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Motivation and overview of RRC_INACTIVE state enhancements

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Introduction

- ✓RRC_INACTIVE is a new state in the NR
- ✓It allows a good trade-off between the UE power consumption and overall RRC signaling load needed to transit to RRC_CONNECTED
- ✓It is anticipated that RRC_INACTIVE will play a key role in achieving low power consumption for stand-by applications and devices

- ✓The Rel-15 state will provide the baseline RRC_INACTIVE state functionality
- ✓ At the same time, further enhancements have been proposed/discussed

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Data transmission in RRC_INACTIVE (1/2)

✓**Data transmission in RRC_INACTIVE (RAN2 RAN3)**

- This enhancement can speed up user plane data transmission
- This topic has been extensively discussed during the SI phase
- Data transmission in RRC_INACTIVE is part of NR WI description, but accounting for current progress it is not likely to be standardized in Rel-15

- It should be decided whether we pursue data transmission in RRC_INACTIVE
- A SI phase is beneficial to check NR SI phase conclusions and to prepare RAN WGs for normative work

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Other RRC_INACTIVE enhancements (2/2)

✓Reduction of RRC signaling load (RAN2)

- State transitions will involve exchange of RRC messages (as per preliminary RAN2 decisions)
- More aggressive and faster state transitions could be achieved if the number of exchanged RRC messages is reduced and/or some of them are eliminated

✓RAN notification area related enhancements (RAN3)

- Potential optimizations for a case when Xn not available when UE moves out of the RNA
- Keeping the UE context at the anchor gNB upon periodic RNA area update

✓Other enhancements

- Staying in RRC_INACTIVE upon leaving “camped normally state”

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Thank You!

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