I'm using a Nexus 5 phone. I have a permanent problem that the remote SIM cannot be attached. I always see several RESETs after the phone is restarted. The trace firmware together with the command line works. The adapter cable is in a prepared SIM tray and works. What could be the issue?

```
simtrace2-cardem-pcsc --usb-vendor 1d50 --usb-product 60e3 --usb-path 2-1.4 --usb-config 1 -n 2
simtrace2-cardem-pcsc - Using PC/SC reader as SIM
(C) 2010-2020, Harald Welte <laforge@gnumonks.org>
(C) 2018, sysmocom -s.f.m.c. GmbH, Author: Kevin Redon <kredon@sysmocom.de>

<0002> simtrace2_api.c:267 [0] <= osmo_st2_cardem_request_config(features=00000001)
<0002> simtrace2_api.c:168 [0] <= osmo_st2_cardem_request_card_insert(inserted=1)
<0002> simtrace2_api.c:317 [0] <= _modem_sim_select(remote_sim=1)
<0002> simtrace2_api.c:250 [0] <= osmo_st2_cardem_request_set_atr(3b 9f 96 80 1f c7 80 31 e0 73 f6
21 13 67 56 03 27 00 89 01 02 28 )
<0002> simtrace2_api.c:284 [0] <= _modem_reset(asserted=2, pulse_ms=300)
Entering main loop
--> 01 08 00 00 00 00 0d 00 01 00 00 00 00
SIMtrace IRQ 01 04 00 00 00 00 15 00 00 00 00 00 00 01 01 0a 80 25 00 00
SIMtrace IRQ STATUS: flags=0x0F, fi=1, di=1, wi=10 wtime=9600 ()
SIMtrace IRQ 01 04 00 00 00 00 15 00 10 00 00 00 00 00 00 01 01 0a 80 25 00 00
SIMtrace IRQ STATUS: flags=0x10, fi=1, di=1, wi=10 wtime=9600 (RESET )
SIMtrace IRQ 01 04 00 00 00 00 15 00 00 00 00 00 00 00 00 01 01 0a 80 25 00 00
SIMtrace IRQ STATUS: flags=0x0F, fi=1, di=1, wi=10 wtime=9600 ()
SIMtrace IRQ 01 04 00 00 00 00 15 00 10 00 00 00 00 00 00 01 01 0a 80 25 00 00
SIMtrace IRQ STATUS: flags=0x10, fi=1, di=1, wi=10 wtime=9600 (RESET )
```

---

History

#1 - 02/21/2022 10:30 PM - laforge

- File simtrace-cardem-du.bin added

Does 'cardem' work for you with any different phone/modem?

Does it behave any different with the attached experimental firmware build?

It is built from the laforge/202201 branch.

Regards,
Harald

#2 - 02/21/2022 10:40 PM - k_o_

Yes, it works with an Acer Liquid Z530, LG G4 or iPhone 6s. I have the impression, that newer Qualcomm based phone show this behavior, I have also tried a HTC One 8, Pixel 3a XL, Pixel 4, Nexus 6 giving me the same error.

With the provided image I still have the same error:

```
simtrace2-cardem-pcsc --usb-vendor 1d50 --usb-product 60e3 --usb-path 2-1.4 --usb-config 1 -n 2
simtrace2-cardem-pcsc - Using PC/SC reader as SIM
(C) 2010-2020, Harald Welte <laforge@gnumonks.org>
(C) 2018, sysmocom -s.f.m.c. GmbH, Author: Kevin Redon <kredon@sysmocom.de>
```
<0002> simtrace2_api.c:267 [0] <= osmo_st2_cardem_request_config(features=00000001)  
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<0002> simtrace2_api.c:317 [0] <= _modem_sim_select(remote_sim=1)  
<0002> simtrace2_api.c:250 [0] <= osmo_st2_cardem_request_set_atr(3b 9f 96 80 1f c7 80 31 e0 73 f6 21 13 67 56  
03 27 00 89 01 02 28 )  
<0002> simtrace2_api.c:284 [0] <= _modem_reset(asserted=2, pulse_ms=300)  
Entering main loop  
-> 01 08 00 00 00 00 0d 00 01 00 00 00 00  
SIMtrace IRQ STATUS: flags=0x0, fi=1, di=1, wi=10 wtime=9600 ()  
SIMtrace IRQ 01 04 00 00 00 00 15 00 00 00 00 00 00 00 00 00 00 01 01 0a 80 25 00 00  
SIMtrace IRQ STATUS: flags=0x010, fi=1, di=1, wi=10 wtime=9600 (RESET )  
SIMtrace IRQ 01 04 00 00 00 00 15 00 00 00 00 00 00 00 00 00 00 00 00 00 01 0a 80 25 00 00  
SIMtrace IRQ STATUS: flags=0x0, fi=1, di=1, wi=10 wtime=9600 ()  
SIMtrace IRQ 01 04 00 00 00 00 15 00 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
SIMtrace IRQ STATUS: flags=0x0, fi=1, di=1, wi=10 wtime=9600 (RESET )  
SIMtrace IRQ STATUS: flags=0x010, fi=1, di=1, wi=10 wtime=9600 (RESET )

#3 - 02/22/2022 06:40 AM - laforge  
Hi k_o_,  
On Mon, Feb 21, 2022 at 10:40:23PM +0000, k_o_ wrote:  
Yes, it works with an Acer Liquid Z530, LG G4 or iPhone 6s. I have the impression, that newer Qualcomm based phone show this behavior, I  
have also tried a HTC One 8, Pixel 3a XL, Pixel 4, Nexus 6 giving me the same error.  
Interesting. I guess I have to acquire one such recent device so we can debug this further.  
Thanks for reporting!

