

The MediaTek logo consists of the word "MEDIATEK" in white, uppercase, sans-serif font, centered within an orange parallelogram shape.

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Mobile DataService Traning

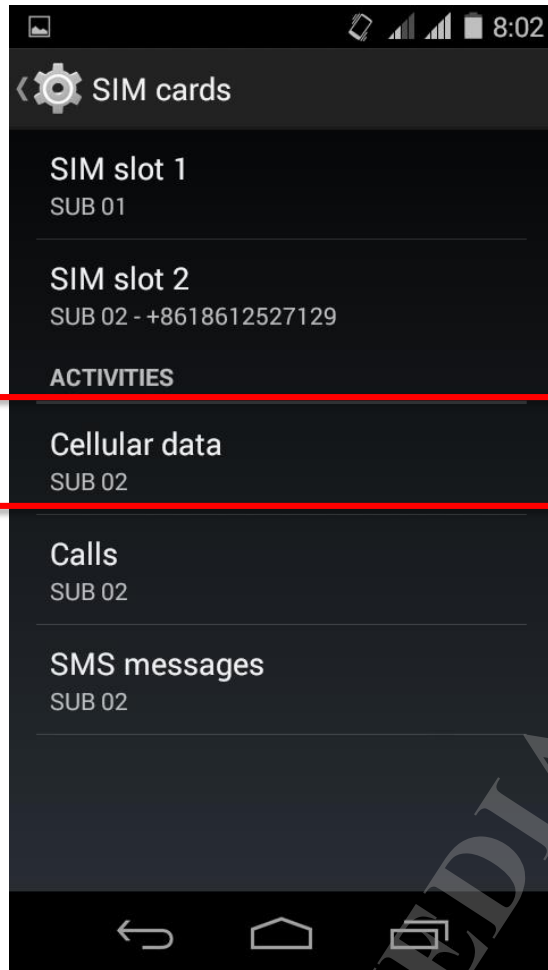
Outline

- Basic Knowledge
- Key Logs
- Main analysis steps
- Common issue example

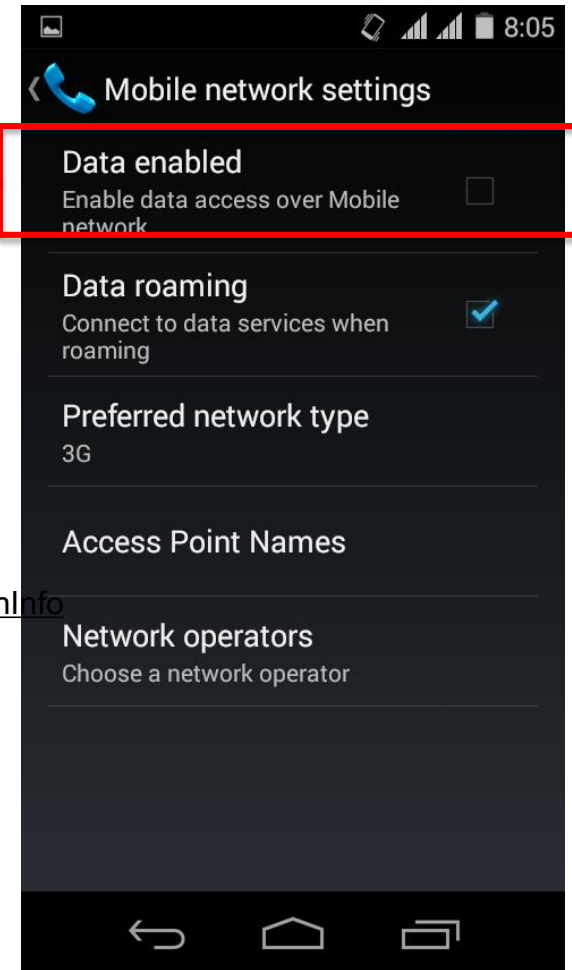
Outline

- Basic Knowledge
 - Data Settings
 - Enable/Disable Mobile data
Request/Release Mobile network
- Key Logs
- Main analysis steps
- Common issue example

