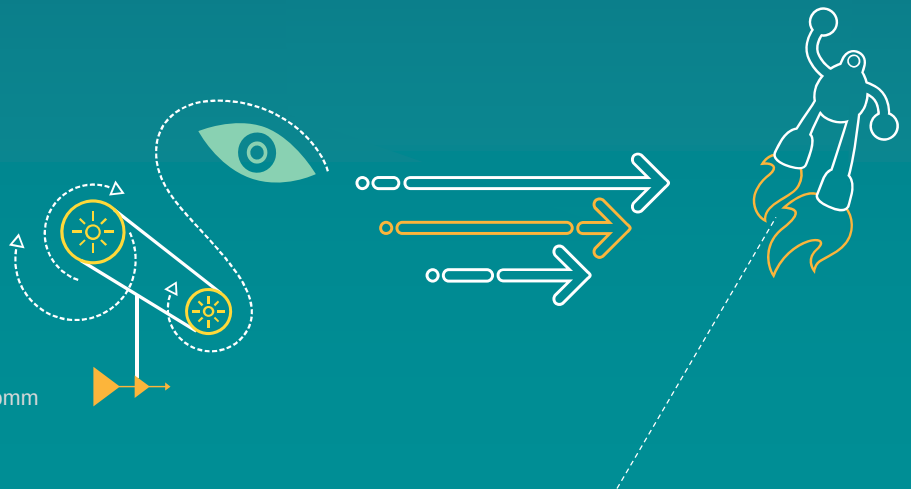
高通协议技术期刊 – 2014/09/26

Qualcomm Technologies, Inc.



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内容

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- MBN solution number
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- Emergency Call Common Issues Summary

8916/8936/8939系统解决方案Solution

为了直观，便于检索，我们在Saleforce系统上编写了系统解决方案。包含各个技术领域，便于大家查找。

8916系统解决方案

Solution Number: 00029134

链接： https://qualcomm-cdmatech-support.my.salesforce.com/50130000000VfUZ?srPos=0&srKp=501

8936/8939系统解决方案

Solution Number: 00029333

链接：https://qualcomm-cdmatech-support.my.salesforce.com/50130000000Vg5B

MBN介绍

- MBN的设计需求，文档，实现方法, 请参阅Solution number:00029357.

https://qualcomm-cdmatech-support.my.salesforce.com/50130000000VgDA?srPos=0&srKp=501

CT APN issue and workaround

最近客户在中国电信测试，有些问题和APN的设置相关，以下是问题总结和解决方案。

Issue Summary:

Issue: LTE Attach failure for 3GPP USIM test case;

Cause: LTE APN is auto-generated with name “ctlte” and auth_type=3 at every power-cycle from APSS side. Even for Lab test case which needs different APN name (e.g., 3gpp.test).

Solution:

Step1, Refer to document 80-NR766-1_A_China_Telecom_Device_Configuration_and_Testing_Information , **CT Lab MBN** will be used for APN setting.

Step2, Disable AP UI Side APN Auto populate functionality. Detailed step is in next page.

CT APN issue and workaround

1, Push the empty Apn config xml to system

adb root.

adb remount

then push the empty APN config xml to system as below:

adb push apns-conf.xml /system/etc

adb shell sync

2. Clean the APN database in AP side

Go to Settings->More->Mobile networks->Access points: Menu-> Reset to default

3. With above steps, the APN will be empty in AP side, since maybe the UE already be used before, so you need also empty the profiles in MP side to restore the UE to initial state

Use QPST to delete the “data” and “pdp_profiles” folder in MP side, then click the QPST’s reset to restart the UE(this is important, you must use QPST’s reset to restart the UE, otherwise the File operation via QPST will not take effect).

4. Now after the UE restart, the initial LTE attach will use the NULL APN(NW allocate the APN) to attach, it surely will successfully.

5. Then Tester can add the expected APNs per LAB requirement via Modem Tool or Via APN UI

CT LTE Attach failure due to Unknown PCO in Attach Accept Message

1. Issue:

Recently a Testbox compatibility issue is found. During LTE SIM CTA test (3GPP 31.121), UE can't attach to LTE testbox.

2. Analysis:

1) UE configures the LTE Attach Profile with **non-zero** *authentication type* (e.g., 3:CHAP+PAP; 1: PAP).

