This is entirely a BSC feature. The BSC

1. notices there is a pending emergency call (RACH request with CHREQ_T_EMERG_CALL)
2. notices it cannot allocate a suitable TCH/F or TCH/H channel
3. must pick any random non-emergency TCH on the same cell and terminate it
4. assign that TCH to the MS that has sent the emergency related RACH request

As OsmoBSC currently performs channel allocation "synchronously" (i.e. within the context of the received RACH request, without any delays), this must be extended. We need to introduce a queue for asynchronous processing of RACH requests, as we have to wait for the deactivation/re-activation of the logical channel to complete at the BTS before being able to do the IMMEDIATE ASSIGNMENT.

manual testing sidenote: OsmoMSC may not be able to process Emergency Call without SIM (no IMSI, only IMEI). This is a layer3 feature and hence should be supported by the regular operator MSC. There are no changes/extensions on the RAN side to support this. In some jurisdictions, like Germany, emergency calls without SIM/IMSI must be rejected by the operator anyway. I'm just mentioning this for JMA testing of emergency calls: Make sure you test them with a SIM inserted.

History

#1 - 05/12/2020 01:36 PM - laforge

- Checklist item [] BSC_Tests.ttcn case simulating fully loaded BTS with incoming emergency call RACH req added
- Checklist item [] BSC logic pre-emption (see update 1) added
- Checklist item [] manual end2end verification (with modem + coaxial cabling to BTS) added
- Checklist item [] osmo-gsm-tester test (hand over to @pespin?) added