**3GPP TSG-RAN3 Meeting #125 *R3-*** ***24xxxx***

**Maastricht, NL, Aug 19th – 23rd, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.401** | **CR** | **0419** | **rev** | **1** | **Current version:** | **17.9.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | IAB-node authorization | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT, Nokia, Nokia Shanghai Bell, Huawei | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_IAB\_enh-Core | | | | |  | ***Date:*** | | | 2024-8-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | 1. It’s impossible for an IAB-node to connect with a gNB non-capable of IAB. Thus, it’s not correct to use the term “non-IAB-capability gNB” in clause 8.9.17.2.2.  2. One case is wrongly captured in Clause 8.9.17.2.2.  3. For single IAB-donor and two IAB-donor in SA scenario, it is not suitable to use “IAB-donor-CU”. For consistency, all “IAB-donor-CU” would be better to be replaced with “IAB-donor”. | | | | | | | | |
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| ***Summary of change:*** | | 1. Remove the term “non-IAB-capability gNB”. 2. Correct the case captured in caluse 8.9.17.2.2. 3. Replace “IAB-donor-CU” with “IAB-donor” everywhere in IAB authorization section.   ***Impact analysis***  *Impact assessment towards the previous version of the specification (same release):*  *This CR has isolated impact with the previous version of the specification (same release).*  *This CR has impact on the functional point of view, will only impact the IAB-node authorization part.* | | | | | | | | |
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| ***Consequences if not approved:*** | | The statements are not correct or suitable in IAB authorization section. | | | | | | | | |
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| ***Clauses affected:*** | | 8.9.17.1, 8.9.17.2.1, 8.9.17.2.2, 8.9.17.3 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | - | | | | | | | | |

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| ***This CR's revision history:*** | * Rev#1 add two corrections compared with Rev#0. |

-------------------------------------------Start of changes-------------------------------------------

8.9.17 IAB-node authorization

8.9.17.1 IAB-node in NSA

During the IAB-node integration procedure, the eNB receives the authorization status of the IAB-node from the EPC. The eNB forwards the authorization status to the IAB-donor in the SGNB ADDITION REQUEST message. If the authorization status is “not authorized”, the IAB-donor 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 EPC sends an updated authorization status to the IAB-MT’s eNB. The eNB forwards the authorization status to the IAB-donor in the SGNB ADDITION REQUEST message or SGNB MODIFICATION REQUEST message.

In case the updated authorization status is “not authorized”, the IAB-donor 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. The IAB-donor may indicate to the eNB that the actions described above have been completed, by sending a SGNB MODIFICATION REQUIRED or SGNB RELEASE REQUIRED message with the corresponding cause value included. Then, the eNB may indicate to the EPC that the IAB-MT can be de-registered.

8.9.17.2 IAB-node with single IAB-donor in SA

8.9.17.2.1 IAB-node is single-connected

During the IAB-node network integration or RLF recovery, the IAB-donor receives the authorization status of the IAB-node from the 5GC. Also, during the inter-CU topology adaptation procedure, the target IAB-donor receives the authorization status of the IAB-node from the source IAB-donor as well as from the 5GC when performing the Path Switch Request procedure. If the authorization status is “not authorized”, the IAB-donor 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. When the authorization status received by the IAB-donor changes, the IAB-donor performs the SA equivalent of the steps described for NSA in clause 8.9.17.1.

In case the updated authorization status is “not authorized”, after actions described in clause 8.9.17.1 have been completed, the IAB-donor may indicate to the 5GC that the IAB-MT can be de-registered.

8.9.17.2.2 IAB-node is NR dual-connected

In case the IAB-node is dual-connected to the IAB-donor, the IAB-donor receives the authorization status of the IAB-node from the 5GC. Upon reception of the authorization status, the IAB-donor performs the same steps described in clause 8.9.17.2.1.

In case the IAB-node is dual-connected to a gNB which is not an IAB-donor and an IAB-donor, the MN receives the authorization status of the IAB-node from the 5GC. If the MN is not an IAB-donor and the SN is the IAB-donor, the MN forwards the authorization status to the IAB-donor in the S-NODE ADDITION REQUEST message or S-NODE MODIFICATION REQUEST message. Upon reception of the authorization status, the IAB-donor performs the same steps described in clause 8.9.17.2.1. If the updated authorization status is “not authorized”, the SN may indicate to the MN that the actions of removing the UEs and descendant nodes, releasing the F1 interface and backhaul resources for the IAB-node have been completed, by sending a S-NODE MODIFICATION REQUIRED or S-NODE RELEASE REQUIRED message with the corresponding cause value included. Then, the MN may indicate to the 5GC that the IAB-MT can be de-registered. If the MN is the IAB-donor and the SN is not an IAB-donor, the IAB-donor performs the same steps described in clause 8.9.17.2.1.

8.9.17.3 IAB-node is served by two IAB-donors in SA

In case the IAB-MT only connects to the non-F1-terminating IAB-donor or in case the IAB-MT is NR dual-connected with the non-F1-terminating IAB-donor as the MN, the non-F1-terminating IAB-donor sends the authorization status received from the 5GC to the F1-terminating IAB-donor in the IAB-TRANPORT MIGRATION MODIFICATION REQUEST message. Upon reception of the authorization status, the F1-terminating IAB-donor performs the same steps described in clause 8.9.17.2.1. If the authorization status is “not authorized”, the F1-terminating IAB-donor sends to the non-F1-terminating IAB-donor an IAB TRANSPORT MIGRATION MANAGEMENT REQUEST message requesting the release of all offloaded traffic, after which the non-F1-terminating IAB-donor releases the offloaded traffic and all backhaul resources, BAP address, TNL address and default BAP configuration for the IAB-node. The non-F1-terminating IAB-donor then may indicate to the 5GC that the IAB-MT can be de-registered.

In case the IAB-MT is NR dual-connected, where the MN is the F1-terminating IAB-donor and the SN is a non-F1-terminating IAB-donor, 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.

-------------------------------------------End of changes-------------------------------------------