Mobile Data Settings

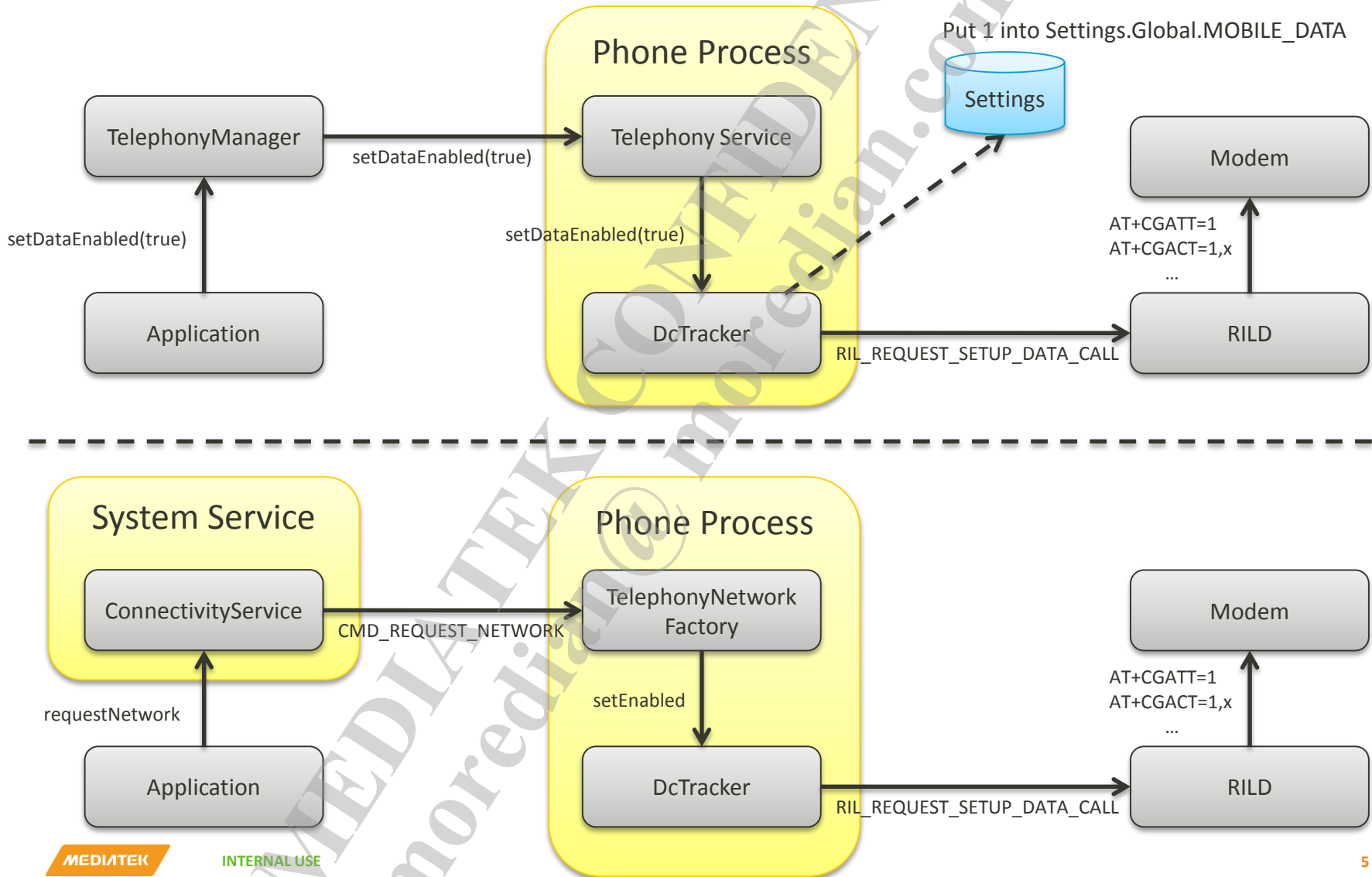


Settings.Global.MOBILE_DATA
TelephonyManager.getDataEnabled()

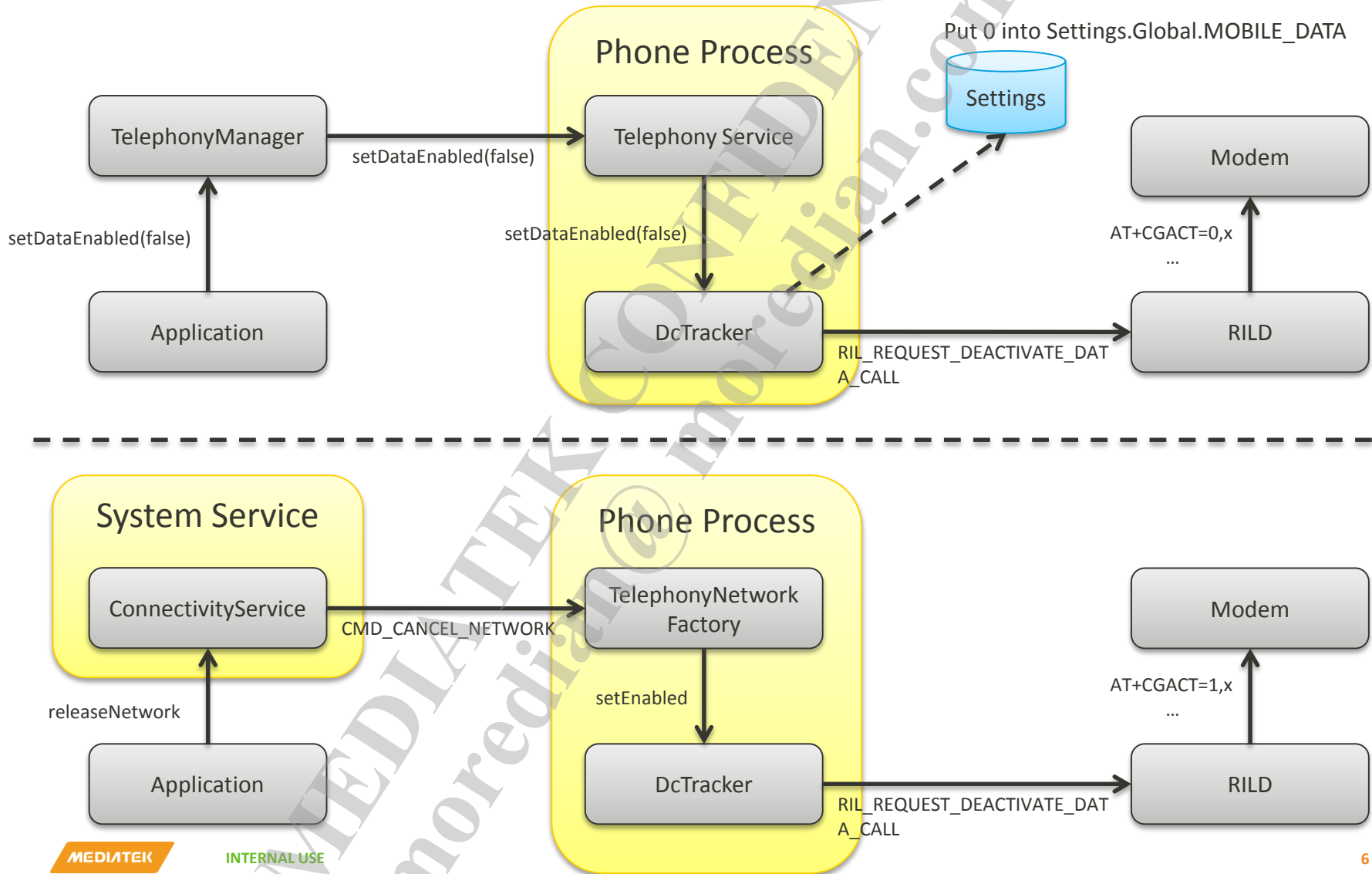


SubscriptionManager.getDefaultDataSubscriptionInfo

Setup Data Connection



Deactivate Data Connection



Outline

- Basic Knowledge
- Key Logs
 - Enable mobile data
 - Disable mobile data
 - Request network
 - Release network
- Main analysis steps
- Common issue example