2) UE LTE Attach OTA message will be set *esm_info_trans_flag = 1*;

3) Testbox sends the *ESM information request* Msg, and UE responses with correct authentication Protocol Config Option(PCO);

4) Testbox sends *LTE Attach Accept* Msg with "**length=0, Unknown PCO**";

5) Modem decodes this zero length PCO and reports failure. Hence UE rejects it and sends LTE Detach;

6) UE attach LTE testbox failed.

3. Solution:

1) Contact testbox vendor and see why it sends LTE Attach Accept Msg with "zero length, Unknown PCO";

2) For debug purpose, configure UE LTE Attach Profile's *auth_type* to "none". In this way, the Testbox will not send "Uknown PCO" in *LTE Attach Accept* Msg.

CT LTE Attach failure due to Unknown PCO in Attach Accept Message

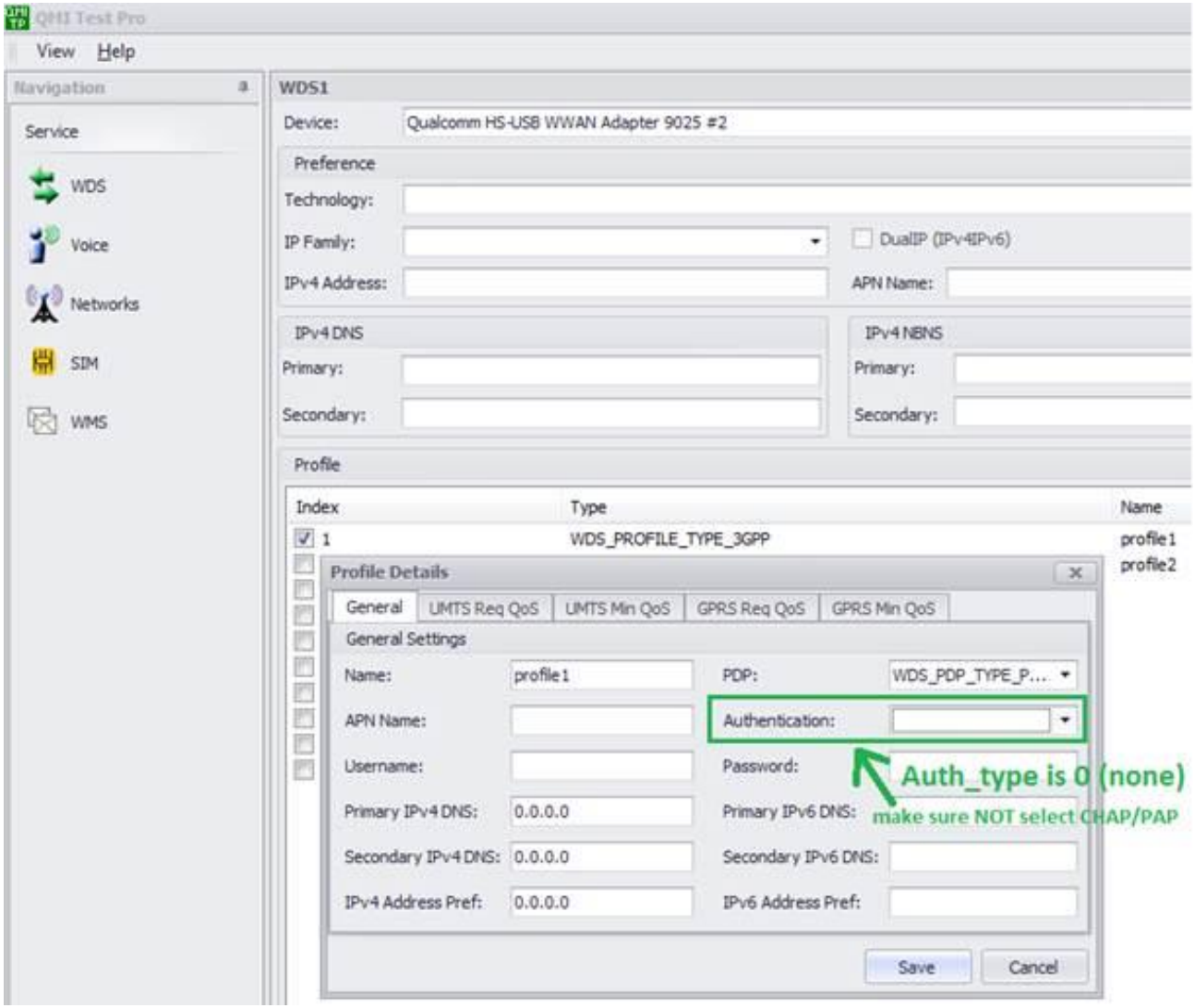


Figure: QMI Testpro change profile1's authentication type to "none".

