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3GPP TSG RAN #104 RP-241049

Shanghai, China, June 17-20, 2024

Agenda Item: 9.11

Source: vivo, China Broadnet, NTT DOCOMO, INC., China Telecom, China Unicom, CMCC, Vodafone, Charter, TCL, Spreadtrum, Lenovo, CATT, NEC, Motorola Mobility, CableLabs

Title: Rel-19 MUSIM enhancements work item

Document for: For discussion

Background

Contributions support:

RP-231805 Rel-19 MUSIM enhancements (RAN2-led), vivo, NTT DOCOMO, INC., China telecom, China Unicom, TCL.

RP-231857 Views on scope for NR Multi-SIM in Rel-19 Qualcomm Incorporated.

RP 231913 Multi-SIM enhancements for Rel-19, Spreadtrum Communications.

RP-232068 Views on NR R19 MUSIM Enhancements, CATT.

RP-232183 Multi-SIM Enhancement in Rel-19, Lenovo.

Operators support: including CMCC, China Telecom, China Unicom, China Broadnet, NTT docomo, Vodafone, Verizon, Charter, CableLabs

Summary in RP-232627

Conclusions

- ⇨ There is some operator support for the WI (including CMCC, China Telecom, China Unicom, NTT docomo, Vodafone, Verizon)
- ⇨ If the WI is part of Rel-19 package, a starting acceptable objective is:
  - *MUSIM Gap enhancements*
  - *To be discussed: Same operator/RAN sharing enhancements (NO RAN1 impact) – Check if it is possible with no SA2 impacts*

MUSIM-Gap enhancements

Motivation: For the periodic/short time activities in NW B, a finer granularity MUSIM gap in NW A is more suitable:

- R17 per UE MUSIM gap causes data interruption in NW A
- R18 MUSIM capability switching causes the related resources release with data throughput loss in NW A

Potential objectives:

- Specify the request/configuration of a finer granularity MUSIM gap (e.g. per CG, per FR, per CC) [RAN2]
- Specify new RRM requirement for the finer granularity MUSIM gap [RAN4]

MUSIM-Optimization for same operator

Motivation:

- Based on vivo statistics in China, 34% of dual USIM phones have the USIMs from the same operator.
- It is beneficial for the network to know two UEs are in the same device, many network side optimizations are possible by implementation, e.g., common RRM / mobility (e.g., handover to the same gNB/Cell at same time), and network-based UE capability sharing between two USIMs.

Potential objectives:

- Case 1: The UE of one USIM informs the gNB the UE and cell identity (e.g., C-RNTI, PCI) of another USIM in the same gNB. **[RAN2]**
- Case 2: The UE of one USIM indicates to the gNB it prefers to connect to a specific cell (e.g., cell ID), such that two USIMs are in the same cell. **[RAN2]**

Note1: The gNB shall verify that the USIM A and USIM B are physical co-located in the same terminal device [coordination with SA may be needed].

Note 2: The enhancement can also apply to RAN sharing case if any.

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THANK YOU.
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