Enable mobile data(1/3)

- //通过setting将数据连接开关打开
03-07 17:22:13.695292 2197 2197 D TelephonyManager: setDataEnabled true by com.android.settings
03-07 17:22:13.700095 1837 2089 D DCT : [1]setDataEnabled: sendMessage: enable=true
03-07 17:22:13.700729 1837 1837 D DCT : [1]CMD_SET_USER_DATA_ENABLE enabled=true
- //通知DcTracker去建立PDN
03-07 17:22:13.745856 1837 1837 D DCT : [1]onTrySetupData: reason=dataEnabled
03-07 17:22:13.745948 1837 1837 D DCT : [1]setupDataOnConnectableApns: dataEnabled
03-07 17:22:13.747772 1837 1837 D DCT : [1]setupDataOnConnectableApns: isConnected() call trySetupData
03-07 17:22:13.747942 1837 1837 D DCT : [1]trySetupData for type:default due to dataEnabled
apnContext={mApnType=default mState=IDLE mWaitingApns={null}
- //寻找符合条件的APN
03-07 17:22:13.776667 1837 1837 D DCT : [1]buildWaitingApns: usePreferred=true
canSetPreferApn=true mPreferredApn=[ApnSettingV3] CMNET, 1204, 46000, cmnet, , , , , -1, default |
supl | net | xcap | rcs, IPV4V6, IPV4V6, true, 0, 0, 0, false, 0, 0, 0, 0,
03-07 17:22:13.777953 1837 1837 D DCT : [1]trySetupData: call setupData, waitingApns :
[[ApnSettingV3] CMNET, 1204, 46000, cmnet, , , , , -1, default | supl | net | xcap | rcs, IPV4V6, IPV4V6,
true, 0, 0, 0, false, 0, 0, 0, 0, ,]
- //发请求给ril
03-07 17:22:14.023617 1837 2218 D RILJ : [3956]> SETUP_DATA_CALL 16 0 cmnet 0 IPV4V6 1 [SUB1]

Enable mobile data(2/3)

- //4G情况下, 会去找default那路PDN,默认那路PDN跟要建的这路相同
03-07 17:22:14.090752 910 927 D AT : AT> AT+CGCONTRDP
03-07 17:22:14.095272 910 943 D AT : AT< +CGCONTRDP:
0,5,"cmnet.mnc000.mcc460.gprs","", "", "221.179.38.7", "120.196.165.7", "", "", 0
03-07 17:22:14.147598 910 927 D RIL : queryMatchedPdnWithSameApn result [2, cmnet]
- //直接获取ip地址
03-07 17:22:14.147690 910 927 D AT : AT> AT+CGPADDR=0
03-07 17:22:14.153378 910 943 D AT : AT< +CGPADDR: 0, "10.7.38.5"
- //绑定端口
03-07 17:22:14.166369 910 927 D AT : AT> AT+CGDATA="M-CCMNI",0,1
03-07 17:22:14.172663 910 927 D RIL : [bindPdnToIntf] CID0 is bind to interface0
- //获取DNS地址
03-07 17:22:14.232037 910 927 D AT : AT> AT+CGPRCO?
03-07 17:22:14.241063 910 943 D AT : AT< +CGPRCO:
0, "221.179.38.7", "120.196.165.7", "36.9.128.137.174.0.0.0.0.0.2.0.1.0.16", "", 1, 0, "0:000000:0"
- //建立成功, 将对应IP地址, DNS地址返回给上层
03-07 17:22:14.354530 1837 2033 D RIL : [3956]< SETUP_DATA_CALL DataCallResponse:
{version=1011 status=0 retry=0 cid=0 active=2 type=IP ifname=ccmni0 mtu=0 addresses=[10.7.38.5]
dnses=[221.179.38.7,2409:8089:AE00:0000:0000:0002:0001:0010,120.196.165.7] gateways=[10.7.38.5]}

Enable mobile data(3/3)

- //通知各应用，数据连接建立成功了,数据图标图示
03-07 17:22:14.567178 1166 1220 D ConnectivityService: NetworkAgentInfo [MOBILE (LTE) - 1000]
EVENT_NETWORK_INFO_CHANGED, going from null to CONNECTED
03-07 17:22:14.582702 1166 1178 D TelephonyRegistry: **notifyDataConnectionForSubscriber** E: subId=1
state=2 isDataConnectivityPossible=true reason='connected' apn='cmnet' apnType=default
networkType=13 mRecords.size()=26
03-07 17:22:14.583173 1166 1178 D TelephonyRegistry: onDataConnectionStateChanged(2, 13)
03-07 17:22:14.583606 1166 1178 D TelephonyRegistry: **onDataConnectionStateChanged** E: PKG =
com.android.systemui

Disable mobile data(1/2)