CT Recent documents/app notes/CR fix

- **80-NP748-6 A China Telecom Lab Conformance Test Case Results for MSM8916 (LA.1.0, LA.1.1, LA.1.2) MSM8916 Using MPSS.DPM.1.0.**

This document provides MSM8916 (LA.1.0, LA.1.1, LA.1.2) MSM8916 Using MPSS.DPM.1.0 test results for China Telecom Lab conformance test cases. Customer can refer to this document to know MSM8916 MTP lab conformance result in CT.

- **80-NN815-1. KK Platform Carrier New Change Notes.**

This document describes the design and feature of the QRD Android products, as well as the 3 usage of various expansion modules and their functions, configurations and modifications, different application for CMMC/CU and CT.

- 80-NT259-1 Rev A (APPLICATION NOTE: ENABLING QMI CALL FOR CT CONFORMANCE TEST)
- 80-NT296-1 CT BIP Test Common Issues and Debug.

- **Issue Summary:**

emergency call cannot trigger with SRLTE+G MBN M8916AAAAANLYD113500.1.

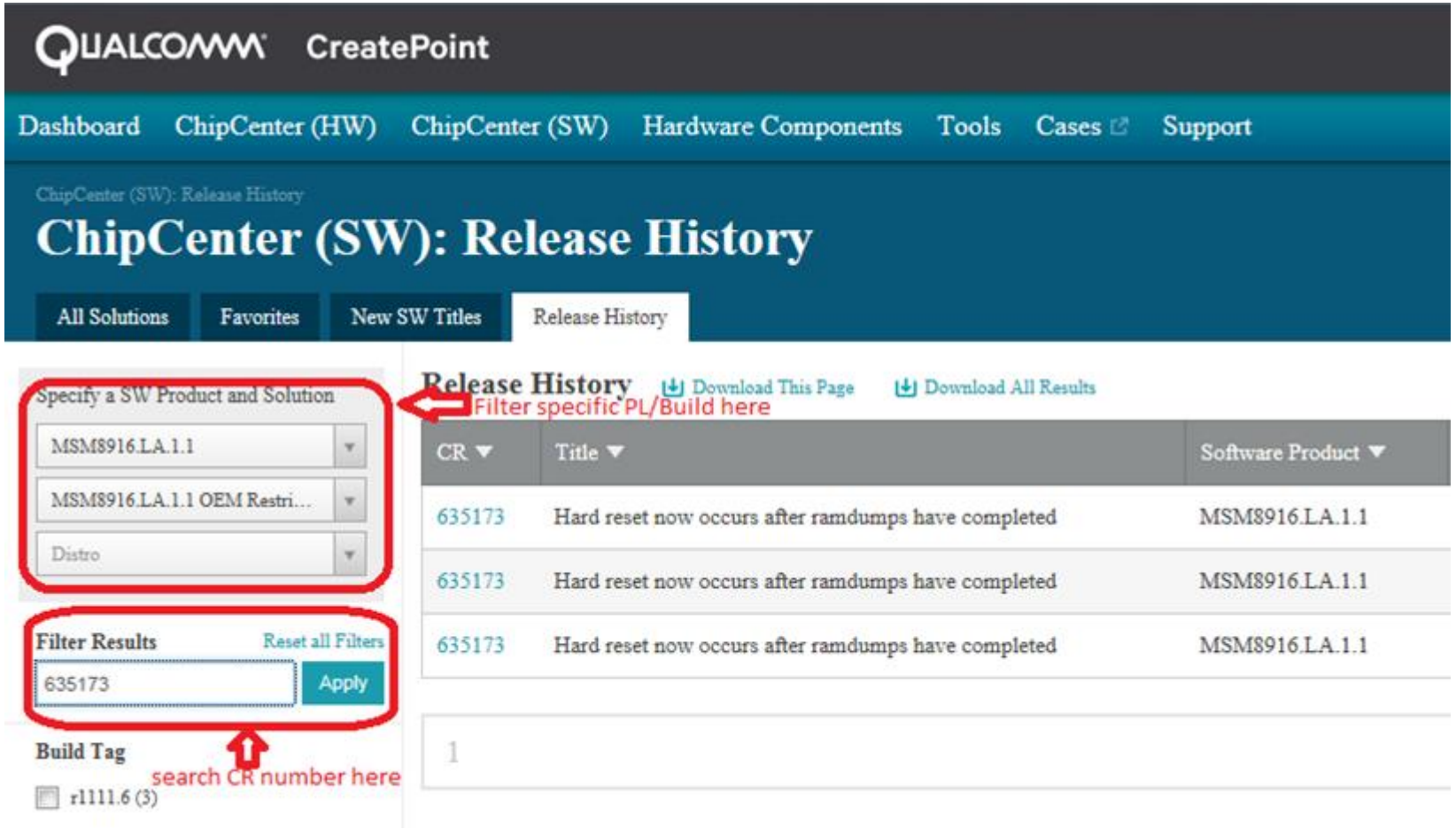
- **Root Cause**

/nv/item_files/pbm/pbm_hardcoded_ecc_list is added to SRLTE+G MBN 1135, but value is empty, which cause no chance dial emergency call. SRLTE+G MBN 1132 version, this EFS file is not added , so emergency call can work fine.

- **Solution**
- CR726291 is to fix to issue, the CR fix will be part of 9/25 8916 mainline release.

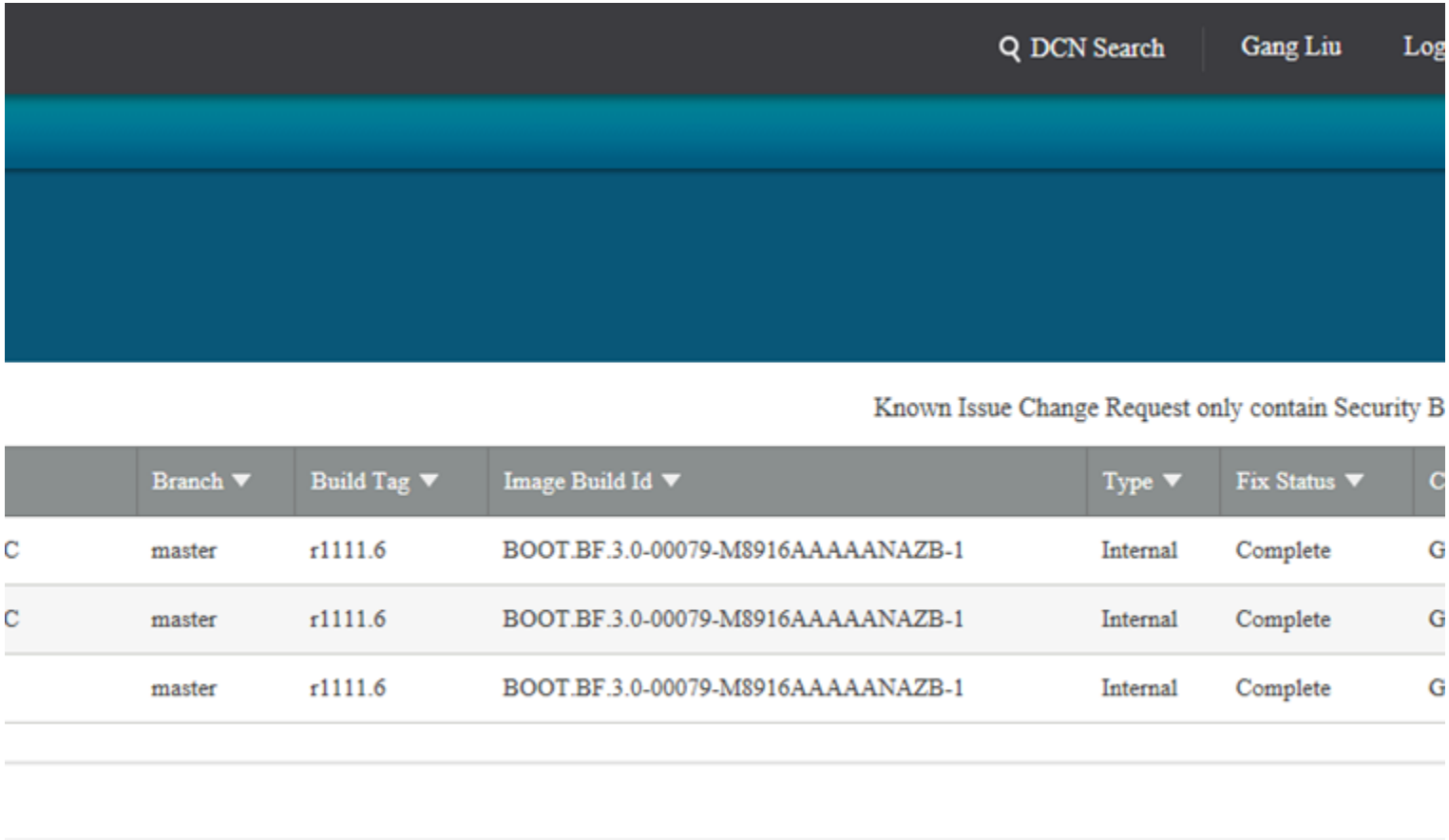
How to check whether the CR is present of not in the release

