3GPP TSG RAN Rel-19 workshop RWS-230268

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Mobility Enhancements in Rel-19

Agenda Item: 5

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Background

～Rel-18 specs for LTE and NR have many mobility features

- RACH-less handover
- Make before break (MBB)
- Dual active protocol stack (DAPS)
- Conditional handover (CHO)
- L1/L2 triggered mobility (LTM)

But most of them have not been commercialized

- Baseline of NR Handover is identical to LTE

→ Is mobility Improvements expected in 5G?

Mobility issue is basically solved by native function applicable to all UEs including legacy UEs

→ good functionalities should be supported as a native function of the initial version of each generation

We believe LTM will be a core mobility functionality for the next generation

- Rel-18 supports only essential LTM features due to lack of time
  - The allocated TUs in Rel-18 was clearly insufficient
- The complete set of LTM functionalities should be specified in Rel-19

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Potential area for Rel-19 WI

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- **Leftover from Rel-18 LTM: Complete the missing functionalities in Rel-18**
  - L1 enhancements, e.g. measurement and reporting
    - Support of CSI-RS based L1 measurement
    - Support of L1-SINR
    - UE/event triggered L1 measurement report (which may be useful for normal MIMO operation)
  - Higher layer enhancements
    - [Optimization for fallback operation, e.g. LTM failure]
    - Introduction of UE-triggered mobility action
      - Conditional LTM (cell switch can be triggered by UE)
    - Import group HO concept to LTM
      - Study the the potential use cases (e.g. vehicular based group mobility, for network energy saving, etc) and identify necessary enhancements
        - Note: this may include architecture discussion

- **Study the extend the use cases of LTM**
  - Study whether and how to support Inter-CU scenario
  - Study the new use cases for LTM
    - Handover between TN and {NTN, drone as well as maritime, underwater communication expected in 6G era)

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Thank you

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