- //通过setting将数据连接开关关闭
03-07 17:23:02.290421 2197 2197 D TelephonyManager: setDataEnabled false by com.android.settings
03-07 17:23:02.290515 2197 2197 D TelephonyManager: setDataEnabled: enabled=false
03-07 17:23:02.298332 1837 2332 D DCT : [1]setDataEnabled: sendMessage: enable=false
03-07 17:23:02.299846 1837 1837 D DCT : [1]CMD_SET_USER_DATA_ENABLE enabled=false
03-07 17:23:02.306502 1837 1837 D DCT : [1]setUserDataProperty:0
- //DcTracker断开PDN
03-07 17:23:02.345806 1837 1837 D DCT : [1]onCleanUpConnection
03-07 17:23:02.346225 1837 1837 D DCT : [1]cleanUpConnection: tearDown=true
reason=specificDisabled apnContext={mApnType=default mState=CONNECTED
mWaitingApns={[[ApnSettingV3] CMNET, 1204, 46000, cmnet, , , , , -1, default | supl | net | xcap | rcs,
IPV4V6, IPV4V6, true, 0, 0, 0, false, 0, 0, 0, 0, ,]} mWaitingApnsPermanentFailureCountDown=1
mApnSetting={[[ApnSettingV3] CMNET, 1204, 46000, cmnet, , , , , -1, default | supl | net | xcap | rcs,
IPV4V6, IPV4V6, true, 0, 0, 0, false, 0, 0, 0, 0, , } mReason=specificDisabled mDataEnabled=true
mDependencyMet=true}
- //发请求到ril
03-07 17:23:02.360101 1837 2218 D RIL : [3967]> DEACTIVATE_DATA_CALL 0 0 [SUB1]
03-07 17:23:02.379405 910 927 D RIL : [requestDeactiveDataCall] interfaceId=0, reason: 0 X
- //CGACT断开PDN
03-07 17:23:02.379565 910 927 D AT : AT> AT+CGACT=0,0

Disable mobile data(2/2)

- //因为是最后一路PDN，返回error
03-07 17:23:02.387719 910 943 D AT : AT< +CME ERROR: 171
03-07 17:23:02.388346 910 927 D RIL : [requestDeactiveDataCall] deactivateDataCall cid0 is the last PDN, state: 2
- //将此路PDN配置成link down状态
03-07 17:23:02.522324 910 927 D AT : AT> AT+EGLD=0
- //断开结果返回给framework
03-07 17:23:02.537475 1837 2033 D RILJ : [3967]< DEACTIVATE_DATA_CALL [SUB1]
03-07 17:23:02.543967 1837 1837 D DCT : [1]onDisconnectDone: EVENT_DISCONNECT_DONE
apnContext={mApnType=default mState=DISCONNECTING mWaitingApns={[[ApnSettingV3] CMNET, 1204, 46000, cmnet, , , , , -1, default | supl | net | xcap | rcs, IPV4V6, IPV4V6, true
- //通知到相关应用
03-07 17:23:02.378232 1166 1220 D ConnectivityService: NetworkAgentInfo [MOBILE (LTE) - 1000]
EVENT_NETWORK_INFO_CHANGED, going from CONNECTED to DISCONNECTED
03-07 17:23:02.558400 1166 1800 D TelephonyRegistry: notifyDataConnectionForSubscriber E: subId=1
state=0 isDataConnectivityPossible=true reason='specificDisabled' apn='cmnet' apnType=default
networkType=13 mRecords.size()=26
03-07 17:23:02.558810 1166 1800 D TelephonyRegistry: onDataConnectionStateChanged(0, 13)
03-07 17:23:02.559273 1166 1800 D TelephonyRegistry: onDataConnectionStateChanged E: PKG =
com.android.systemui
03-07 17:23:02.560535 1166 1800 D TelephonyRegistry: onDataConnectionStateChanged X

Request a mobile network(1/3)

- //应用发起requestNetwork请示
03-07 17:29:03.182554 1166 1943 D ConnectivityService: **requestNetwork** for Request from uid/pid:1001/1837 for NetworkRequest [id=7, legacyType=-1, [Transports: CELLULAR Capabilities: **MMS**&NOT_RESTRICTED&TRUSTED&NOT_VPN Specifier: <1>]]
- //DcTracker收到setEnabled
03-07 17:29:03.202244 1837 1837 D DCT : [1]incApnRefCount apnContext = {mApnType=mms mState=IDLE mWaitingApns={null} mWaitingApnsPermanentFailureCountDown=0 mApnSetting={null} mReason=radioTurnedOff mDataEnabled=false mDependencyMet=true}
03-07 17:29:03.202863 1837 1837 D DCT : [1]**setEnabled(1, true)** with old state = false and enabledCount = 1
03-07 17:29:03.203338 1837 1837 D DCT : [1]onEnableApn: apnContext={mApnType=mms mState=IDLE mWaitingApns={null} mWaitingApnsPermanentFailureCountDown=0 mApnSetting={null} mReason=radioTurnedOff mDataEnabled=false mDependencyMet=true} call applyNewState
03-07 17:29:03.203427 1837 1837 D DCT : [1]applyNewState(mms, true(false), true(true))
03-07 17:29:03.204169 1837 1837 D DCT : [1]trySetupData for type:mms due to dataEnabled apnContext={mApnType=mms mState=IDLE mWaitingApns={null} mWaitingApnsPermanentFailureCountDown=0 mApnSetting={null} mReason=dataEnabled mDataEnabled=true mDependencyMet=true}
- //发请求到ril
03-07 17:29:03.280927 1837 2218 D RIL : [4955]> **SETUP_DATA_CALL** 16 0 cmwap 0 IPV4V6 1 [SUB1]
03-07 17:29:03.294474 910 927 D RIL : requestedApn=cmwap, username=, passwd=, authType=2, protocol=2, interfaceId=0, profile=0

Request a mobile network(2/3)

