3GPP TSG RAN Meeting #102
Edinburgh, Scotland, December 11-15, 2023

RP-232970

Views on Rel-19 Additional Topological Enhancements

Agenda Item: 9.1.3.3

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Introduction

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RAN chair's guidance in RP-232745

Additional topological improvements SI → WI

- References: RWS-230488, RP-231540, RP-232625
- Potential objectives:
  - 6 months SI + 12 months WI
  - Study enhancements for the support of WAB including (RAN3-led, RAN2):
    - Study impact of gNB mobility within a stationary RAN and in proximity to other mobile gNBs:
      - Identify the issues of dynamic inter-gNB neighbor relations resulting from gNB mobility, e.g., ANR, inter-gNB HO/DC and SON.
      - Identify potential RAN-related issues when collocating a UPF with the gNB for MEC, local services and/or local inter-UE communications.
      - Identify necessary inter-gNB- and gNB-to-CN signaling to address these issues.
    - Study the signaling enhancements for the authorization of WAB nodes.
    - Study signaling enhancements to extend the IAB resource multiplexing framework to WAB, as necessary.
    - Study enhancements to QoS support on WAB backhaul, as necessary (subject to interaction w/ SA2)
  - Study enhancements for the support of single-donor IAB topology, including (RAN2-led, RAN3):
    - Study enhancements to the robustness of multi-hop routing within the IAB topology in presence of local IAB-node mobility.

Note: Access link for WAB backhaul can be TN or NTN.

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Femto

- Study the overall RAN architecture and required functional and procedural impacts for supporting 5G Femto deployments.
- Study how to define the 5G access control mechanism by (re-)using the existing CAG functionality and identify needed enhancements (if any).
- Study how to enable access to local services from the 5G Femto via collocated local UPF.

Note: The study involves a gap analysis of existing 5G functionality with HomeNB functionality.

- In this contribution, we share our views on the remaining issues, i.e. the yellow part above

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Discussion - 1 (IAB)

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Issue 1.

- Study enhancements for the support of single-donor IAB topology, including (RAN2-led, RAN3):
  - Study enhancements to the robustness of multi-hop routing within the IAB topology in presence of local IAB-node mobility.

- From Rel-16, we have already had intensive work on IAB while slow rise of the market.
- As in the chair guidance, enhancements on enhancements without clear market demand should be avoided.

Proposal 1. No enhancements for IAB in Rel-19

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Discussion – 2 (Femto)

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Issue 2.

- Study how to enable access to local services from the 5G Femto via collocated local UPF.

- According to the discussion so far, operators have different expectation on 5G femto, e.g. expansion of FR2 coverage, replacement of 4G femto and etc.
  - In our understanding, the basic requirement for femto is to achieve better coverage with lower and simpler installation efforts
- From our perspective, the important & essential aspects of 5G femto have covered by the study in first bullet, i.e. gap and overall architecture analysis
- We are fine to keep this bullet for further RAN3 study, and the necessity of the normative phase depends on the outcome of study phase

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Conclusion

- On top of the RAN chair's guidance in RP-232745, the following is proposed.

- **Proposal 1. No enhancements for IAB in Rel-19**

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Thank you

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