

OsmoBTS - Bug #1801

AMR DTX: downlink logic flawed

08/20/2016 05:34 PM - laforge

Status: Closed	Start date: 08/20/2016
Priority: Normal	Due date:
Assignee: msuraev	% Done: 100%
Category:	
Target version:	
Spec Reference:	
Description The AMR DTX logic operates as follows: <ul style="list-style-type: none">• if there is an incoming downlink RTP frame in the queue for this lchan, send it• else, generate PH-EMPTY-FRAME.req or PH-DATA.req with SID payload, depending on time (also broken, see #1799) This is flawed, as it assumes that the incoming RTP stream is always well-formed and -timed. It would for example also mean that a RTP stream with lots of extra SID frames (more than every 160ms) would result in all of those SID frames transmitted over the radio interface, where the spec says we should only transmit one SID_UPDATE every 160ms. To quote a rule from IETF: we should be conservative in what we send and tolerant in what we receive.	
Related issues:	
Related to OsmoBTS - Bug #1799: AMR DTX: last_sid should operate on codec fra...	Closed 08/20/2016
Related to OsmoBTS - Bug #1800: AMR DTX: lchan->tch.last_sid is never populat...	Closed 08/20/2016
Related to OsmoBTS - Bug #1803: osmo-bts-litecell15: AMR FR: some RTP buffers...	Closed 08/20/2016
Related to OsmoBTS - Bug #1802: AMR DTX Downlink: We are not sending ONSET !?!	Closed 08/20/2016
Related to OsmoBTS - Bug #1892: AMR half rate crashes osmo-bts	Closed 12/20/2016

History

#1 - 08/20/2016 05:35 PM - laforge

- Description updated

#2 - 08/20/2016 05:35 PM - laforge

- Related to Bug #1799: AMR DTX: last_sid should operate on codec frame intervals (20ms), not gsm frame number added

#3 - 08/20/2016 05:35 PM - laforge

- Related to Bug #1800: AMR DTX: lchan->tch.last_sid is never populated with save_last_sid() added

#4 - 08/20/2016 05:36 PM - laforge

#5 - 08/20/2016 05:42 PM - laforge

- Related to Bug #1803: osmo-bts-litecell15: AMR FR: some RTP buffers are never released added

#6 - 08/30/2016 05:10 PM - laforge

- Assignee changed from sysmocom to msuraev

#7 - 09/16/2016 05:52 PM - msuraev

- Status changed from New to In Progress

- % Done changed from 0 to 20

Fix available as gerrit #858.

#8 - 10/11/2016 01:43 PM - msuraev

- % Done changed from 20 to 80

Should be fixed by gerrit # 1029 and corresponding fixes from related bugs.

#9 - 10/12/2016 04:03 PM - msuraev

- Related to Bug #1802: AMR DTX Downlink: We are not sending ONSET ?? added

#10 - 10/13/2016 11:44 AM - msuraev

- File dtx.dot added

Not sure what's the right place for .dot file so attaching current version here for the time being.

#11 - 12/20/2016 06:09 PM - msuraev

AMR FR is working fine with #rtp jitter-buffer 0'.

#12 - 12/20/2016 06:23 PM - ylebel

Je serai absent pour la période du 19 décembre 2016 au 3 février 2017 inclusivement. Pour toute question, contactez M. David Bourget à l'adresse david.bourget@nutaq.com. ***** I'll be out of the office from December 19th 2016 to February 3rd 2017 inclusively. If you need immediate assistance, please contact Mr David Bourget at david.bourget@nutaq.com.

#13 - 12/22/2016 02:29 PM - msuraev

Remaining AMR HR issues:

- FACCH insertion: proper use of SID_FIRST_INH (if SID_FIRST_P1 was used before FACCH) and SID_UPDATE_INH (if SID_UPDATE was used before FACCH)
- SID_UPDATE_INH is not sent to L1 in downlink
- SID_FIRST_INH is not sent to L1 in downlink
- Undesired speech frame during DTX seems to mess up the FSM. SID_UPDATE becomes SID_FIRST_P1

Note: this has not been re-tested with latest master yet.

#14 - 12/22/2016 02:29 PM - msuraev

- Related to Bug #1892: AMR half rate crashes osmo-bts added

#15 - 12/22/2016 03:45 PM - msuraev

- File deleted (dtx.dot)

#16 - 12/28/2016 05:31 PM - msuraev

gerrit# 1508 should fix AMR HR problem with inhibition by voice frames. FACCH for AMR HR is WIP.

#17 - 01/16/2017 11:50 AM - msuraev

Gerrit # 1611 should fix the issue with FACCH for AMR HR.

#18 - 01/24/2017 02:34 PM - msuraev

- Status changed from *In Progress* to *Stalled*

#19 - 02/06/2017 10:08 AM - msuraev

- Status changed from *Stalled* to *Resolved*

- % Done changed from 80 to 100

All fixes has been merged, docs update will follow up shortly.

#20 - 02/28/2017 05:33 PM - laforge

- Status changed from *Resolved* to *Closed*