

OsmoBTS - Feature #1562

Uplink DTX support

02/23/2016 03:18 PM - laforge

Status: Closed	Start date: 02/23/2016
Priority: Urgent	Due date: 06/10/2016
Assignee: laforge	% Done: 100%
Category:	
Target version:	
Spec Reference:	
Description	
This was never tested and we should check the status + fix it with OsmoBTS.	
Uplink DTX is important to reduce possible uplink interference, but even more so to conserve battery power of the mobile station.	
Related issues:	
Related to OpenBSC - Feature #22: Add DTXu/DRX support	Closed 06/10/2016
Related to OsmoBTS - Feature #1563: Downlink DTX support	Closed 05/09/2016 06/10/2016
Related to OsmoBTS - Bug #1744: 1-way voice between ssystemobts and nanobts if D...	New 06/03/2016
Related to OsmoBTS - Bug #1750: DTXu/DTXd support for osmo-bts-trx	Resolved 06/13/2016

History

#3 - 04/29/2016 01:46 PM - laforge

- Assignee set to msuraev

#4 - 05/04/2016 02:15 PM - laforge

- Priority changed from Normal to High

#5 - 05/04/2016 02:23 PM - laforge

- Related to Feature #22: Add DTXu/DRX support added

#6 - 05/04/2016 03:30 PM - laforge

To be more specific, this feature includes:

- parsing of the DTX related RSL/OML bits/IEs (DTX is under control from the BSC, and it can chose to activate/deactivate it dynamically, AFAIR)
- activation of the logical channel towards the MS with DTX enabled or disabled (if BTS needs to do something here; might also be the case that all messages are fully provided by the BSC)
- ensure that the processing of uplink measurements (signal quality / BER) into RSL uplink measurement reports is handled correctly
- ensure that LAPDm is working correctly. LAPDm should *not* be notified that bad frames have been received during periods where DTXu has muted some bursts/blocks. If we did that, it would look like a much higher actual error rate than we have.
- ensure that signalling in both direction works as expected, for both SAPI0 on FACCH as well as SAPI3 (SMS) on SACCH
- ensure that voice handling on the traffic channels works as expected, particularly in terms of the RTP integration for both HR and FR
 - AMR e.g. will transmit SID frames and change the transmission interval of RTP frames

It might make sense to compare our behavior with that of an ip.access nanoBTS in order to have protocol-level compatibility.

#7 - 05/04/2016 03:40 PM - laforge

- Related to Feature #1563: Downlink DTX support added

#8 - 05/09/2016 12:04 PM - msuraev

- Status changed from New to In Progress

#9 - 05/09/2016 12:46 PM - msuraev

Related specs:

3GPP TS 46.031 - FR

3GPP TS 46.012 - SID frames

3GPP TS 06.93 - AMR

3GPP TS 05.08 § 8.3 - Aspects of discontinuous transmission

3GPP TS 48.060 § 6.6.2 - Procedures for Discontinuous Transmission

#10 - 05/09/2016 06:49 PM - laforge

- Due date set to 06/10/2016

#11 - 05/09/2016 07:38 PM - laforge

- Priority changed from High to Urgent

#12 - 06/01/2016 01:52 PM - laforge

there hasn't been any update for 23 days, please update the ticket with some status.

#13 - 06/01/2016 03:42 PM - msuraev

- % Done changed from 0 to 20

done:

- parsing of the DTX related RSL/OML bits/IEs..
- ensure that the processing of uplink measurements..

not necessary (at least for uplink):

- activation of the logical channel towards the MS with DTX enabled or disabled..

currently working on:

- change the transmission interval of RTP frames

#14 - 06/03/2016 04:36 PM - msuraev

With RTP ts patches (currently under review) DTXu is working fine on sysmobts.

Remaining items:

- check lapdm
- check signaling
- fix interoperability with nanobts

#15 - 06/03/2016 04:39 PM - msuraev

- Related to Bug #1744: 1-way voice between sysmobts and nanobts if DTX is enabled added

#16 - 06/10/2016 02:09 PM - msuraev

- % Done changed from 20 to 80

The patches are pushed to gerrit/users/max/dtx-test branch and are ready for review/testing. Note support is implemented for sysmoBTS (updated firmware required for AMR tests) and LC15 BTS models. AMR-HR support is incomplete which might result in audible disturbances while testing.

#17 - 06/10/2016 02:11 PM - msuraev

Note: testing require fix for libosmo-abis which is under review in gerrit: 217.

#18 - 06/13/2016 01:24 PM - msuraev

- Related to Bug #1750: DTXu/DTXd support for osmo-bts-trx added

#19 - 06/20/2016 08:06 AM - msuraev

- Status changed from In Progress to Resolved

- Assignee changed from msuraev to laforge

- % Done changed from 80 to 100

Last missing bits have been merged to master.

#20 - 06/22/2016 10:18 PM - laforge

- Status changed from Resolved to Closed