

OsmoMSC - Bug #2354

SMSC: Store&Forward not working for subscribed but unregistered MS

07/06/2017 02:36 PM - pespin

| | |
|--|-----------------------------------|
| Status: Resolved | Start date: 07/06/2017 |
| Priority: High | Due date: |
| Assignee: stsp | % Done: 90% |
| Category: | |
| Target version: | |
| Resolution: | Spec Reference: |
| Description | |
| <p>The following issue is specific to the splitted NITB components (MSC, BSC, HLR, etc). Using NITB the following is handled correctly.</p> <p>While writing osmo-gsm-tester smpp test to check use of Store&Forward mode, I run into the following scenario:</p> <ol style="list-style-type: none">1. Core network + BTS is turned on, no MS available yet2. An esme connects to the SMSC, and sends an SMS ("submit_sm" message with mode="Store&Forward") to an MS which is still not registered into the network (but it is subscribed, ie. it is on the database).3. the SMSC should store the SMS and send a submit_sm_resp message with everything correct, but instead it sends an error: <pre>smplib.exceptions.PDUError: ('(11) submit_sm_resp: Invalid Destination Address', 11)</pre> <p>I asked Neels about this and here's his detailed answer on the topic:</p> <pre><neels> pespin: makes sense, because in the NITB we have the HLR information in the local database . With the MSC we need to ask the HLR to know whether a subscriber exists -- and so far we do this only for location updating and authentication when the subscriber attaches. <neels> pespin: it seems we need to either store all SMS unconditionally or add an FSM that asks t he HLR whether to accept an SMS for a given number</pre> <p>The esme_ms_sms_storeforward.py test contains commented code to trigger the issue. Once this is fixed, that part of the test needs to be uncommented and validated with it.</p> | |
| Related issues: | |
| Related to OsmoMSC - Bug #4740: MSC stores an SMS in the database if the ESME... | Resolved 09/01/2020 |

History

#1 - 07/31/2017 03:58 PM - pespin

- Project changed from OsmoSMSC to OsmoMSC

I just realized this is not the correct project for this bug report, as I'm talking about the openbsc implementation here. Moving to OsmoMSC.

#2 - 08/17/2017 06:45 AM - laforge

- Priority changed from Normal to High

#3 - 01/04/2018 10:53 AM - laforge

- Assignee set to pespin

#4 - 01/11/2018 05:08 PM - laforge

- Assignee changed from pespin to stsp

#5 - 01/22/2018 05:49 PM - stsp

- Status changed from New to In Progress

#6 - 01/29/2018 09:11 AM - stsp

- Status changed from In Progress to Resolved

Fixed with <https://gerrit.osmocom.org/#/c/5997/>

#7 - 01/29/2018 09:45 AM - pespin

- Status changed from Resolved to In Progress

- Assignee changed from stsp to pespin

Re-opening and assigning to me as osmo-gsm-tester needs to be re-enabled.

#8 - 01/29/2018 09:58 AM - pespin

- Status changed from In Progress to Feedback

- % Done changed from 0 to 90

Patch revert disabled part of the test in <https://gerrit.osmocom.org/#/c/6150/>

#9 - 01/30/2018 10:46 AM - pespin

- Status changed from Feedback to In Progress

- Assignee changed from pespin to stsp

I merged the revert patch to re-enable the test but it seems it is still failing. In there we are using a different code path (smpp->smc->msc->ms).

handle_smpp_submit in osmo-msc osmo-msc/src/libmsc/smpp_openbsc.c

you can find the pcap trace in https://jenkins.osmocom.org/jenkins/view/osmo-gsm-tester/job/osmo-gsm-tester_run/4966/artifact/trial-4966-run.tgz and inside that archive: run.2018-01-30_09-23-05/aoip_smpp/esme_ms_sms_storeforward.py/osmo-msc_10.42.42.6/pcap/

the ESME connected to the SMSC sends a submit_sm message to send an SMS to an MS which is in the subscriber db but didn't register yet (it's still powered off).