#4 - 02/22/2022 12:33 PM - k_o_  
laforge wrote in #note-3:  
Hi k_o_,  
On Mon, Feb 21, 2022 at 10:40:23PM +0000, k_o_ wrote:  
Yes, it works with an Acer Liquid Z530, LG G4 or iPhone 6s. I have the impression, that newer Qualcomm based phone show this behavior, I  
have also tried a HTC One 8, Pixel 3a XL, Pixel 4, Nexus 6 giving me the same error.  
Interesting. I guess I have to acquire one such recent device so we can debug this further.  
Thanks for reporting!  
Correction: The Pixel 4 is working. This was incorrect on the above list.

#5 - 02/22/2022 08:25 PM - k_o_  
I can provide a Nexus 5 if this is helpful and if it is returned.

#6 - 02/22/2022 08:40 PM - laforge  
On Tue, Feb 22, 2022 at 08:25:34PM +0000, k_o_ wrote:  
I can provide a Nexus 5 if this is helpful and if it is returned.

thanks for your kind offer, but it is good to permanently have such a  
device around if it is particularly problematic in terms of  
simtrace/cardem interoperability.  
sysmocom has ordered a refurbished Pixel 3a XL for testing, it should  
arrive within the next few days.

#7 - 02/23/2022 03:53 AM - k_o_  
I mixed up the device models: The Pixel 3a XL is working, not the Pixel 4, which I corrected erroneously. So, the purchase of a Pixel 3a XL will not  
reproduce this.

#8 - 02/23/2022 06:21 AM - laforge
Sadly I now have spent 200 EUR on a phone to reproduce the problem, and you're telling me it doesn't actually reproduce it :( 

#9 - 02/23/2022 11:56 AM - k_o_
laforge wrote in #note-8:

Sadly I now have spent 200 EUR on a phone to reproduce the problem, and you're telling me it doesn't actually reproduce it :( 

Sorry about this. I hope you can return it or still cancel the shipment or the same merchant has also a Pixel 4.

#10 - 02/23/2022 12:30 PM - k_o_
k_o_ wrote in #note-9:

laforge wrote in #note-8:

Sadly I now have spent 200 EUR on a phone to reproduce the problem, and you're telling me it doesn't actually reproduce it :( 

Sorry about this. I hope you can return it or still cancel the shipment or the same merchant has also a Pixel 4.

I will retest the list of device again more carefully. I have tested the Nexus 5 with two different devices and SIM trays, so this one is sure one like mentioned in the bug report. I also tried the HTC One 8 intensively. I received today another pair of SIM trays for the Nexus 6 and will also retest the Pixel 4.

#11 - 02/23/2022 01:51 PM - k_o_
Updated status: 
WORKING:
Pixel 3a XL
Nexus 6
Pixel 4
Acer Liquid Z530
LG G4
iPhone 6s

Important for these phones using a nano SIM with a SIM tray was to use a proper SIM tray and modify it properly to be able to hold the flexi cable. The adapter cable together with the SIM tray must fit properly, some models can be very very sensitive. The interesting note here is that somehow the SIM sniffer worked much better not sure how this can be although the reason seems to be a mechanical problem.

NOT WORKING:
Nexus 5
HTC One 8

I have used here also a modified SIM tray, but was not able to make them work. Maybe here also a mechanical issue can still not be totally ruled out, I had zero success with cardem but the sniffer was working.

#12 - 02/24/2022 06:20 PM - laforge
- Status changed from New to In Progress
- Assignee set to laforge

Can you provide the exact model number of the nexus 5? I'll order one, but I want to make sure we're ordering the right part this time.

#13 - 02/24/2022 07:25 PM - k_o_
laforge wrote in #note-12:

Can you provide the exact model number of the nexus 5? I'll order one, but I want to make sure we're ordering the right part this time.

The model is LG-D821. But actually, I have found that I have 2 devices. I don't need both. Should I provide one? I don't need it back.

#14 - 02/24/2022 10:40 PM - laforge
Hi k_o.

On Thu, Feb 24, 2022 at 07:25:12PM +0000, k_o_ wrote:
The model is LG-D821. But actually, I have found that I have 2 devices. I don't need both. Should I provide one? I don't need it back.

That would of course be very much appreciated. Where are you based? If it's outside the EU, it likely is easier for us to procure compared to cost of shipping, customs/import handling, ...

Please reach out by e-mail to laforge at osmocom.org.

#15 - 03/02/2022 11:40 AM - laforge
On Thu, Feb 24, 2022 at 07:25:12PM +0000, k_o_ wrote:

The model is LG-D821. But actually, I have found that I have 2 devices. I don't need both. Should I provide one? I don't need it back.

device has arrived, will investigate as soon as I find time. Thanks for your patience.

Files

| simtrace-cardem-dfu.bin | 27.8 KB | 02/21/2022 | laforge |