Go to createpoint.qti.qualcomm.com, ChipCenter(SW) -> Release History-> input CR number, then all the builds OEM licensed has the CR will list right side



How to check whether the CR is present of not in the release

Go to createpoint.qti.qualcomm.com, ChipCenter(SW) -> Release History-> input CR number, then all the builds OEM licensed has the CR will list right side –Fixed Status



	Branch	Build Tag	Image Build Id	Type	Fix Status	C
C	master	r1111.6	BOOT.BF.3.0-00079-M8916AAAAANAZB-1	Internal	Complete	G
C	master	r1111.6	BOOT.BF.3.0-00079-M8916AAAAANAZB-1	Internal	Complete	G
	master	r1111.6	BOOT.BF.3.0-00079-M8916AAAAANAZB-1	Internal	Complete	G

How to check Meta/Apps/Modem build info

- In Salesforce, Meta/Apps/Modem build info need to be explicitly listed while raising new case.
- How to get Meta/Apps/Modem build info? When downloading build from chipcode.qualcomm.com, the relative about.xml file will be also downloaded.
- The Meta build is M8939AAAAANLYD20120.5,
- The Apps build is LNX.LA.3.7000530-8x16.0-1.
- The Modem build is MPSS.DPM.2.0.r6-00007-M8936FAAAANVZM-1

Image	Build/Label	Distro Path	Format
LNX.LA.3.7	LNX.LA.3.7-00530-8x16.0-1	LINUX	SRC
BOOT.BF.3.0	BOOT.BF.3.0-00220-M8936AAAAANAZB-1	boot_images	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	common	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents.xml	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents_UG.xml	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents_UG_8916.xml	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents_UG_8939.xml	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents_VG_8916.xml	SRC
MSM8939.LA.2.0.1	M8939AAAAANLYD20120.5	contents_VG_8939.xml	SRC
MPSS.DPM.2.0.R6	MPSS.DPM.2.0.r6-00007-M8936FAAAANVZM-1	modem_proc	SRC-L1BIN
RPM.BF.2.0	RPM.BF.2.0-00139-M8936AAAAANAZR-1	rpm_proc	SRC
TZ.BF.2.5	TZ.BF.2.5-00205-M8936AAAAANAZT-1	trustzone_images	SRC
CNSS.PR.1.4.3	CNSS.PR.1.4.3-00014-M8936BAAAANAZW-1	wcnss_proc	BIN

Emergency Call Common Issues Summary

1, No SIM in both slot condition, how to make emergency call over CDMA firstly instead of attempt on GW RAT

Background: Some CTA emergency call TCs require some China Emergency Number (like 110/119/120) could dial to Manual Station other than an automatic station (or some customer called 112 station). In China such numbers always routed to automatic station if the emergency call setup on GWL RAT.

Solution:

Change Emergency mode of the required ECC number in table hardcoded_with_no_uim[] into EMERGENCY_1X to make sure CM only have CDMA mode_usage. Or configure it by NV69737 (refer to 80-NC839-45 for detail).

