

OsmoBTS - Bug #1796

PTCCH activation breaks dyn TS

08/10/2016 04:42 PM - msuraev

Status: Closed	Start date: 08/10/2016
Priority: Normal	Due date:
Assignee:	% Done: 0%
Category:	
Target version:	
Spec Reference:	
Description	
As discussed in https://gerrit.osmocom.org/#/c/671/ activating PTCCH causes error which breaks dynamic channels.	
I've tested it with sysmoBTS and the reason seems to be "double activation" of channels which works for PDTCH but fails 2nd time for PTCCH - see below.	
<pre><0006> oml.c:511 activating (bts=0,trx=0,ts=0,ss=0) pchan=CCCH+SDCCH4 ts_connect_as(CCCH+SDCCH4) logChComb=ccch_sdcch4 <0006> oml.c:808 Successful activation of L1 SAPI FCCH on TS 0 <0006> oml.c:808 Successful activation of L1 SAPI SCH on TS 0 <0006> oml.c:808 Successful activation of L1 SAPI BCCH on TS 0 <0006> oml.c:808 Successful activation of L1 SAPI AGCH on TS 0 <0006> oml.c:808 Successful activation of L1 SAPI PCH on TS 0 <0006> oml.c:808 Successful activation of L1 SAPI RACH on TS 0 <0006> oml.c:511 activating (bts=0,trx=0,ts=1,ss=0) pchan=SDCCH8 ts_connect_as(SDCCH8) logChComb=sdccch8 <0006> oml.c:511 activating (bts=0,trx=0,ts=2,ss=0) pchan=PDCH ts_connect_as(PDCH) logChComb=pdtch <0006> oml.c:511 activating (bts=0,trx=0,ts=3,ss=0) pchan=PDCH ts_connect_as(PDCH) logChComb=pdtch <0006> oml.c:511 activating (bts=0,trx=0,ts=4,ss=0) pchan=PDCH ts_connect_as(PDCH) logChComb=pdtch <0006> oml.c:511 activating (bts=0,trx=0,ts=5,ss=0) pchan=TCH/F ts_connect_as(TCH/F) logChComb=tch_f <0006> oml.c:511 activating (bts=0,trx=0,ts=6,ss=0) pchan=TCH/F ts_connect_as(TCH/F) logChComb=tch_f <0006> oml.c:511 activating (bts=0,trx=0,ts=7,ss=0) pchan=PDCH ts_connect_as(PDCH) logChComb=pdtch <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 2 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 3 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 2 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 4 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 3 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 7 <0006> oml.c:808 Successful activation of L1 SAPI PTCCH on TS 2 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 4 <0006> oml.c:808 Successful activation of L1 SAPI PTCCH on TS 3 <0006> oml.c:808 Successful activation of L1 SAPI PDTCH on TS 7 <0006> oml.c:808 Successful activation of L1 SAPI PRACH on TS 2 <0006> oml.c:808 Successful activation of L1 SAPI PTCCH on TS 4 <0006> oml.c:808 Successful activation of L1 SAPI PRACH on TS 3 <0006> oml.c:808 Successful activation of L1 SAPI PTCCH on TS 7 <0006> oml.c:813 Error activating L1 SAPI PTCCH on TS 2: Invalid parameter <0006> oml.c:808 Successful activation of L1 SAPI PRACH on TS 4 <0006> oml.c:813 Error activating L1 SAPI PTCCH on TS 3: Invalid parameter <0006> oml.c:808 Successful activation of L1 SAPI PRACH on TS 7 <0006> oml.c:813 Error activating L1 SAPI PTCCH on TS 4: Invalid parameter <0006> oml.c:813 Error activating L1 SAPI PTCCH on TS 7: Invalid parameter</pre>	
Related issues:	
Related to OsmoBTS - Feature #1776: Implement fully dynamic TCH/F + TCH/H + P...	Closed 07/12/2016
Related to OsmoBTS - Feature #1565: Dynamic PDCH / TCH switching: BTS part	Closed 02/23/2016 06/10/2016
Blocks OsmoPCU - Feature #1545: continuous timing advance loop using PTCCH	Stalled 02/23/2016

History

#1 - 08/10/2016 04:43 PM - msuraev

- Related to Feature #1545: continuous timing advance loop using PTCCH added

#2 - 08/10/2016 05:33 PM - neels

This error is due to osmo-bts commit 53d792c3b027bfb42d77804e3e687a287e122ef3 "Activate PTCCH UL"

the reason seems to be "double activation"

This is no double activation: the first is PTCCH DL, the second is PTCCH UL. Let's have a look at the struct in form of the actual commit diff:

```
diff --git a/src/osmo-bts-sysmo/oml.c b/src/osmo-bts-sysmo/oml.c
index 585e6d0..e9a4794 100644
--- a/src/osmo-bts-sysmo/oml.c
+++ b/src/osmo-bts-sysmo/oml.c
@@ -617,8 +617,9 @@ static const struct sapi_dir pdtch_sapis[] = {
     { GsmLl_Sapi_Pdtch,      GsmLl_Dir_RxUplink },
     { GsmLl_Sapi_Ptcch,     GsmLl_Dir_TxDownlink },
     { GsmLl_Sapi_Prach,     GsmLl_Dir_RxUplink },
-#if 0
     { GsmLl_Sapi_Ptcch,     GsmLl_Dir_RxUplink },
+ /* FIXME: do we still need this if? */
+#if 0
     { GsmLl_Sapi_Pacch,     GsmLl_Dir_TxDownlink },
 #endif
 };
```

So Ptcch TxDownlink was present before and is working well, while the patch adds Ptcch RxUplink which consistently fails to work.

Since this failure to activate PTCCH UL on PDCH TS has a side effect of breaking the operation of dynamic timeslots, I have a strong opinion towards reverting this commit **right now**, and coming back with a properly tested patch later.

My opinion is also well fed with detail in the gerrit patch review discussion of <https://gerrit.osmocom.org/671>.

- The commit is immature (all it does is add an error message, and it also is implemented only for sysmobts while lc15 would "need" the same change as well)
- The commit introduces a regression
- The commit has no benefit

I would appreciate anyone else seeing the sanity of my request to revert this **now** ;)

#3 - 08/10/2016 05:34 PM - neels

- Related to Feature #1776: Implement fully dynamic TCH/F + TCH/H + PDCH switching added

#4 - 08/10/2016 05:35 PM - neels

- Related to Feature #1565: Dynamic PDCH / TCH switching: BTS part added

#5 - 08/12/2016 06:06 PM - msuraev

- Related to deleted (Feature #1545: continuous timing advance loop using PTCCH)

#6 - 08/12/2016 06:06 PM - msuraev

- Blocks Feature #1545: continuous timing advance loop using PTCCH added

#7 - 08/30/2016 12:03 PM - neels

- Status changed from New to Resolved

The patch that broke dyn TS has been reverted in osmo-bts 55c46022e1a5f1cbe51c96566e38ff110e4a3092. This issue seems to be only about the dyn TS breakage, not PTCCH UL per se, so closing this.

#8 - 08/30/2016 05:05 PM - laforge

- Status changed from Resolved to Closed