USE_CRYPT=y

   3.
      pppd/Makefile.linux, COPTS = -O2 -pipe -Wall -g  --> COPTS = -O2 -pipe -Wall -g --static

   ./configure

   make CC=arm-linux-gnueabihf-gcc
   ```

3. 将生成的程序拷贝到rootfs的对应目录

   ```
   cp ppp-2.4.8/chat/chat  $(ROOTFS)/usr/sbin
   cp ppp-2.4.8/pppd/pppd  $(ROOTFS)/usr/sbin
   cp ppp-2.4.8/pppddump/pppddumo $(ROOTFS)/usr/sbin
   cp ppp-2.4.8/pppstats/pppstats $(ROOTFS)/usr/sbin
   ```

4. 创建配置文件

   ```
   mkdir $(ROOTFS)/etc/ppp/ $(ROOTFS)/etc/ppp/peers

   cp ppp-2.4.8/etc.ppp/pap-secrets $(ROOTFS)/etc/ppp
   cp ppp-2.4.8/etc.ppp/chap-secrets $(ROOTFS)/etc/ppp

   touch $(ROOTFS)/etc/ppp/peers/gprs
   touch $(ROOTFS)/etc/ppp/gprs-connect-chat
   touch $(ROOTFS)/etc/ppp/ip-up
   touch $(ROOTFS)/etc/ppp/ip-down
   ```

   /etc/ppp/peers/gprs文件

```
# /etc/ppp/peers/gprs
# Usage: root>pppd call gprs
# Interface should be used is the interface which connects physics interface of SIM7100C Module

# ttyname ”/“”/dev/“
/dev/ttyUSB1

# speed
115200

#
crtscts

#
modem

#
noauth

# chap
refuse-chap

# mschap
refuse-mschap

# mschap-v2
refuse-mschap-v2

#  pppd
debug

#
nodetach
#hide-password

# ISP2dnsDNS1DNS2/etc/ppp/ip-upUSEPEERDNS1
usepeerdns

# ipISP
noipdefault

# ISP
defaultroute

#
user "cmnet"

0.0.0.0:0.0.0.0

#ipcp-accept-local
#ipcp-accept-remote

# ppp
# lcp
lcp-echo-failure 6

# lcp echo
lcp-echo-interval 10

# ccp
#noccp

# Van  Jacobsontcp/ip
#novj

#novjccomp

# maxfail
persist

# 0
#maxfail

# ppp
connect '/usr/sbin/chat -s -v -f /etc/ppp/gprs-connect-chat'
```

/etc/ppp/gprs-connect-chat

```
#
TIMEOUT 15

# “DELAYED”“BUSY”“ERROR”“NO DIALTONE”“NO CARRIER”
ABORT "DELAYED"
ABORT "BUSY"
ABORT "ERROR"
ABORT "NO DIALTONE"
ABORT "NO CARRIER"

# AT
'' AT

# AT
OK ATS0=0
OK ATE0V1

# APN
OK AT+CGDCONT=1,"IP","CMNET"
# GPRS
OK ATD*99***1#

#CONNECT
CONNECT ''
```

/etc/ppp/ip-up文件

```
#!/bin/sh
#ip-up
dns_file="/etc/resolv.conf"

if [ -f $dns_file ];then
    rm "$dns_file"
fi
ln /etc/ppp/resolv.conf "$dns_file"
```

/etc/ppp/ip-down文件

```
#!/bin/sh
#ip-down
#set -vx
dns_file="/etc/resolv.conf"

rm $dns_file

cat > "$dns_file" <<EOF
# auto create by ip-down
nameserver 114.114.114.114
nameserver 8.8.8.8
EOF

chmod 755 "$dns_file"

/etc/init.d/networking restart

echo "Set dns for eth0"
```

5. 内核配置 开启usb串口驱动

```
CONFIG_USB_SERIAL
CONFIG_USB_SERIAL_OPTION

Device Drivers -->
   USB support  -->
      USB Serial Converter support  -->
        USB driver for GSM and CDMA modems -->
```

开启PPP驱动

```
CONFIG_PPP

Device Drivers  -->
   Network device support -->
      PPP (point-to-point protocol) support
```

6. PPP 拨号

```
1. EC200TP2
2. EC200T PWRKEY, P2 /dev/ttyUSB0  ttyUSB1  ttyUSB2
3.  pppd call gprs
 ping www.baidu.com
```

二、ECM/RNDIS

1. 内核配置
   开启usb串口驱动

```
CONFIG_USB_SERIAL
CONFIG_USB_SERIAL_OPTION

Device Drivers -->
   USB support  -->
      USB Serial Converter support-->
                        USB driver for GSM and CDMA modems -->
```

   开启ECM/RNDIS驱动

```
1. CONFIG_USB_NET_DRIVERS
Device Drivers -->
   Network device support -->
      USB Network Adapters -->

2. CONFIG_USB_USBNET
Device Drivers -->
   Network device support -->
      USB Network Adapters -->
         Multi-purpose USB Networking Framework -->

3. CONFIG_USB_NET_RNDIS_HOST
Device Drivers -->
   Network device support -->
      USB Network Adapters -->
         Multi-purpose USB Networking Framework -->
            Host for RNDIS and ActiveSync devices -->
```

2. EC200T模式配置 AT Command 具体含义参考:附录

```
1.  AT+QICSGP  APN///APN
2.  2G/3G ,  AT+QIACT=1  PDP
3:  AT+QNETDEVCTL=1,1,1
4: dhcpdnsip
```

   模式配置用例:

```
## microcom /dev/ttyUSB1
AT+QCFG="usbnet",1
OK
at+cpin?
+CPIN: READY
OK
at+csq
+CSQ: 31,99
OK
at+qicsgp=1,1,"cmnet"
OK
at+cops?
+COPS: 0,0,"CHINA MOBILE",7
OK
at+qnetdevctl=1,1,1
OK
```

   dns与ip配置命令

```
udhcpc -i usb0 -s /etc/init.d/udhcpc.script
```

附录

1. Quectel_EC200T_Linux_USB_Driver_User_Guide_V1.0.pdf
2. Quectel_Linux_USB_Serial_Option_Driver_V1.0.zip
3. Quectel_EC200T-CN_AT_Commands_Manual_V1.0.pdf