

OsmoPCU - Feature #2282

uplink multi-slot allocations

05/22/2017 06:50 PM - laforge

Status: Stalled	Start date: 05/22/2017
Priority: High	Due date:
Assignee: pespin	% Done: 20%
Category:	
Target version:	
Spec Reference:	
Description we currently have multi-slot allocations only in downlink, which works for "web browsing" and related applications. However, particularly in M2M, quite often the applications are upload-centric, and thus single-slot allocations in uplink are insufficient. Let's extend the code base with support for uplink multi-slot allocations	
Related issues: Related to OsmoPCU - Bug #1775: LC15: No PDCH allocation across two TRX In Progress 07/12/2016	

History

#1 - 07/10/2017 06:50 PM - laforge

- Assignee changed from *sysmocom* to *msuraev*
- Priority changed from *Low* to *High*

#2 - 08/17/2017 06:35 AM - laforge

- Tracker changed from *Bug* to *Feature*

#3 - 08/31/2017 03:24 PM - msuraev

- Related to Bug #1775: LC15: No PDCH allocation across two TRX added

#4 - 09/01/2017 12:41 PM - msuraev

- Status changed from *New* to *In Progress*
- % Done changed from *0* to *10*

Prerequisite patch with code cleanup/restructure/documentation has been sent for review in gerrit 3760, 3807.

#5 - 09/13/2017 04:19 PM - msuraev

- % Done changed from *10* to *20*

Currently under review in gerrit: 3929, 3930, 3931, 3932, 3760, 3895, 3905, 3906, 3913, 3914, 3920.
The code requires serious refactoring and is unsufficiently covered by tests hence the size of patch series.

#6 - 10/09/2017 04:13 PM - msuraev

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

Needs to incorporate review feedback and re-submit.

#7 - 11/02/2017 04:32 PM - msuraev

Related patch series 4634-4636, 4072 is under review. Once it's merged, the previous patch set will be re-based on top of it and resubmitted.

#8 - 11/27/2017 02:36 PM - msuraev

Gerrit ~~4634~~ and ~~4635~~ were merged. Gerrit ~~4636~~ is waiting for review. Gerrit ~~4955~~, ~~4957~~, ~~4958~~, ~~4960~~ were sent for review based on current feedback; ~~4072~~ is rebased on top of ~~4958~~.

#9 - 01/30/2018 09:18 AM - msuraev

- Status changed from Stalled to In Progress

Patch series partially merged, the rest is rebased on top of it, more tests added.

#10 - 02/21/2018 11:24 PM - msuraev

- Status changed from In Progress to Stalled

Remaining patches under review gerrit ~~3895~~, 4086, 3929, 3932 are cosmetic only and can be dropped.

#11 - 03/01/2018 11:14 PM - laforge

- Assignee changed from msuraev to sysmocom

#12 - 10/02/2018 03:45 PM - laforge

#13 - 12/13/2018 08:12 AM - laforge

#14 - 04/18/2019 02:37 PM - laforge

- Assignee changed from sysmocom to lynxis

#15 - 07/11/2019 05:11 PM - lynxis

- Status changed from Stalled to In Progress

#16 - 01/08/2020 10:35 PM - laforge

- Assignee changed from lynxis to sysmocom

#17 - 05/12/2020 11:55 AM - laforge

- Assignee changed from sysmocom to pespin

#18 - 06/19/2020 08:22 AM - laforge

- Status changed from In Progress to Stalled

what is the status here? It looks like msuraev got some infrastructure/generalization patches merged, but no work has been done on the actual multi-slot uplink allocation, right?

#19 - 06/19/2020 10:33 AM - pespin

Right, I didn't do any work related on this yet.

#20 - 09/22/2020 06:22 PM - pespin

For reference, we still don't support UL multi-slot allocation yet, we do only for DL.

Related bits to be found in alloc_algorithm_b(), there in UL TBF code branch a call to allocate_usf() forces the initially selected TS set down into a single TS.

I guess support for it requires improving that part.

#21 - 09/22/2020 06:29 PM - pespin

Related:

```
commit 5f494b8415ff4e5c9bf323ea7bc8326ad423c7ae
Author: Jacob Erlbeck <jerlbeck@sysmocom.de>
Date: Wed Jul 1 13:10:41 2015 +0200
```

```
alloc: Only reserve 1 UL slot with algorithm B
```

```
Since currently the algorithm B will only allocate a single UL slot
```

and will have to stick to it (first common TS), the other possible UL slots will not be allocated while the reservation is kept.

This commit adds code to update the reserved set of UL slots to only reserve the single common TS when the UL TBF is allocated.

Interestingly this leads to fewer allocated TBF in some cases due to USF exhaustion. This will be improved by the following commit "alloc: Skip common TS without free USF".

Sponsored-by: On-Waves ehf

Also half related, a fix introduced in UL TBF recently:

<https://gerrit.osmocom.org/c/osmo-pcu/+20254> Fix crash accessing NULL tbf->pdch[first_ts]