03-07 17:29:03.308573 910 927 D AT : AT> AT+CGCONTRDP
03-07 17:29:03.314947 910 943 D AT : AT< +CGCONTRDP:
0,5,"cmnet.mnc000.mcc460.gprs","", "", "221.179.38.7","120.196.165.7","", "",0
03-07 17:29:03.361727 910 927 D RIL : queryMatchedPdnWithSameApn result [0, cmwap]
03-07 17:29:03.366189 910 927 D AT : AT> AT+CGDCONT=1,"IPV4V6","cmwap",,0,0,0,0,0,0
03-07 17:29:03.381521 910 927 D AT : AT> AT+CGACT=1,1
03-07 17:29:03.716713 910 943 D AT : AT< +CGEV: ME PDN ACT 1, 0
03-07 17:29:03.718316 910 927 D AT : AT> AT+CGPADDR=1
03-07 17:29:03.721863 910 943 D AT : AT< +CGPADDR: 1,"10.74.214.11"
03-07 17:29:03.729120 910 927 D AT : AT> AT+CGDATA="M-CCMNI",1,1
03-07 17:29:03.731924 910 927 D RIL : [bindPdnToIntf] CID1 is bind to interface0
03-07 17:29:03.753533 910 927 D AT : AT> AT+CGPRCO?
03-07 17:29:03.759725 910 943 D AT : AT< +CGPRCO:
1,"221.179.38.7","120.196.165.7","", "",0,0,"0:000000:0"
03-07 17:29:03.847772 1837 2033 D RIL : [4955]< SETUP_DATA_CALL DataCallResponse:
{version=1011 status=0 retry=0 cid=0 active=2 type=IP ifname=ccmni0 mtu=0 addresses=[10.74.214.11]
dnsses=[221.179.38.7,120.196.165.7] gateways=[10.74.214.11] pcscf=[]} [SUB1]

Request a mobile network(3/3)

- //建立成功后通知到各应用

03-07 17:29:03.967036 1166 1220 D ConnectivityService: Got NetworkAgent Messenger

03-07 17:29:03.967313 1166 1220 D ConnectivityService: NetworkAgentInfo [MOBILE (LTE) - 1001]

EVENT_NETWORK_INFO_CHANGED, going from null to CONNECTED

03-07 17:29:03.992923 1166 1320 D TelephonyRegistry: notifyDataConnectionForSubscriber E: subId=1 state=2 isDataConnectivityPossible=true reason='connected' apn='cmwap' apnType=mms networkType=13 mRecords.size()=27

03-07 17:29:03.993382 1166 1320 D TelephonyRegistry: onDataConnectionStateChanged(2, 13)

03-07 17:29:03.993840 1166 1320 D TelephonyRegistry: onDataConnectionStateChanged E: PKG = com.android.systemui

03-07 17:29:03.994273 1166 1320 D TelephonyRegistry: onDataConnectionStateChanged X

Release a mobile network

- //应用release network
03-07 17:29:10.006539 1837 6136 D MmsService: MmsNetworkManager: **releaseRequestLocked**
03-07 17:29:10.020836 1837 1837 D DctController: [DctController] **releaseNetwork**
request=NetworkRequest [id=7, legacyType=-1, [Transports: CELLULAR Capabilities:
MMS&NOT_RESTRICTED&TRUSTED&NOT_VPN
- //调用DcTracker的setEnabled
03-07 17:29:10.028047 1837 1837 D DCT : [1]decApnRefCount apnContext = {mApnType=mms
mState=CONNECTED mWaitingApns=[[ApnSettingV3] CMWAP, 1205, 46000, cmwap, 10.0.0.172, 03-07
17:29:10.028881 1837 1837 D DCT : [1]**setEnabled(1, false)** with old state = false and enabledCount =
1
03-07 17:29:10.045896 1837 1837 D DCT : [1]onEnableApn: apnContext={mApnType=mms
mState=CONNECTED mWaitingApns=[[ApnSettingV3] CMWAP, 1205, 46000, cmwap,
03-07 17:29:10.046010 1837 1837 D DCT : [1]applyNewState(mms, false(true), true(true))
- //通知ril断开PDN
03-07 17:29:10.030133 1837 2218 D RILJ : [4956]> **DEACTIVATE_DATA_CALL** 0 0 [SUB1]
03-07 17:29:10.040134 910 927 D AT : **AT> AT+CGACT=0,1**
03-07 17:29:10.278868 910 943 D AT : AT< +CGEV: ME PDN DEACT 1
03-07 17:29:10.383639 1837 2033 D RILJ : [4956]< **DEACTIVATE_DATA_CALL** [SUB1]

Release a mobile network

- //断开成功，通知应用

```
03-07 17:29:10.392412 1837 1837 D DCT : [1]DataConnectionTracker.handleMessage:
EVENT_DISCONNECT_DONE msg={ when=-3ms what=270351 obj=android.os.AsyncTask@185c98c
target=com.android.internal.telephony.dataconnection.DcTracker obj=android.os.AsyncTask@185c98c }
03-07 17:29:10.393973 1837 1837 D DCT : [1]onDisconnectDone: EVENT_DISCONNECT_DONE
apnContext={mApnType=mms mState=DISCONNECTING mWaitingApns={[[ApnSettingV3] CMWAP, 1205,
46000, cmwap, 10.0.0.172,
03-07 17:29:10.408189 1166 1848 D TelephonyRegistry: notifyDataConnectionForSubscriber E: subId=1
state=0 isDataConnectivityPossible=true reason='dataDisabled' apn='cmwap' apnType=mms
networkType=13 mRecords.size()=27
03-07 17:29:10.408927 1166 1848 D TelephonyRegistry: onDataConnectionStateChanged(0, 13)
03-07 17:29:10.409378 1166 1848 D TelephonyRegistry: Notify data connection state changed on sub: 1
03-07 17:29:10.409472 1166 1848 D TelephonyRegistry: onDataConnectionStateChanged E: PKG =
com.android.systemui
03-07 17:29:10.409791 1166 1848 D TelephonyRegistry: onDataConnectionStateChanged X
```

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- Basic Knowledge
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Main Analysis steps