as a result, the SMS seems to fail and sends back error:

```
Frame 20: 84 bytes on wire (672 bits), 84 bytes captured (672 bits)
Linux cooked capture
Internet Protocol Version 4, Src: 10.42.42.6, Dst: 10.42.42.1
Transmission Control Protocol, Src Port: 2775, Dst Port: 54168, Seq: 34, Ack: 290, Len: 16
Short Message Peer to Peer, Command: Submit_sm - resp, Status: "Invalid destination address", Seq: 3, Len: 16
  Length: 16
  Operation: Submit_sm - resp (0x80000004)
  Result: Invalid destination address (0x0000000b)
  Sequence #: 3
```

you can see osmo-msc log in run.2018-01-30_09-23-05/aoip_smpp/esme_ms_sms_storeforward.py/osmo-msc_10.42.42.6/stderr

Important related bits:

```
[0;m20180130101806745 [1;34mDSMP[0;m <000c> smpp_smsc.c:745 [esme-63594] smpp_pdu_rx(00 00 00 7d 00 00 00 04
00 00 00 00 00 00 02 00 01 01 36 33 35 39 34 00 01 01 36 33 35 39 35 36 33 35 39 34 00 03 00 00 00 00 00 00
00 00 47 6d 65 73 73 61 67 65 20 6e 72 2e 20 31 35 2c 20 73 6d 70 70 20 6d 65 73 73 61 67 65 20 77 69 74 68 2
0 77 72 6f 6e 67 20 64 65 73 74 2c 20 66 72 6f 6d 20 36 33 35 39 34 2c 20 74 6f 20 36 33 35 39 35 36 33 35 39
34 02 04 00 02 00 01 )
[0;m20180130101806745 [1;32mDSMP[0;m <000c> smpp_smsc.c:727 [esme-63594] Rx SUBMIT-SM (6359563594/1/1)
[0;m[1;38m20180130101806745 [1;33mDLSMS[0;m[1;38m <0016> smpp_openbsc.c:109 SMPP SUBMIT-SM for unknown subscri
ber: 6359563594 (NPI=1)
[0;m20180130101807164 [1;34mDSMP[0;m <000c> smpp_smsc.c:745 [esme-63594] smpp_pdu_rx(00 00 00 7b 00 00 00 04
00 00 00 00 00 00 03 00 01 01 36 33 35 39 34 00 01 01 36 33 35 39 35 00 03 00 00 00 01 00 00 00 4a 6d 65
73 73 61 67 65 20 6e 72 2e 20 31 36 2c 20 73 6d 70 70 20 73 65 6e 64 20 6e 6f 74 2d 79 65 74 2d 72 65 67 69 7
3 74 65 72 65 64 20 6d 65 73 73 61 67 65 2c 20 66 72 6f 6d 20 36 33 35 39 34 2c 20 74 6f 20 36 33 35 39 35 02
04 00 02 00 02 )
[0;m20180130101807164 [1;32mDSMP[0;m <000c> smpp_smsc.c:727 [esme-63594] Rx SUBMIT-SM (63595/1/1)
[0;m[1;38m20180130101807164 [1;33mDLSMS[0;m[1;38m <0016> smpp_openbsc.c:109 SMPP SUBMIT-SM for unknown subscri
ber: 63595 (NPI=1)
```

so it seems the error message comes from function "submit_to_sms"

#10 - 01/30/2018 05:56 PM - stsp

The above problem is fixed by <https://gerrit.osmocom.org/#/c/6192/> and another tweak to the regression test by Pau.

#11 - 02/05/2018 01:17 PM - stsp

- *Status changed from In Progress to Resolved*

#12 - 09/01/2020 02:02 PM - keith

- *Related to Bug #4740: MSC stores an SMS in the database if the ESME is not bound added*