**3GPP TSG-RAN WG2 Meeting #109-eR2-200xxx**

**Online, February 24th– March 6th 2020**

Agenda Item: 6.1.1

Source: Ericsson

Title: RRC CRs 38331 36331

Document for: Discussion, Decision

# 1 Introduction

This document contains email discussion:

* [AT109e][015][IAB] RRC CRs 38331 36331 (Ericsson)

**Scope**: Progress RRC CRs.

      Part 2:

**Intended outcome:** Address Open issues, take this meeting’s agreements into account, as they become available. Produce final agreed CR.

**Deadlines**: Mar 4, 5, 6 (see the schedule).

# 2 Discussion

The purpose of this email discussion is to build consensus among companies on the remaining open issues related to the running CRs 38.331, 36.331 for IAB WI. Depending on the outcome of the discussion, a summary reflecting the consensus view will be drafted for the next stage of the discussion.

## 2.1 Open Issues for Running CR 38.331 for IAB WI

The rapporteur has identified several open issues in running CR 38331 that are presented one by one in the remaining part of this subsection. However, companies are welcome to bring relevant open issues not covered by the rapporteur.

**Open issue 1: Whether IAB-MT supports INACTIVE mode and if so, whether the IAB-MT BAP entity be released/suspended on transition to INACTIVE mode.**

So far, RAN2 has not discussed whether IAB-MT will support INACTIVE mode, however, there is a general understanding in RAN2 that unlike UE once an IAB node is up and running the IAB-MT will stay only in CONNECTED mode. Similarly, SA2 also seems to have the same understanding as in the latest 23.501-g03 it is mentioned that after the IAB-MT has completed the registration to the 5G system it remains in CM-CONNECTED state.

**Question A.1: Do companies agree that IAB-MT will not support INACTIVE mode for Rel-16? Please provide motivation if the answer is NO, and input on whether the BAP entity should be released/suspended on transition to INACTIVE mode.**

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| **Company** | **Yes/No** | **Comment** |
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**Open issue 2: Whether the BAP entity at the IAB-MT be released on transition to IDLE mode.**

There is a common understanding that unlike UE the IAB-MT will not transition to IDLE mode on purpose but when lost connectivity with the network. Hence, the BAP entity and F1 interface instance should be removed, which is also proposed in [1-2]. However, the rapporteur would like to ask other companies about their viewpoint on this issue.

**Question A.2: Do companies agree that BAP entity at IAB-MT be released on transition to IDLE mode for Rel-16? If not, please provide motivation for your answer.**

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| **Company** | **Yes/No** | **Comment** |
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**Open issue 3: Whether at least one DRB must be configured by the network so that the IAB- MT triggers RRC procedures, when applicable, e.g. RRC Re-establishment, etc.**

The RRC spec requires a UE in RRC\_CONNECTED mode to have AS security activated via SRB2 and at least one DRB setup. One company understands that the same requirement also applies to IAB-MT. However, the rapporteur’s understanding is that the reason for that in legacy RRC is that the only reason for establishing a UE’s connection was for UL/DL data transmission (except for the late considerations in signaling only connections), and thus it is reasonable to assume at least one DRB will always be setup in CONNECTED mode. In the IAB case, on the other hand, the only case where a DRB setup may be, optionally, set-up is for the case where the OAM needs to be accessed via a DRB (as agreed by RAN3). Otherwise, all user traffic is transported via BH RLC channels between IAB-MT and parent IAB-DU. The rapporteur would like to ask other companies about their input on this issue.

**Question A.3: Do companies agree that it is not mandatory for the IAB-MT to be configured with at least one DRB? If not, please provide motivation for your answer.**

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| **Company** | **Agree/Disagree** | **Comment** |
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**Open issue 4: How to implement the signaling for the optional LCID-Ext field.**

Since RAN2 has agreed on a 16-bit optional extension of LCID space for IAB node, the remaining issue is how to design RRC signaling that provides an IAB-MT the flexibility to choose among the legacy and extended ID range based on IAB-MT implementation or capability. Few companies argued to use/design just one field with an extended range and in case the node does not support extended LCID space, then the node would only configure legacy ID range (i.e., LCID values up to 32). Some other companies argued that IAB node should be given a choice to select among legacy and extended ID range, and the IAB-MT does not have to handle the extended values. Considering that the extended LCID space is optional, the rapporteur would like to ask the following:

**Question A.4: Companies can provide the preferred way of signaling so that NWs DUs/MTs not implementing the LCID-Ext do not have to support or implement it.**

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| **Company** | **Preferred way of signaling** |
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**Open issue 5: Whether other information should be included in the BAP configuration.**

In the tdocs for RAN2#109-e, several companies have proposed the IP address(es) assigned to an IAB node to be included in the BAP configuration. The rapporteur understands other information in BAP configuration could be included depending on the future agreements for IAB Rel-16 WI and the running CR 38.331 can be updated as IAB Rel-16 WI progresses. Also, companies can bring issues related to TS 38.331 not covered in the discussion.

**Question A.5: Do companies agree that the IP address(es) assigned to an IAB node be included in the BAP configuration?**

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| **Company** | **Yes/No** | **Comment** |
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**Question A.6: Any other comment?**

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| **Company** | **Comment** |
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## 2.2 Open Issues for Running CR 36.331 for IAB WI

The rapporteur has identified one open issue in running CR 36.331 for IAB WI, however, companies are welcome to bring other relevant open issues for 36.331.

**Open issue 1: Whether to use F1-AP or F1-C for message(s) carried in LTE RRC container for the EN-DC case.**

RAN2 has agreed that SRB2 will be used for transport of all F1-AP messages for the EN-DC case. However, one company referred to use F1-C instead of F1-AP, while some other companies argued that F1-C will mislead to the interpretation of IPsec being included in the protocol stack. To resolve this issue, the rapporteur would like to ask companies for their input on this matter.

**Question B.1: Do companies agree to use 1) F1-AP or 2) F1-C terminology for the message(s) carried in LTE RRC container for the EN-DC case? Please provide motivation for your answer.**

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| **Company** | **1)/2)** | **Comment** |
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**Question B.2: Any other issue related to running CR 36.331 to be covered/discussed in this email discussion?**

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| **Company** | **Comment** |
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# 3 Summary

This section summarizes the discussion:

# 4 Reference

[1] R2-2000661; “Considerations on BAP Entity Release”, KDDI, RAN2#109-e, 2020.

[2] R2-2000895; “Views on RRC States of IAB nodes”, CATT, RAN2#109-e, 2020.