OsmoMSC - Feature #2931

USSD test cases in TTCN-3

02/11/2018 05:41 PM - laforge

Status:	Resolved		**Start date:**	02/11/2018
Priority:	Low		**Due date:**	
Assignee:	fixeria		**% Done:**	100%
Category:	SS/USSD			
Target version:				
Resolution:			**Spec Reference:**	
Description				
We're not yet testing USSD from MSC_Tests in TTCN-3				
Related issues:				
Related to OsmoMSC - Feature #1597: External interface for USSD			**Stalled**	02/23/2016

History

#1 - 04/08/2018 08:03 AM - laforge

- Related to Feature #1597: External interface for USSD added

#2 - 04/08/2018 11:06 AM - fixeria

- Tracker changed from Bug to Feature

- Assignee set to fixeria

I'll try to implement some basic test coverage.

As I understand, we need to emulate the following:

- subscribers, sending and receiving USSDs at the same time (according to 3GPP TS 04.80);
- TTCN-3 based external USSD gateway (as soon as I finish the GSUP interface);
  - network initiated USSD-sessions;
  - subscriber initiated USSD-sessions;
  - error cases during USSD-sessions (e.g. losing connection with USSD gateway);
  - multiple USSD-sessions with a single subscriber (on both MM and transaction levels);

#3 - 05/29/2018 05:51 PM - fixeria

- Status changed from New to In Progress

- % Done changed from 0 to 10

The current plan of this work is:

1. (DONE) Implement abstract functions for GSM 04.80 coding
2. (DONE) TC: single request with known code (`*#100#`)
3. (DONE) TC: single request with unknown code (`*#999#`)
4. (DONE) TC: USSD request during an active call
5. TC: invalid initial request with DCS != 0x0f
6. TC: network originated USSD notification
7. Multiple requests within a session:
7.1. Emulate the USSD GW on the HLR side
7.2. TC: REQ_MS, REQ_NET, RSP_MS, RSP_NET
7.3. TC: MS initiated RELEASE_COMPLETE

Patches for both 1. and 2. have been sent to review:

https://gerrit.osmocom.org/#/q/status:open+project:osmo-ttcn3-hacks+topic:ussd
https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+/9372/

#4 - 05/30/2018 02:17 PM - laforge

- Tags set to TTCN3

#5 - 06/10/2018 01:54 PM - fixeria

Two new testcases have been submitted:

TC: single request with unknown code (`*#999#`)
https://gerrit.osmocom.org/9470/

TC: USSD request during an active call:
https://gerrit.osmocom.org/9471/

#6 - 06/19/2018 03:36 PM - fixeria

- % Done changed from 10 to 60

As we are about to finish the GSM 09.11 implementation, i.e. 'SS/USSD over GSUP' in our case,
the existing test cases were updated in order to expect and reply GSUP messages:

https://gerrit.osmocom.org/9685/

Also, a new tests cases for network-initiated transactions have been sent to review:

https://gerrit.osmocom.org/9686/

Finally, the test case, which was intended to check the reaction on unknown USSD-code, is going to be dropped:

https://gerrit.osmocom.org/9683/

#7 - 06/19/2018 03:45 PM - fixeria

Future plans:

- Test case for MS-initiated RELEASE * Test case for a few concurrent SS/USSD transactions * Test cases for abnormal cases, e.g. ** referencing a non-existing transaction ** interrupting an active transaction ** no response to Paging Request

#8 - 08/03/2018 05:45 PM - fixeria

- Category set to SS/USSD

- Status changed from In Progress to Stalled

- % Done changed from 60 to 80

#9 - 11/27/2018 09:34 PM - fixeria

- Checklist item [x] Test case for MS-initiated RELEASE added
Checklist item [ ] Test case for a few concurrent SS/USSD transactions added
Checklist item [ ] Abnormal: referencing a non-existing transaction added
Checklist item [ ] Abnormal: interrupting an active transaction added
Checklist item [ ] Abnormal: no response to Paging Request added
Checklist item [ ] Abnormal: timeout waiting for any activity added

#10 - 01/11/2019 11:07 PM - fixeria

- Checklist item [x] Abnormal: timeout waiting for any activity set to Done

- Priority changed from Normal to Low

Regarding the inactivity timeout, please see https://gerrit.osmocom.org/#/c/osmo-ttcn3-hacks/+/11985/

#11 - 06/14/2019 05:51 PM - fixeria

- Checklist item [ ] Abnormal: MT transaction to an unknown subscriber added

- Status changed from Stalled to In Progress

#12 - 06/14/2019 06:07 PM - fixeria

- Checklist item [x] Abnormal: MT transaction to an unknown subscriber set to Done

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/14450 MSC_Tests.ttcn: introduce TC_mt_ussd_for_unknown_subscr

#13 - 06/15/2019 08:02 AM - fixeria

- Checklist item [x] Abnormal: referencing a non-existing transaction set to Done

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/14460 MSC_Tests.ttcn: introduce TC_proc_ss_for_unknown_session
https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/14503 MSC_Tests.ttcn: introduce TC_mo_ussd_for_unknown_trans

#14 - 06/15/2019 07:41 PM - fixeria

- Checklist item [x] Abnormal: no response to Paging Request set to Done

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/14474 MSC_Tests.ttcn: introduce TC_proc_ss_paging_fail
https://gerrit.osmocom.org/c/osmo-msc/+/14475 libmsc/gsm_09_11.c: inform HLR/EUSE if Paging has failed

#15 - 06/16/2019 08:33 AM - fixeria

- Checklist item [x] Abnormal: interrupting an active transaction set to Done

- % Done changed from 80 to 90

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/14476 MSC_Tests.ttcn: introduce TC_proc_ss_abort

#16 - 08/14/2019 10:14 AM - fixeria

- Status changed from In Progress to Stalled

    [ ] Test case for a few concurrent SS/USSD transactions

I guess I will need to implement a TTCN-3 component for that, as we do in the HLR_Tests.ttcn.

#17 - 01/11/2020 12:32 AM - fixeria

- Checklist item [x] Test case for a few concurrent SS/USSD transactions set to Done

- Status changed from Stalled to Resolved

- % Done changed from 90 to 100

See https://gerrit.osmocom.org/r/I2fb1c5d285163d5245d92fa24c197a5027ecbe6f MSC: add test cases for concurrent MO/MT SS/USSD transactions