**3GPP TSG-RAN3 Meeting #124R3-24xxxx**

**Fukuoka, Japan, 20-24 May, 2024**

Agenda Item: 9.2

Source: ZTE (moderator)

Title: Summary of Offline Discussion on CB: # 32\_IAB

Document for: Approval

# Introduction

**CB: # 32\_IAB**

**- Check the CRs above**

(moderator - ZTE)

# For the Chair’s Notes

**Propose to capture the following Agreement:**

**…**

# Discussion

## R16 38.401 CR ([R3-](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243308.zip)243308,CATT)

During the online session, some company raised the concern that if the authorization status of an IAB node is “not-authorized”, then the authorization status of its descendant nodes shall be “not-authorized” as well. In this case, there is no need for the IAB-donor-CU to handover descendant nodes served by the IAB-node to other cell.

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| When the authorization status for the IAB-node changes, the EPC sends an updated authorization status to the IAB-MT’s eNB. The eNB forwards the authorization status to the IAB-donor-CU in the SGNB ADDITION REQUEST message or SGNB MODIFICATION REQUEST message. In case the updated authorization status is “not authorized”, the IAB-donor-CU performs the following actions in this order: it attempts to hand over the UEs and descendant nodes served by the IAB-node to other cell(s), releases the F1 interface towards the IAB-DU, and releases all backhaul resources (including the BAP address, TNL address and default BAP configuration) for this IAB-node.  |

**Q1:Do you agree the second change in** [**R3-243308**](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243308.zip)**?**

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  | Even if the descendant node is “not-authorized”, it can remain connected as a normal UE. So it seems the IAB-donor CU still needs to hand over descendant nodes if the IAB node is “not-authorized”. |
| Huawei | No | We think handover the UEs definitely includes the handover of descendant IAB-MTs |
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## R17 38.401 CR ([R3-](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243308.zip)243309,CATT)

**Q2-1:Do you agree the changes in clause 8.9.17.2.1 in** [**R3-243309**](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243308.zip)**?**

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| 8.9.17.2.1 IAB-node is single-connectedDuring the IAB-node network integration or RLF recovery, the IAB-donor-CU receives the authorization status of the IAB-node from the 5GC. Also, during the IAB inter-CU topology adaptation procedure, the target IAB-donor-CU receives the authorization status of the IAB-node from the source IAB-donor-CU as well as from the 5GC when performing the Path Switch Request procedure. If the authorization status is “not authorized”, the IAB-donor-CU neither establishes the backhaul resources nor allocates any BAP address, TNL address or default BAP configuration for this IAB-node. When the authorization status for the IAB-node changes, the 5GC sends an updated authorization status to the IAB-donor-CU. When the authorization status received by the IAB-donor-CU changes, the IAB-donor-CU performs the SA equivalent of the steps described for NSA in clause 8.9.17.1. |

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  |  |
| Huawei | Yes |  |
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**Q2-2:Do you agree the changes in clause 8.9.17.2.2 in** [**R3-243309**](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243308.zip)**?**

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| 8.9.17.2.2 IAB-node is NR dual-connectedIn case the IAB-node is dual-connected to the IAB-donor-CU, the IAB-donor-CU receives the authorization status of the IAB-node from the 5GC. Upon reception of the authorization status, the IAB-donor-CU performs the same steps described in clause 8.9.17.2.1.In case the IAB-node is dual-connected to a non-IAB-capable gNB and to an IAB-donor-CU, the MN receives the authorization status of the IAB-node from the 5GC. If the MN is the non-IAB-capable gNB and the SN is the IAB-donor-CU, the MN forwards the authorization status to the IAB-donor-CU in the S-NODE ADDITION REQUEST message or S-NODE MODIFICATION REQUEST message. Upon reception of the authorization status, the IAB-donor-CU performs the same steps described in clause 8.9.17.2.1. If the MN is the IAB-donor-CU and the SN is not the non-IAB-capable gNB, the IAB-donor-CU performs the same steps described in clause 8.9.17.2.1. |

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  |  |
| Huawei | No | Why change the reference to 8.9.17.1 to 8.9.17.2.1? the detailed description is captured in 8.9.17.1. |
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For the changes in clause 8.9.17.3, the moderator noticed that the updated version of CR [R3-243742](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243742.zip) also has some changes on the same sentence. And it seems some steps of the behavior for the F1-terminating IAB-donor-CU when the IAB-node is served by two IAB-donors are missing in the current text. So the moderator suggest to discuss the following changes in clause 8.9.17.3 in the CR [R3-243742](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243742.zip) as captured in clause 3.3 in the below.