But above 2 method are rude as it will impact ECC call in roaming area. So QC provide solution by APP Notes 80-NA121-1 to make some modification in SD let MMODE attempting the emergency call on CDMA first and later on other RATs.

2, With PIN Lock on one of the SIM, how could we make 110/120/119 on this SIM

Background: QC original design didn't add these number into PBM hardcode ECC with SIM table(PIN LOCK was a SIM present case), so when CM run Call Control such number will be treated as a normal Voice Call then call will be failed due to radio off

Solution 1: Solution from QCRIl side

Changes:

==========

1). Firstly needs to set the following property

adb root;

adb shell setprop persist.radio.custom_ecc 1

Emergency Call Common Issues Summary

2). Then a database needs to created, which path is /data/misc/radio/qcril.db. Its content is like the following:

// current settings

Enter SQL statements terminated with a ";"

sqlite> .tables (list all tables)

qcril_emergency_source_escv_iin_table qcril_emergency_source_mcc_table

qcril_emergency_source_escv_nw_table qcril_emergency_source_nw_table

qcril_emergency_source_hard_mcc_table qcril_emergency_source_voice_table

*sqlite> select * from qcril_emergency_source_mcc_table; (list content of this table) ==== > When card is present and it is limited service, dial out matched number as emergency*

460|110||limited

460|119||limited

460|120||limited

460|112||limited

460|999||limited

852|999||limited

*sqlite> select * from qcril_emergency_source_hard_mcc_table; (list content of this table) ==== > When card is absent, dial out matched number as emergency*

460|110||

460|119||

460|120||

460|112||

460|999||

852|999||

*sqlite> select * from qcril_emergency_source_voice_table; (list content of this table) ==== > When card is present and it is full service, dial out matched number as normal voice call*

460|110||full

460|119||full

460|120||full

460|112||full

460|999||full

852|999||full

3). How to add a new number: (For example, insert 122 for mcc 460)

// insert 122 for mcc460

sqlite> insert into qcril_emergency_source_mcc_table values('460','122','','limited');

sqlite> insert into qcril_emergency_source_hard_mcc_table values('460','122','','');

sqlite> insert into qcril_emergency_source_voice_table values('460','122','','full');

Solution2.

Apply CR#539439 code change. This CR will introduce some code change in CM to always treat 110/119/120 as emergency call number when subscription not available. But this CR usually not recommended by development team as it violate QC emergency call management design.

So we introduce a new feature to implement CR#539439 functionality in PBM. This feature will be available in MSM8909, customer can apply 80-NT240-1 to understand the design (Doc will available in Oct. 2014)

Emergency Call Common Issues Summary

3, Why change emergency mode not work for some ECC number in SIM Subscription ready case.

Background: Some customer want configure different emergency mode in hardcoded_with_uim[]/hardcoded_with_uim_but_no_ecc[]/hardcoded_with_no_uim[] to let UE operate in different emergency mode for no SIM and with SIM case. But found it won't work

Solution: This is because if a number is present in both sim present and sim absent list with different service cat and emergency mode then the correct emergency mode and service cat are not populated in the cache as we retain the number in the cache just only by matching the number. CR#650628 can fix the issue.

4, Why when made 999/112 on a CDMA phone, CDMA signal will lost?

Background: This is because 999/112 emergency_mode was set to EMERGENCY_GW in PBM ECC with SIM hardcode table by default. After Call Control CM will got mode_usage=GW, thus SD will invoke related script to acquire GW limited service which will cause CDMA lost service

Solution: Just simply change the emergency_mode to EMERGENCY_GW_1X or EMERGENCY_1X or set by NV69373 for the required ECC number. If carrier don't request UE keep CDMA service when dial those emergency call, suggest don't do anything.

Emergency Call Common Issues Summary

5, Why when configured 110/119/120 into hardcoded_with_uim[]/hardcoded_with_uim_but_no_ecc[], make a 110/119/120 emergency call will be route to automatic station?

Background: This question usually asked by customer for GWL phone. This is because 110/119/120 emergency call not supported by China NW, NW just route the call to automatic station as mentioned in issue#1

Solution: Please just leave these numbers as a normal voice call type and don't configure them into PBM ECC list. If carrier request UI show these number as an emergency call type. OEM can do some modification in UI side to implement the requirement.

Questions?

You may also submit questions to:
https://support.cdmatech.com