

OsmoBSC - Feature #3638

handover decision 2: load balancing across BSS

10/09/2018 02:55 AM - neels

Status: New	Start date: 10/09/2018
Priority: Low	Due date:
Assignee:	% Done: 0%
Category: Handover	
Target version:	
Spec Reference:	
Description I have today implemented a first rudimentary decision tradeoff for inter-BSC HO: never do load balancing across BSS boundaries, because that is asking for oscillation. So we do inter-BSC handover like in the handover decision algorithm 1: only if the current lchan drops below the minimum required rxlev / max ta, and a remote-BSS has better rxlev. (So far this is on branch osmo-bsc:neels/ho2-interbsc, needs some polishing and merge.) In the long run, there are options for load balancing across BSS: <ul style="list-style-type: none">• trigger inter-BSC HO, and the remote-BSS refuses to accept it if it feels too loaded. The handover algorithm penalty timers will then prevent asking the same remote-BSS too often.• the "Old BSS to New BSS Information" IE in the BSSMAP Handover Required: we can send some load indication along, and the target BSS could accept only if it is less loaded.	
Related issues:	
Related to OsmoBSC - Feature #1608: various handover improvements, meta-issue	Rejected 02/23/2016
Related to OsmoBSC - Feature #3486: handover decision: congestion: figure out...	New 08/20/2018
Related to OsmoBSC - Feature #1606: hand-over for load distribution among BTSs	Resolved 02/23/2016

Associated revisions

Revision d763a70d - 10/16/2018 11:02 AM - Neels Hofmeyr

handover_decision_2.c: implement HO to remote BSS

Implement basic support for inter-BSC HO from handover_decision_2: do inter-BSC handover only when rxlev / rxqual / ta drop below the minimum requirements.

I considered adding a vty config flag to disable/enable remote-BSS handover, but to avoid inter-BSC HO the user can simply refrain from configuring neighbors for a particular cell.

In collect_assignment_candidate(), it is important to clear out any new candidate entry. Hence adopt the same pattern as below: first compose a new (cleared) candidate, then write the entry into the list.

Related: OS#3638
Change-Id: Id78ac1b2016998a2931a23d62ec7a3f37bb764c6

Revision bcbc537e - 10/21/2018 12:33 PM - Neels Hofmeyr

handover_decision_2.c: implement HO to remote BSS

Implement basic support for inter-BSC HO from handover_decision_2: do inter-BSC handover only when rxlev / rxqual / ta drop below the minimum requirements.

I considered adding a vty config flag to disable/enable remote-BSS handover, but to avoid inter-BSC HO the user can simply refrain from configuring neighbors for a particular cell.

In collect_assignment_candidate(), it is important to clear out any new candidate entry. Hence adopt the same pattern as below: first compose a new (cleared) candidate, then write the entry into the list.

Related: OS#3638
Change-Id: Id78ac1b2016998a2931a23d62ec7a3f37bb764c6

History

#1 - 10/09/2018 02:57 AM - neels

- Related to Feature #1608: various handover improvements, meta-issue added

#2 - 10/09/2018 02:58 AM - neels

- Related to Feature #3486: handover decision: congestion: figure out the tradeoff: re-assign within same cell vs. handover to another cell added

#3 - 10/09/2018 03:06 AM - neels

- Priority changed from Normal to Low

#4 - 10/10/2018 11:32 AM - neels

- Related to Feature #1606: hand-over for load distribution among BTSs added

#5 - 10/11/2018 03:37 PM - neels

(first ho2 inter-bsc support: <https://gerrit.osmocom.org/11321>)

#6 - 10/16/2018 01:16 PM - neels

- Category set to Handover