- Must catch **eng build** log
 - mtklog \mobilelog\APLog_XXXXXX\ properties, search **ro.build.type**
 - [ro.build.type]: [user] → user build log
 - [ro.build.type]: [eng] → eng build log
 - Enable **startup log** before catch log。
- 常见issue分类
 - 某个时间点开始，所有的应用都不能上网
 - 数据连接断开或者连接不成功，这个可以通过查看对应的数据连接图标来确定
 - 网络连接成功，可以看到有数据连接图标，但是就是上网不成功
 - 某个应用突然不能上网，其它应用正常
 - 防火墙禁止应用上网
 - 应用本身出了问题

分析步骤(1/4)

- 1.问题描述中确定复现问题时间点
 - [File name]: 浏览网页数据流量掉网, 上下行图标消失 mtklog 15: 13分左右出现
- 2. 确认数据连接状态
 - 03-07 17:23:02.378232 1166 1220 D ConnectivityService: NetworkAgentInfo [MOBILE (LTE) - 1000] EVENT_NETWORK_INFO_CHANGED, going from CONNECTED to DISCONNECTED
 - 37329 09-01 15:12:23.467791 17228 17279 D ConnectivityService: getActiveNetworkInfo:null

分析步骤(2/4)

- 3. 如果数据连接断开, 确认是手机主动断开, 还是被网络断开
 - 手机主动断开
 - ME DEACT(ME PDN DEACT)
 - 03-04 09:14:03.937 2706 2721 D AT : +CGEV: ME DEACT "IP", "172.26.227.211", 1
 - 搜索cleanUpConnection, 确认断开原因
 - 03-04 09:14:03.558 1166 1166 D DCT : [0]cleanUpConnection: E tearDown=true reason=pdpReset
apnContext={mApnType=default mState=CONNECTED mWaitingApns=[[ApnSettingV3] 中国联通 3g 网络 (China Unicom), 1095, 46001, 3gnet, , , , , -1, default | supl | net, IP, IP, true, 0, 0, false, 0, 0, 0, 0, ,]}
mWaitingApnsPermanentFailureCountDown=1 mApnSetting=[ApnSettingV3] 中国联通 3g 网络 (China Unicom), 1095, 46001, 3gnet, , , , , -1, default | supl | net, IP, IP, true, 0, 0, false, 0, 0, 0, 0, , }
mReason=pdpReset mDataEnabled=true mDependencyMet=true}03-04 09:14:03.558 1166 1166 D DCT : [0]cleanUpConnection: tearing down
 - 网络主动断开, 需要modem确认相应的原因
 - NW DETACH / NW DEACT
 - 04-12 15:47:52.198 664 679 D use-Rlog/RLOG-RIL: onPdnDeactResult receive +CGEV: NW DEACT "IP", "10.233.78.180", 1

分析步骤(3/4)

- 3. 主动断开的原因有以下两个:
 - 关掉数据连接开关
 - //search CMD_SET_USER_DATA_ENABLE enabled=false in radioLog, that means disable mobile data
 - 30889 09-16 15:35:51.348919 1434 1434 D DCT : [0]CMD_SET_USER_DATA_ENABLE enabled=false
 - //search mobile_data in mainLog, mobile_dataX (x means subId) 1->0
 - 15724 09-16 15:35:51.330502 1434 1434 D SettingsInterface: putStringForUser, name = mobile_data, value = 0, for user : 0
 - 15732 09-16 15:35:51.371964 1434 1538 D SettingsInterface: from settings cache , name = mobile_data1 , value = 0
 - 应用释放了对应了连接请求 connectivityManager-> releaseNetwork cause disconnect
 - //find releasing NetworkRequest in sysLog
 - 00166 02-03 19:00:44.227247 644 922 D ConnectivityService: releasing NetworkRequest NetworkRequest [id=9, legacyType=4, [Transports: CELLULAR Capabilities: DUN&TRUSTED&NOT_VPN]]
 - //radioLog, dctController receive releasing Network request
 - 00436 02-03 19:00:44.308753 1491 1491 D DctController: [TNF 2]Cellular releasing Network for NetworkRequest [id=9, legacyType=4, [Transports: CELLULAR Capabilities: DUN&TRUSTED&NOT_VPN]]

分析步骤(4/4)

■ 4. 数据连接没有断开，但是不能上网

- 如果所有应用都不能上网，需要查看net log确认对应时间点手机收发包的情况，一般此种情况网络可能出现问题

- 1 2017-03-02 00:54:57.884763 10.92.74.215 54.230.96.104 TCP 76
40487→443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1 TSval=4294889790
TSecr=0 WS=64
- 2 2017-03-02 00:54:57.907369 10.92.74.215 54.230.96.104 TCP 76
36998→443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1 TSval=4294889797
TSecr=0 WS=64
- 3 2017-03-02 00:54:57.939836 10.92.74.215 54.230.96.104 TCP 76
50113→443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1 TSval=4294889807
TSecr=0 WS=64

- 如果只是某个应用不能上网，那可能是防火墙挡了。可以打开对应netlog文件夹下面的dump-networking-xxxx_stop文件中对应防火墙情况

- Chain mobile (5 references)
- pkts bytes target prot opt in out source destination
- 0 0 DROP all any any anywhere anywhere owner UID match u0_a39
- 0 0 DROP all any any anywhere anywhere owner UID match
u0_a113
- 0 0 DROP all any any anywhere anywhere owner UID match u0_a54

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- Basic Knowledge
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Issue 1

- 问题描述:
 - Enable mobile data, shown can not find page when open browser, and data icon is disappeared.
- 复现步骤:
 - Enable mobile data, shown can not find page when open browser(access baidu, google, hao123 etc), and data icon is disappeared.
 - Can resume after wait some time.
- 需要log:
 - mtklog.rar
- 分析:
 - PDN被网络断开, 过段时间, 手机重新连接, 恢复

Issue 1

■ //PDN被网络断开

- 09-01 15:12:22.411863 644 659 D AT : +CGEV: **NW DEACT** "IP", "10.227.204.43",
- 09-01 15:12:22.561938 17228 17279 D ConnectivityService: ConnectivityChange for mobile: DISCONNECTED/DISCONNECTED
- 09-01 15:12:22.557501 17445 17445 D DCT : [[DCT]][simId0]onDisconnectDone: attached, ready and retry after disconnect

