OsmoBTS - Bug #1950

LC15: BTS does not send L2 fill frame

02/13/2017 03:36 PM - mqng2

Status:	Resolved		**Start date:**	02/13/2017
Priority:	High		**Due date:**	
Assignee:	pespin		**% Done:**	0%
Category:	osmo-bts-litecell15			
Target version:				
Spec Reference:				

Description
We have noticed that the LC15 BTS does not send L2 fill frame in case there is nothing to transmit. This leads to bad RXQUAL repored by MS during signaling in TCH channel. Please refer to GSM 05.08, section 8.3 "On any TCH this subset of TDMA frames is always used for transmission during DTX. For speech, when no signalling or speech is to be transmitted these TDMA frames are occupied by the SID (Silence Descriptor) speech frame, see TS GSM 06.12 and TSM GSM 06.31 for detailed specification of the SID frame and its transmission requirements. In other cases when no information is required to be transmitted, e.g. on data channels, the L2 fill frame (see GSM 04.06 section 5.4.2.3) shall be transmitted as a FACCH in the TDMA frame subset always to be transmitted. On the SDCCH and on the half rate speech traffic channel in signalling only mode DTX is not allowed. In these cases and during signalling on the TCH when DTX is not used, the same L2 fill frame shall be transmitted in case there is nothing else to transmit."

Related issues:		
Related to OsmoBTS - Bug #4801: BTS_Tests.TC_tch_sign_l2_fill_frame_dtxd fails	**Stalled**	**10/11/2020**

Associated revisions

Revision 0ab50934 - 08/22/2018 07:50 PM - Stefan Sperling

fix conditions for sending fill frames during RTS IND

Rewrite an if-statement to better match the description given
in GSM 05.08, and quote the relevant paragraph in a comment.
Since this entire block of code only runs for SDCCH and TCH,
this new condition should provide the same result expect that
in accordance with the standard we now stop sending fill-frames
on a signalling TCH if DTX is in use.

Also note that this code should already cover parts of the
patch proposed at https://gerrit.osmocom.org/c/osmo-bts/+/5753
The changes to osmo-bts-litecell15/l1_if.c proposed there
should be equivalent to the fill-frame logic in this
existing common BTS code which is handling RTS IND.

Change-Id: Ibaf3ecbd0bde4f37e799d5e2f5d00dc695e0139a
Related: OS#1950

Revision 9bffa87c - 08/22/2018 07:50 PM - Stefan Sperling

send TCH/F fill frames in DTX mode (WIP)

Send DTX TCH fill frames according to GSM 05.08, section 8.3.

Change-Id: I7bff00b8cf41dc1b0e6e668173bebce23be0d253
Related: OS#1950

History

#1 - 01/04/2018 10:52 AM - laforge

Hi Minh, what is the status of this bug report from almost one year ago? Can you please update us? Thanks!

#2 - 01/08/2018 02:38 PM - mqng2

laforge wrote:

> Hi Minh, what is the status of this bug report from almost one year ago? Can you please update us? Thanks!

Hi Harald,

This bug was fixed in our public repository in the following commit

https://gitlab.com/nrw_noa/osmo-bts/commit/b32834b0e89ee987ff00e38041bd5683eea3cefd

I forgot to submit it to gerrit at that time. Do you want to submit it to gerrit?

#3 - 01/09/2018 07:16 PM - laforge

Hi Minh,

On Mon, Jan 08, 2018 at 02:38:21PM +0000, mqng2 [REDMINE] wrote:

> This bug was fixed in our public repository in the following commit
>
> https://gitlab.com/nrw_noa/osmo-bts/commit/b32834b0e89ee987ff00e38041bd5683eea3cefd
>
> I forgot to submit it to gerrit at that time. Do you want to submit it to gerrit?

It would be great if we could all work together, including Nutaq / Nuran making sure
that bug fixes are submitted to upstream osmocom. It is a collaborative software
development project, which only works if people actually collaborate :)

Thanks a lot, it is appreciated.

#4 - 01/11/2018 02:51 PM - mqng2

Hi Harald,

The patch has been submitted to gerrit https://gerrit.osmocom.org/#/c/5753

#5 - 01/11/2018 03:50 PM - laforge

On Thu, Jan 11, 2018 at 02:51:44PM +0000, mqng2 [REDMINE] wrote:

> The patch has been submitted to gerrit https://gerrit.osmocom.org/#/c/5753

Thanks!

#6 - 01/11/2018 05:08 PM - laforge

- Assignee set to stsp

#7 - 02/16/2018 01:15 PM - stsp

- Status changed from New to In Progress

Setting status to in-progress since this is being worked on.

It looks like this issue is currently waiting for an updated patch from Minh-Quang Nguyen at https://gerrit.osmocom.org/#/c/5753

#8 - 03/12/2018 06:00 PM - stsp

Vadim Yanitskiy has updated Minh-Quang Nguyen's patch. The patch is now waiting for another round of review and testing.

#9 - 03/12/2018 07:36 PM - fixeria

Vadim Yanitskiy has updated Minh-Quang Nguyen's patch.

Just had some spare time, and decided to move this work forward.
I am not familiar with this part of specifications, so only
cosmetic / code style changes were made.

#10 - 05/17/2018 11:51 AM - laforge

stsp wrote:

It looks like this issue is currently waiting for an updated patch from Minh-Quang Nguyen at https://gerrit.osmocom.org/#/c/5753

the point of assigning the ticket to you was that no such update appears to be coming, and that you should take things into your hands, sorry for not being explicit about it.

Also, it feels wrong that this is done in the bts-model specific part. The knowledge whether or not any real information or a L2 fill frame is to be sent in a given timeslot/frame number is something that's the same for all BTSs.

It's probably best to first establish some kind of decision tree (on paper, ...) looking at all the different cases and how we should behave in those cases, followed by some tests using the trxcon-fake_trx-osmo-bts-trx chain.

#11 - 05/18/2018 12:22 PM - stsp

In that case it's probably best if we sit down together and discuss this face to face.
I need to properly understand the goals you have in mind, and I need to learn which parts of the spec to study and learn whatever else I need to know to start working on this in earnest.

#12 - 08/07/2018 10:04 AM - stsp

I have started working on this after doing some related reading.

The following patch is related:
https://gerrit.osmocom.org/c/osmo-bts/+/10280

I will also be working on a bunch of new related tests for our BTS TTCN3 test suite.

#13 - 08/07/2018 04:30 PM - stsp

First two tests have been implemented: https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/10372

#14 - 08/21/2018 09:58 AM - stsp

There are some related work-in-progress patches for this issue:

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/10414
https://gerrit.osmocom.org/c/osmo-bts/+/10415

These changes are currently stalled because the foundations for testing DTX mode are missing from trxcon.
My DTX TTCN3 tests are currently unable to deal with frame numbers in a reliable way.
A hardware setup might serve as a workaround but AFAIK won't result in automated tests which can be run in our current jenkins setup.

#15 - 07/18/2019 05:39 AM - laforge

- *Status changed from In Progress to Stalled*

- *Assignee changed from stsp to pespin*

#16 - 07/18/2019 05:56 AM - mqng2

I am currenlty out of office today. I will be back on Jul 22 2019.

#17 - 10/11/2020 07:50 PM - laforge

- *Status changed from Stalled to Resolved*

#18 - 10/11/2020 07:52 PM - laforge

- Related to Bug #4801: BTS_Tests.TC_tch_sign_l2_fill_frame_dtxd fails added