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| 8.9.17.3 IAB-node is served by two IAB-donors in SAIn case the IAB-MT only connects to the non-F1-terminating IAB-donor-CU or in case the IAB-MT is NR dual-connected with the non-F1-terminating IAB-donor-CU as the MN, the non-F1-terminating IAB-donor-CU sends the authorization status received from the 5GC to the F1-terminating IAB-donor-CU in the IAB-TRANPORT MIGRATION MODIFICATION REQUEST message. Upon reception of the authorization status, the F1-terminating IAB-donor-CU performs the same steps described in clause 8.9.17.2.1. If the authorization status is “not authorized”, the F1-terminating IAB-donor-CU sends to the non-F1-terminating IAB-donor-CU an IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message requesting the release of all offloaded traffic, after which the non-F1-terminating IAB-donor-CU releases the offloaded traffic and all backhaul resources, BAP address, TNL address and default BAP configuration for the IAB-node.In case the IAB-MT is NR dual-connected, where the MN is the F1-terminating IAB-donor-CU and the SN is a non-F1-terminating IAB-donor-CU, upon reception of the authorization status, the IAB-node’s authorization procedure follows the same steps as described in clause 8.9.17.2.1. |

## R17 38.401 CR ([[R3-243742](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243742.zip)/43,](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_123%5CDocs%5CR3-240431.zip) ZTE)

For the R17 38.401 CR ([R3-243742](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243742.zip)), it is revised based the text provided by QC and comments from Huawei, the key points of the changes are summarized in the below, companies can provide feedback in the questionnaire or provide comments directly in the updated draft CR. For other changes not captured in the below which seems to be straightforward, please companies provide feedback directly in the updated draft CR.

**Q3-1: Do you agree to clarify in TS 38.401 that when the IAB-node is served by two IAB-donors, the non-F1-terminating IAB-donor-CU sends the authorization status received from the 5GC to the F1-terminating IAB-donor-CU when received authorization status is different than the current authorization status held by the non-F1-terminating IAB-donor-CU.**

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  | If the received authorization status from 5GC is the same as the current status at non-F1-terminating IAB-donor-CU (e.g., the status received from path switch and Xn HO request are the same), there is no need for the non-F1 terminating donor to send received status to the F1 terminating donor. |
| Huawei | No | This is the drawback for introducing the authorization status in handover request, we pointed out them during the previous discussion, now it makes me realize that we should re-consider the necessity of introducing the IAB authorization status in the HO request. Maybe the right way is to remove it from XnAP.In addition, my comment provided offline to the CR author is to the original version but the current version is totally different from the original ones and contains too much changes which is hard to be checked in a short time, and the comment is “non-F1 terminating donor cannot release the BH configurations directly, because the UE HO command needs to be send by the F1-terminating donor, otherwise, the UE will suffers from failure case”.  |
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**Q3-2: Do you agree to clarify in 38.401 that the F1-terminating IAB-donor-CU sends to the non-F1-terminating IAB-donor-CU an IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message requesting the release of all offloaded traffic and/or configurations.**

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  | Currently, we use IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message requesting the release of all offloaded traffic to implicitly indicate that the operation in the F1-terminating donor has completed (e.g. handover of UEs, F1 release). However, in some cases, there is no offloaded traffic at the non-F1 terminating donor, e.g., the received status in Xn HO request is “authorized” while the status received during Path switch is “not-authorized”, there is no need for the F1-terminating CU to offload traffic to MT’s target CU. In this case, if we still use the IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message to indicate that the operation in the F1-terminating donor has completed, then the usage of this message needs to be updated in both 38.401 and 38.423. In this situation, this message is used to indicate that the default BAP configurations, BAP address, TNL address instead of offloaded traffic needs to be released.  |
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**Q3-3: Do you agree the following changes in draft CR to 38.423?**

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| If the *Traffic To Be Released Information* IE is contained in the IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message, the non-F1-terminating IAB-donor should release all offloaded traffic and/or configurations if the *All Traffic Indication* IE in the *Traffic to Be Released Information* IE is set to "true", or release only the offloaded traffic indicated by the *Traffic to Be Released Item* IE in the *Traffic to Be Released Information* IE.If the IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message contains the *Traffic to Be Released Information* IE, and there is offloaded traffic at the non-F1-terminating IAB-donor, the non-F1-terminating IAB-donor shall include the *Traffic Released List* IE in the IAB TRANSPORT MIGRATION MANAGEMENT RESPONSE message.**......**9.2.2.84 Traffic To Be Released InformationThis IE is used to indicate the offloaded traffic or configurations to be released. This IE is only applicable to IAB. |

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| **Company** | **Yes/No**  | **Comment** |
| ZTE | Yes  | Same as above.  |
| Huawei | No | Please refer to our comment contained in the R17 CR. |
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## R18 38.401 CR ([[R3-243744](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_124%5CDocs%5CR3-243742.zip),](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_123%5CDocs%5CR3-240431.zip) ZTE)

For the 38.401 CR for mobile IAB, the key issues are similar as discussed in clause 3.3 for the corresponding R17 CR, so please companies provide your feedback directly in the updated draft CR.

# Conclusion, Recommendations

# References

R3-243308 IAB-node authorization (CATT, Ericsson, ZTE)

R3-243309 IAB-node authorization (CATT, Ericsson, Huawei, ZTE, Nokia, Nokia Shanghai Bell)

R3-243742 Correction to 38.401 on IAB-node authorization (ZTE, CATT, Lenovo)

R3-243743 Correction to 38.401 on IAB-node authorization (ZTE, CATT, Lenovo)

R3-243744 Correction to 38.401 on mobile IAB-node authorization (ZTE, CATT, Lenovo)