■ //UE重新进行连接

- 121049 09-01 15:12:54.215042 17445 17445 D DcTrackerBase: [GDCT][simId0]GPRS reconnect alarm triggered by simId=0. Previous state was IDLE
- 09-01 15:12:54.454344 17445 17556 D RILJ : RIL(1) :[6397]> **SETUP_DATA_CALL** radioTech=13 profile=1002 apn=3gnet user= password= authType=0 protocol=IP requestCid=1
- 09-01 15:12:54.566850 644 649 D AT : AT> AT+CGACT=1,1
- 09-01 15:13:25.165541 17445 17566 D RILJ : RIL(1) :[6397]< **SETUP_DATA_CALL** DataCallResponse: {version=9 status=0 retry=0 cid=0 active=2 type=IP' ifname='ccmni0' addresses=[10.162.28.172] dnses=[120.80.80.80,221.5.88.88] gateways=[10.162.28.172]}.

Issue 2

- 问题描述:
 - 72319 数据上网：用数据无法上网，卡一卡二都是（附视频）
- 复现步骤：
 - 【预置条件】卡一移动，卡二联通
 - 【测试步骤】
 - 1.打开数据连接
 - 2.打开浏览器
 - 3.任意点击链接
 - 4.显示无网络
 - 【问题出现时间点】：2017.02.20 10:42
- 需要log:
 - mtklog.rar
- 分析：
 - 浏览器被禁止使用GPRS上网

Issue 2

- //说明当时网络是通的
 - 02-20 10:41:37.377270 2658 3466 D DataUsageController: setMobileDataEnabled: enabled=true
 - 02-20 10:42:36.093117 2412 2601 D ConnectivityService: NetworkAgentInfo [MOBILE (LTE) - 105] **EVENT_NETWORK_INFO_CHANGED, going from null to CONNECTED**
- //过滤浏览器进程的log,手机有在访问api.map.baidu.com, dns query是正常的
 - 02-20 10:42:56.028243 **10211** 10237 D libc-netbsd: [getaddrinfo]: mtk hostname=api.map.baidu.com; servname=(null); netid=0; mark=0
 - 43 2017-02-20 10:42:56.030818 10.1.63.149 210.21.196.6 DNS 79 **Standard query 0xad4 A api.map.baidu.com**
 - 44 2017-02-20 10:42:56.049972 210.21.196.6 10.1.63.149 DNS 126 **Standard query response 0xad4 CNAME api.map.n.shifen.com A 112.80.255.107**

Issue 2

- //再继续发起socket连接时，报异常，netd有挡
 - 02-20 10:42:56.054745 10211 10237 I System.out: [socket][0] connection api.map.baidu.com/112.80.255.107:443;LocalPort=-1(50000)02-20 10:42:56.054947 10211 10237 D : [Posix_connect Debug]Process com.android.browser:remote :443
 - 02-20 10:42:56.055478 2257 2573 I Netd : uid 10039 with netid 105 **accessing mobile network blocked**
 - 02-20 10:42:56.055506 2257 2573 I FwmarkServer: client uid 10039, ret -13
- //看对应的防火墙，发现mobile链有对浏览器进行阻挡
 - Chain mobile (5 references) pkts bytes target prot opt in out source destination
 - 0 0 DROP all -- any any anywhere anywhere **owner UID match u0_a39**
 - 0 0 DROP all -- any any anywhere anywhere owner UID match u0_a113
 - 0 0 DROP all -- any any anywhere anywhere owner UID match u0_a54

Issue 3

- 问题描述:

- [6755][E36][ITS#1106]DUT met data stall

- 复现步骤:

