3GPP TSG-RAN WG3 #113-e R3-214319

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Online

**Agenda item: 10.2.1.5**

**Source: CMCC, ZTE**

**Title: TP to SON BLCR 38.300 on MLB**

**Document for: Endorsement**

# 1 Introduction

This document provides text proposal for BLCR to 38.300 on MLB.

# 2 Text proposal

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| **\*\*\* Start of change, omitted text not changed \*\*\*** |

15.5.1 Support for Mobility Load Balancing

15.5.1.1 General

The objective of mobility load balancing is to distribute load evenly among cells and among areas of cells, or to transfer part of the traffic from congested cell or from congested areas of cells, or to offload users from one cell, cell area, carrier or RAT to achieve network energy saving. This can be done by means of optimization of cell reselection/handover parameters and handover actions. The automation of such optimisation can provide high quality user experience, while simultaneously improving the system capacity and also to minimize human intervention in the network management and optimization tasks.

Intra-RAT and intra-system inter-RAT load balancing scenarios are supported.

In general, support for mobility load balancing consists of one or more of following functions:

- Load reporting;

- Load balancing action based on handovers;

- Adapting handover and/or reselection configuration.

15.5.1.2 Load reporting

The load reporting function is executed by exchanging load information over the Xn/X2/F1/E1 interfaces.

The following load related information should be supported which consists of:

- Radio resource usage (per-cell and per SSB area PRB usage: DL/UL GBR PRB usage, DL/UL non-GBR PRB usage, DL/UL total PRB usage, and DL/UL scheduling PDCCH CCE usage; PRB usage for slice(s): DL/UL GBR PRB usage, DL/UL non-GBR PRB usage, and DL/UL Total PRB allocation);

- TNL capacity indicator (UL/DL TNL offered capacity and available capacity);

- Cell Capacity Class value (UL/DL relative capacity indicator);

- Capacity value (per cell, per SSB area and per slice: UL/DL available capacity);

- HW capacity indicator (offered throughput and available throughput over E1, percentage utilisation over F1);

- RRC connections (number of RRC connections, and available RRC Connection Capacity);

- Number of active UEs.

To achieve load reporting function, Resource Status Reporting Initiation & Resource Status Reporting procedures are used.

15.5.1.3 Load balancing action based on handovers

The source cell may initiate handover due to load. The target cell performs admission control for the load balancing handovers. A handover preparation related to a mobility load balancing action is distinguishable from other handovers, so that the target cell is able to apply appropriate admission control.

15.5.1.4 Adapting handover and/or reselection configuration

This function enables requesting of a change of handover and/or reselection parameters at target cell. The source cell that initialized the load balancing estimates if it is needed to change mobility configuration in the source and/or target cell. If the amendment is needed, the source cell initializes mobility negotiation procedure toward the target cell.

The source cell informs the target cell about the new mobility setting and provides cause for the change (e.g. load balancing related request). The proposed change is expressed by the means of the difference (delta) between the current and the new values of the handover trigger. The handover trigger is the cell specific offset that corresponds to the threshold at which a cell initialises the handover preparation procedure. Cell reselection configuration may be amended to reflect changes in the HO setting. The target cell responds to the information from the source cell. The allowed delta range for HO trigger parameter may be carried in the failure response message. The source cell should consider the responses before executing the planned change of its mobility setting.

All automatic changes on the HO and/or reselection parameters must be within the range allowed by OAM.

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| **\*\*\* End of change, remaining text not changed \*\*\*** |