3GPP TSG-RAN WG2 Meeting #127bis R2-240xxxx

Hefei, China, Oct 14th – 18th, 2024

**Title: [draft] LS on RAN2 agreements for inter-CU LTM**

**Response to:**

**Release: Rel-19**

**Work Item: NR\_Mob\_Ph4-Core**

**Source: ZTE [to be RAN2]**

**To: RAN3**

**Cc:**

**Contact person: Jing Liu**

 **liu.jing30@zte.com.cn**

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** **None**

# 1 Overall description

Regarding Rel-19 Inter-CU LTM, RAN2 made the following agreements at RAN2#127bis meeting:

**Agreements on inter-CU LTM**

1. The Rel18 handling on failure is reused in R19 if the UE selects an intra-CU LTM candidate cell after intra-CU LTM failure; for other cases, e.g. inter-CU LTM failure, the failure handling is FFS (related to SA3’s inputs).
2. For non-DC case, if the new Rel-19 IDs of the serving cell and the target cell have same values, the UE compares the ltm-ServingCellNoResetID and ltm-NoResetID and performs the corresponding L2 reset operation as defined in Rel-18.
3. The SCPAC-similar security update configuration is introduced for inter-CU SCG LTM, i.e. similar to IEs sk-CounterConfiguration, servingSecurityCellSetId and securityCellSetId. The names of the new IEs are to be discussed in stage3.
4. Regarding the candidate and reference configuration generation and signaling design, the following SCPAC-similar principles can be applied for inter-CU SCG LTM as baseline:

 - The reference configuration for inter-CU SCG LTM at least include SCG part, FFS on MCG part.

 - FFS: Network ensures that when UE combines the reference and candidate configuration for inter-CU SCG LTM, the configuration generated by UE must contain both MCG and SCG part configurations.

 - The candidate configuration and reference configuration are modeled as an MN RRCReconfiguration message.

 - Upon inter-CU SCG LTM, the UE performs reconfiguration with sync towards SCG, but the reconfiguration with sync in MCG is not allowed.

 - The MN generates the MCG part of the reference configuration (if any), while the SN (source or candidate) generates the SCG part of the reference configuration.

 - The MN is responsible for the reference configuration generation for SN initiated inter-CU SCG LTM. It can be up to the NW implementation whether to include the MCG part.

 - The MN can request an SCG reference configuration from any of the involved SNs.

5. For SN initiated inter-CU SCG LTM, the candidate SN provides the SCG part configuration of each candidate PSCell, and may also provide the L1 RS (e.g. a list of SSB or a list of CSI-RS) configuration for L1 measurement, early UL sync configuration or TCI-state configuration, to the MN.

6. The source SN is responsible to generate the common CSI resource configuration for L1 measurement on candidate SCG cells.

7. The MN sends the received L1 RS configuration, early UL sync configuration, or TCI-state configuration of candidate cells to the source SN. And the source SN responds with the common CSI resource configuration to the MN.

8. In order to support subsequent inter-CU SCG LTM, the MN needs to transfer, during the LTM preparation phase, the common CSI resource configuration and the collected information of candidate cells to the candidate SN(s). Accordingly, the candidate SN(s) responds with the updated candidate SCG configuration to the MN.

9. Upon execution of inter-SN SCG LTM, the UE sends an MN RRCReconfigurationComplete message to the MN, which includes an SN RRCReconfigurationComplete message.

10. Re-use legacy LTM Cell Switch Command MAC CE for inter-SN LTM.

11. RAN2 confirms to support coexistence of following cases, it is up to network implementation to ensure simultaneous execution for both MCG and SCG will not happen:

 - Inter-MN LTM and intra-SN LTM

 - Inter-SN LTM and intra-MN LTM

# 2 Actions

**To RAN3 group**

**ACTION:** RAN2 kindly asks RAN3 to take the above agreements into consideration in future work.

# 3 Dates of next TSG-RAN WG2 meetings

TSG-RAN2 Meeting #128 18 - 22 November 2024 Orlando, US

TSG-RAN2 Meeting #129 17 - 21 February 2025 Athens, GR