

## OsmoMSC - Feature #2931

### USSD test cases in TTCN-3

02/11/2018 05:41 PM - laforge

<b>Status:</b> Stalled	<b>Start date:</b> 02/11/2018
<b>Priority:</b> Low	<b>Due date:</b>
<b>Assignee:</b> fixeria	<b>% Done:</b> 80%
<b>Category:</b> SS/USSD	
<b>Target version:</b>	
<b>Resolution:</b>	
<b>Description</b> We're not yet testing USSD from MSC_Tests in TTCN-3	
<b>Related issues:</b> Related to OsmoMSC - Feature #1597: External interface for USSD <b>Stalled</b> <b>02/23/2016</b>	

#### 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  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  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/>