**3GPP TSG-RAN WG3 Meeting #119bis-e R3-232094**

**Online, Apr. 17 – 26, 2023**

**Title:** (TP for L1L2Mob BLCR for TS 38.401): L1/L2 Mobility procedure on E1

**Source:** Huawei

**Agenda item:** 14.2

**Document Type:** Discussion

# 1. Introduction

This document contains the progress and tentative TP for E1 as a WF for the discussion in next meeting.

# 2. Progress at 119bis e-meeting

**Questions needs to be clarified online:**

1. For intra-DU LTM and intra-UP (i.e. no change of CU-UP), there will be no need to create new TEID, actually no signalling will be exchange with CU-UP?
2. whether can realize CU UP change without security key update? This case is very limited and we prefer to consider it later.
3. why the CU-UP would be changed, i.e., we wanted to understand the motivation for considering the inter-CU-UP LTM case in the first place, further considering that Rel-18 LTM is for intra-CU.

**The following proposals are for agreement if above questions are clarified:**

**Proposal 3.6-1: For intra-CU-UP case, propose to turn the following WF to an agreement:**

**In case of CP UP separation, once CUCP receives LTM cell switch signling from (source)DU , CU CP initiates E1 bearer context modification to the CU UP including DL tunnel ID per DRB** **for target cell, for data transmission.**

**Proposal 3.6-2: For inter-CU-UP LTM, once the CU-CP receives LTM cell switch signaling from (source) DU, the CU-CP initiates E1 bearer context modification to the target CU UP including DL tunnel ID per DRB for target cell for data transmission.**

**Proposal 3.6-3a: Revisit the following proposals after the basic procedure is stable.**

* **One option that can minimize the impact on CU-UP when performing LTM is that the steps 3 and 4 are executed together with steps 9 and 10.**
* **One more option that can minimize the impact on CU-UP when performing LTM is that the CU-UP provides only one UL TNL address which will only be used by the target cell after successful execution of LTM cell switch.**

**To be continued.**

**Proposal 3.6-3: For inter-CU-UP LTM, the CU-CP initiates E1 bearer context modification to the source CU-UP for retrieving the latest PDCP status at the source CU-UP and exchanging the data forwarding information to target CU-UP.**

**Proposal 3.6-4: In case of gNB-CU-UP change, the gNB-CU triggers the source gNB-CU-UP to start data forwarding after receiving LTM cells switch signalling from DU.**

**Proposal 3.6-5: For inter-CU-UP LTM, Path switch procedure is performed towards the core network after detecting the UE has accessed to the target cell.**

# Tentative TP for inter-DU inter-CU-UP LTM

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Next change\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

8.2.1.Z L1/L2 Triggered Mobility with gNB-CU-UP change

Figure 8.2.1.z-1 shows the procedure used for L1/L2 triggered mobility with the change of gNB-CU-UP within a gNB.

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**Figure 8.2.1.z LTM with the change of gNB-CU-UP**

0. The source gNB-DU forwards the Measurement Report to the gNB-CU-CP.

1. The gNB-CU-CP decides to initiate LTM configuration.

2. The gNB-CU-CP sends a BEARER CONTEXT SETUP REQUEST message containing UL TNL address information for NG-U to setup the bearer context in the target gNB-CU-UP.

3. The target gNB-CU-UP responds with a BEARER CONTEXT SETUP RESPONSE message containing the UL TNL address information for F1-U, DL TNL address information for NG-U, and the TNL address information for data forwarding to the target gNB-CU-UP.

4 - 5. F1 UE context setup procedure is performed to setup one or more bearers in the gNB-DU.

6 - 7.The gNB-CU-CP sends the RRC Reconfiguration message to the UE. Details are FFS.

8. The UE sends the lower layer measurement result to the source gNB-DU, and the source gNB-DU decides to execute L1/L2 triggered mobility to a candidate target cell.

9. The source gNB-DU sends the LTM cell switch notify message to the gNB-CU-CP with the selected target cell ID.

10-11. The gNB-CU-CP performs the Bearer Context Modification procedure to retrieve the PDCP UL/DL status and to exchange the TNL address information for data forwarding for the bearers.

12-13. The gNB-CU-CP performs the Bearer Context Modification procedure to send the DL TNL address information for F1-U and the PDCP UP/DL status to the target gNB-CU-UP.

14. Data Forwarding may be performed from the source gNB-CU-UP to the target gNB-CU-UP.

15. The target gNB-DU detects the UE in the target cell.

16. The target gNB-DU sends an ACCESS SUCCESS message to the gNB-CU-CP.

17 - 19. Path Switch procedure is performed to update the DL TNL address information for the NG-U towards the core network.

20-21. Bearer Context Release procedure may be performed to release the UE context in the source gNB-DU.

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*End of changes\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/