Inter BSC HO fails due to lack of MSC Preferred Codecs IE

Status: Stalled
Priority: High
Assignee: neels
Category: Target version: Resolution: Spec Reference:
Start date: 04/14/2022
Due date: 
% Done: 80%

Description
Since https://gerrit.osmocom.org/c/osmo-bsc/+/27405 osmo-bsc requires the MSC Preferred Codec List IE in an incoming handover request as it should according to 3GPP TS 48.008 3.2.1.8

However, osmo-msc does not send it. TTCN3 tests are passing because the test suite generates the IE but does not require it.

It is suggested on the mailing list that the possible (probable?) easier? better? solution to generating this IE in osmo-msc is to work on the neels/codecs branch.
Unfortunately, further to neels’ refactoring work on the commits, plus an osmodevcall, it is still maybe representing quite some work load to get that through code review.

A possible workaround (for a locally working system) would be to revert https://cgit.osmocom.org/osmo-bsc/commit/?id=826ec9ff758c8a40fca2eaf6cca7989ff6471c83

Related issues:
Related to OsmoMSC - Bug #5659: ttcn3-msc-test regressions since build 1732, ...

History
#1 - 04/14/2022 12:31 PM - pespin
- Assignee changed from Osmocom CNI Developers to neels

#2 - 07/22/2022 10:20 AM - laforge
- Assignee changed from neels to msuraev
- Priority changed from Normal to High

Let’s see if we can improve the current situation (i.e. make the MSC send it, update the test cases) even before the neels/codec stuff gets merged eventually.

#3 - 08/01/2022 05:59 PM - msuraev
neels are there some related bits already available neels/codecs branch?

#4 - 08/03/2022 06:34 PM - neels
This sounds really familiar as if i have fixed that in the last year or so,... but i’d need to check from scratch myself now, i don't remember in detail. If it is solved, then we have a ttcn3 test for it, maybe check there first.

I'm also not sure how the neels/codec branch relates to it, I expect it affects/improves the choice of codecs sent to a remote MSC, but the branch shouldn't affect presence/absence of IEs.

#5 - 08/03/2022 09:20 PM - fixeria
AFAICS, there is no testcase in MSC_Tests verifying presence of the above-mentioned IE. I submitted a few related patches:
https://gerrit.osmocom.org/c/osmo-ltcn3-hacks/+/28919 BSSMAP_Templates: add SpeechCodecList param to lr_BSSMAP_HandoverRequest [NEW]
https://gerrit.osmocom.org/c/osmo-ltcn3-hacks/+/28920 MSC_Tests: SpeechCodecList IE shall be present in BSSMAP HandoverRequest [NEW]

#6 - 08/04/2022 08:14 AM - laforge
neels wrote in #note-4:
This sounds really familiar as if i have fixed that in the last year or so...

I don't know what happens in personal branches. But from irc/mailinglist/redmine/gerrit I only know of the discussion around the time keith reported this very bug 4 months ago.

#7 - 08/07/2022 04:27 AM - fixeria
fixeria wrote in #note-5:

AFAICS, there is no testcase in MSC_Tests verifying presence of the above-mentioned IE. I submitted a few related patches:

https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/28919  BSSMAP_Templates: add SpeechCodecList param to tr_BSSMAP_HandoverRequest [NEW]
https://gerrit.osmocom.org/c/osmo-ttcn3-hacks/+/28920  MSC_Tests: SpeechCodecList IE shall be present in BSSMAP HandoverRequest [NEW]

As expected, handover related testcases started to fail in ttcn3-msc-test.


Now osmo-msc needs to be modified to include the missing IE.

#8 - 08/07/2022 01:52 PM - neels

This sounds really familiar as if i have fixed that in the last year or so...

I think my memory is confusing this issue with a similar one in a different procedure.

#9 - 08/08/2022 03:59 PM - neels
- Status changed from New to In Progress
- Assignee changed from msuraev to neels

I've taken a little closer look, and fixing this issue is non-orthogonal to the msc SDP/codecs changes:

- Before the codecs patches, osmo-msc doesn't properly collect all the restrictions on codecs (from MS, RAN, ...)
- After the codecs patches, it becomes a lot easier to compose a "Speech Codec List (MSC Preferred)"

So we can either fix this issue twice: once before and once after merging the codecs patches. Or we can postpone it until the codecs patches become merged, and fix it then.

Either way it kind of makes sense that I adopt this issue, so that i can easily coordinate the codecs issues ... with myself.

I'm just going to assign it to me now -- msuraev are you fine with that?

#10 - 08/08/2022 04:01 PM - msuraev
neels wrote in #note-9:

Sure thing, that makes perfect sense.

#11 - 08/08/2022 05:24 PM - neels
- % Done changed from 0 to 30

Vadim has already made the TTCN3 tests for inter-BSC handover stricter, requiring a Codec List (MSC Preferred) IE to be present.

I have that test passing now on the osmo-msc neels/codecs branch (lfcf719c5fc9e11749aafbd97bafda7f6f50973ea) but besides presence, the test does not actually verify that the IE contents are useful or correct.

I also have to properly test the entire neels/codecs branch for real world usability before it can be merged. Unlike the past years, I am actually working on it and this is actually happening in a reasonable timeframe.

keith, if you have a physical setup where you could build and run the osmo-msc neels/codecs branch and see whether voice actually works (both before and after inter-BSC HO), your feedback would be very welcome. I will do the same at some point not too far in the future, but not sure when exactly.

09/20/2022
I can also try to fix this issue on the current osmo-msc master branch.
It would be the same patch, except figuring out which codecs to send is an entirely different question on current master.
Let me know if the priority is high enough to fix this for current master as well.

#12 - 08/11/2022 07:52 AM - keith
Hi neels, I am away from any kind of lab setup (and mostly AFK altogether) until mid September. I'm very happy to get back to this then.

Thanks!

#13 - 08/11/2022 07:55 AM - keith
As far as I am concerned, this is not so high priority as to warrant fixing it in master. I think it's better to go the codecs route, as that way unblocks work I want to do on completing LCLS control by SIP re-INVITES.

#14 - 08/23/2022 10:20 AM - fixeria
- Related to Bug #5659: ttcn3-msc-test regressions since build 1732, 17 days ago added

#15 - 08/23/2022 03:45 PM - neels
- Status changed from In Progress to Stalled
- % Done changed from 30 to 80

waiting for neels/codecs branch to be merged to osmo-msc