3GPP TSG-RAN WG3 Meeting #121 R3-23xxxx

**Toulouse, France, 21 – 25 Aug, 2023**

Agenda Item: 10.2.3

Source: Huawei

Title: (TPs for SON BLCR for TS 36.300): Remaining issues for RACH optimisation

Document for: other

# Introduction

This ducumemnt contains a TP for SON BLCR for TS 36.300.

# TP for SON BLCR for TS 36.300

/\*\*\*\*\*\*\*\*\*\*\*\*\*Start of change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

### 22.4.3 Support for RACH Optimisation

#### 22.4.3.1 General

The aim of this function is to support RACH Optimisation. RACH optimisation is supported by UE reported information and by RACH parameters exchange between:

- E-UTRA cells;

- NR cells, in case of EN-DC.

#### 22.4.3.2 Solution description

##### 22.4.3.2.1 E-UTRA cell case

The setting of RACH parameters that can be optimized are:

- RACH configuration (resource unit allocation);

- RACH preamble split (among dedicated, group A, group B, RSRP level, NRSRP level (for NB-IoT), NPRACH resource pools (for NB-IoT), EDT);

- RACH backoff parameter value;

- RACH transmission power control parameters.

RACH optimisation is supported by UE reported information and by PRACH parameters exchange or NPRACH parameters (for NB-IoT) between eNBs.

UEs which receive polling signalling shall report the below information:

- Number of RACH preambles sent until the successful RACH completion;

- Contention resolution failure;

- For BL UE or UE in enhanced coverage or NB-IoT UE, the RSRP (NRSRP for NB-IoT) level in which the UE started the random access procedure;

- For BL UE or UE in enhanced coverage or NB-IoT UE, an EDT fallback indication.

UE reporting of RACH information is not supported for a NB-IoT UE using the Control Plane CIoT EPS Optimisation,

##### 22.4.3.2.2 NR cell in EN-DC case

The solution applies to an en-gNB supporting EN-DC operation. RACH optimisation is supported by UE reported information (RA report, see TS 38.300 [79]) made available at the eNB and further forwarded to the en-gNB, and by PRACH parameters exchanged (see TS 38.300 [79]) between en-gNBs and eNBs.

In EN-DC, when the UE performs a successful random-access procedure in the secondary en-gNB, the secondary en-gNB may inform the potential availability of RA Report in the UE to the master eNB via a RACH indication. The eNB may then retrieve the RA Report from the UE based on the RACH indication received via X2AP signalling from the secondary en-gNB.

##### 22.4.3.2.3 Retrieval and forwarding of NR RA Report by eNB

When an eNB retrieves an NR RA Report, it may forward the NR RA Report to those en-gNBs serving the PSCell IDs indicated by the PSCell List Container along with the NR RA Report.

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