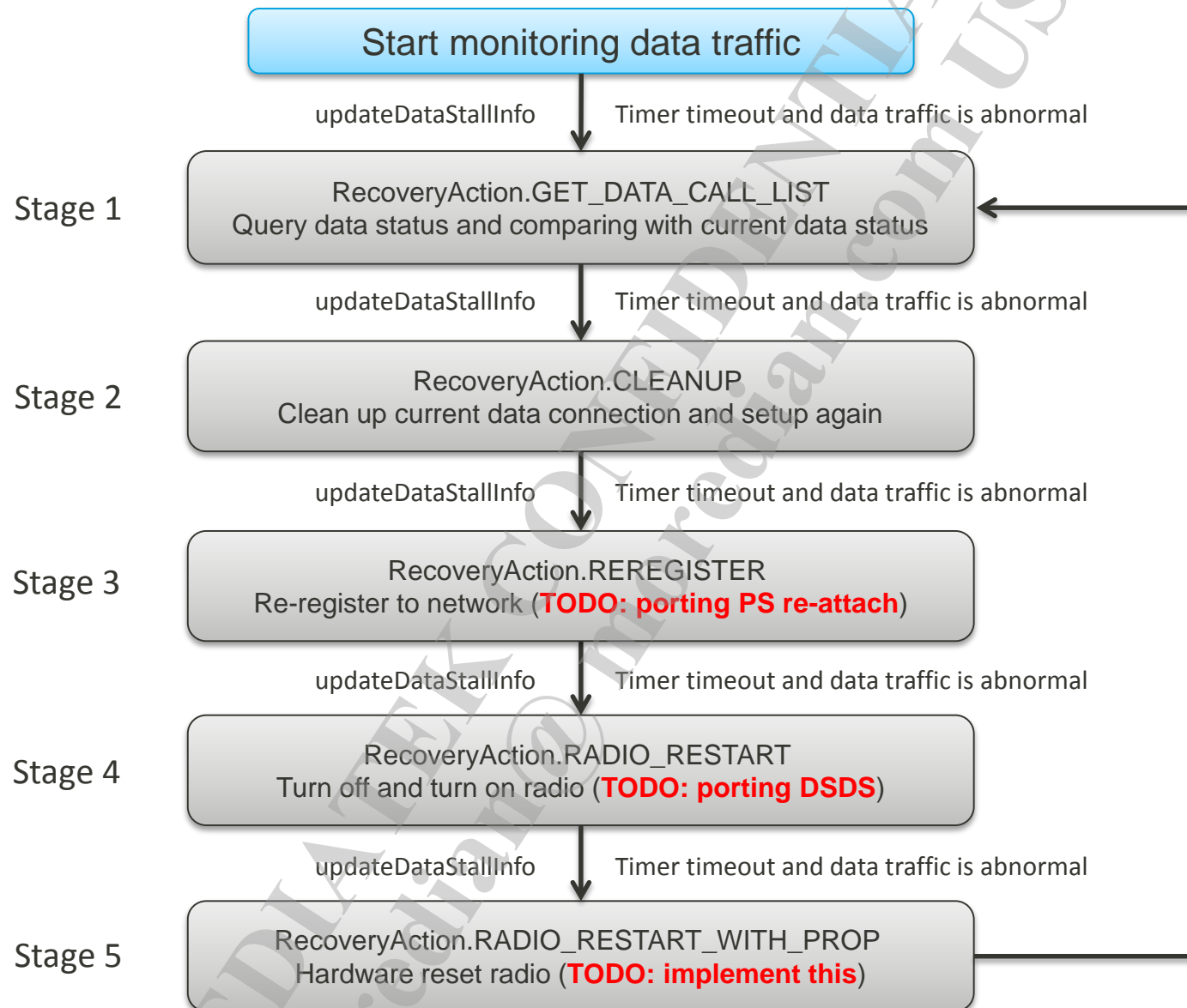
- timestamp:11:58:19 12:04:00
- 03-01 11:58:19.761084 1985 1985 D DCT : [0]updateDataStallInfo: OUT sent=80
mSentSinceLastRecv=80
- 03-01 11:58:19.806205 1985 1985 D DCT : [0]doRecovery() cleanup all connections
- 03-01 11:58:19.838237 1985 2371 D RILJ : [3993]> DEACTIVATE_DATA_CALL 0 2
[SUB0]
- 03-01 11:58:19.897031 1985 2297 D RILJ : [3993]< DEACTIVATE_DATA_CALL [SUB0]
- 03-01 12:04:00.646548 1985 1985 D DCT : [0]updateDataStallInfo: OUT sent=36
mSentSinceLastRecv=36

- 需要log:

- mtklog.rar

- 分析:

- 运营商网络出现问题, 手机发出去的包一直收不到回包,导致手机进入recovery导致



Issue 3

- 此类问题，从用户角度看，会看到数据连接图标过几分钟会消失然后再出现，但是手机一直无法上网
 - //手机一直收不到包,原来在stage1，进入stage2。
 - 03-01 11:58:19.761084 1985 1985 D DCT : [0]updateDataStallInfo: OUT sent=80 mSentSinceLastRecv=80
 - 03-01 11:58:19.799193 1985 1985 D DCT : [0]getRecoveryAction: 1
 - 03-01 11:58:19.806205 1985 1985 D DCT : [0]doRecovery() cleanup all connections
 - 03-01 11:58:19.814236 1985 1985 D DCT : [0]putRecoveryAction: 2
 - 03-01 11:58:19.838237 1985 2371 D RILJ : [3993]> DEACTIVATE_DATA_CALL 0 2 [SUB0]
 - 03-01 11:58:19.897031 1985 2297 D RILJ : [3993]< DEACTIVATE_DATA_CALL [SUB0]
- //进入stage3
 - 03-01 11:59:43.237561 1985 1985 D DCT : [0]updateDataStallInfo: OUT sent=65 mSentSinceLastRecv=65
 - 03-01 11:59:43.237658 1985 1985 D DCT : [0]getRecoveryAction: 2
 - 03-01 11:59:43.242762 1985 1985 D DCT : [0]doRecovery() re-register
 - 03-01 11:59:43.251175 1985 1985 D DCT : [0]putRecoveryAction: 3

Issue 3

■ 再一次进入stage2

- 03-01 12:04:00.646548 1985 1985 D DCT : [0]updateDataStallInfo: OUT sent=36
mSentSinceLastRecv=36
- 03-01 12:04:00.647846 1985 1985 D DCT : [0]getRecoveryAction: 1
- 03-01 12:04:00.694407 1985 1985 D DCT : [0]doRecovery() cleanup all connections
- 03-01 12:04:00.697644 1985 1985 D DCT : [0]putRecoveryAction: 2

■ PS: 目前Android M,N版本只统计其tcp包，遇到此类问题是要确定root case，要进一步查看net log 确认是手机原因还是运营商的原因。

- 1) 如果手机dns query没有问题，只有tcp包没有回包，那这部分是运营商原因。
- 2) 如果dns query和tcp包都没有回包，要进一步确认其手机的收发包情况
- 10 2017-03-02 00:54:58.052466 10.92.74.215 213.180.204.211 TCP 76
49990→443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1 TSval=4294889841
TSecr=0 WS=64
- 65 2017-03-02 00:55:00.055812 10.92.74.215 213.180.204.211 TCP 76 [TCP
Retransmission] 49990→443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 SACK_PERM=1
TSval=4294890442 TSecr=0 WS=64
- 66 2017-03-02 00:55:00.057693 10.92.74.215 198.228.90.211 DNS 75
Standard query 0x83b0 A ads.mopub.com
- 67 2017-03-02 00:55:00.121608 198.228.90.211 10.92.74.215 DNS 155
Standard query response 0x83b0 CNAME s.mopub.com A 192.44.68.4 A 192.44.68.3 A
192.44.68.5 A 192.44.68.6

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