**3GPP TSG-RAN WG3 Meeting #127bisR3-252339**

**Wuhan, China, 07 – 11 April, 2025**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.473** | **CR** | **1536** | **rev** | **2** | **Current version:** | **18.5.0** |  |
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| *For* [***HELP***](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:***  | Correction on the mobile IAB procedures |
|  |  |
| ***Source to WG:*** | Huawei, Lenovo, ZTE, Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_mobile\_IAB-Core |  | ***Date:*** | 2025-04-10 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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 canbe 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)Rel-20 (Release 20)* |
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| ***Reason for change:*** | * To support the mobile IAB-DU migration, R18 mobile IAB introduced two new the MIAB F1 SETUP TRIGGERING message and the MIAB F1 SETUP OUTCOME NOTIFICATION message. The Criticality of these two messages are designed to be “reject”, same as other IAB related messages. However, in the ASN.1 part, the criticality of the two messages are assigned to be “ignore”.
* To support the additional ULI report for the UE served by the mobile IAB-node, the *Mobile IAB-MT User Location Information* IE can be reported by the mobile IAB-DU to the F1-terminating IAB-donor-CU. This IE contains the NR CGI and TAI of the mobile IAB-MT’s serving cell. The TAI is optionally included, because it is possible that the mIAB-DU’s cell share same TAI as the mIAB-MT’s serving cell. In ASN.1, the presence of the TAI is assigned as Mandatory in the *Mobile IAB-MT User Location Information* IE, not align with the tabular.
* In the procedure text for Mobile IAB F1 Setup Triggering procedure, the executor of the establishing TNL connection/security connection to target F1-terminating IAB-donor-CU is the gNB-DU who receiving the message. But actually, it should be the target logical gNB-DU to establish connection towards the target CU.
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| ***Summary of change:*** | * In ASN.1, change the criticality of the MIAB F1 SETUP TRIGGERING message and the MIAB F1 SETUP OUTCOME NOTIFICATION message to “reject”.
* In tabular, change the presence of the TAI in the *Mobile IAB-MT User Location Information* IE as “M”.
* Update the procedure text for Mobile IAB F1 Setup Triggering procedure to clarify it is the target logical gNB-DU to estabilish connection towards target F1-terminating IAB-donor-CU.

**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. The impact can be considered isolated because the change affects the mobile IAB-DU migration and the additional ULI report. |
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| ***Consequences if not approved:*** | The tabular is not aligned with ASN.1.The IAB-DU migration triggered by the source CU will fail because one logical gNB-DU can only maintain F1 connection towards one CU.  |
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| ***Clauses affected:*** | 8.10.5.2, 9.3.1.307, 9.4.3  |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev 1: update the procedure text of Mobile IAB F1 Setup Triggering procedure, and update the tabular to align with ASN.1.Rev 2: Update the procedure text and change the ASN.1 part on the criticality for the MIAB F1 SETUP TRIGGERING message and the MIAB F1 SETUP OUTCOME NOTIFICATION message, based on the RAN3#127-bis online discussion. |

*CHANGES START*

### 8.10.5 Mobile IAB F1 Setup Triggering

#### 8.10.5.1 General

The purpose of the Mobile IAB F1 Setup Triggering procedure is to trigger F1 interface establishment between a target logical gNB-DU and a target F1-terminating IAB-donor-CU. The target logical gNB-DU is co-located with the gNB-DU that receives the triggering message. This procedure uses non-UE associated signalling.

NOTE: This procedure is applicable for mobile IAB-nodes, where the term "gNB-DU" applies to a mobile IAB-DU, and the term "gNB-CU" applies to a source F1-terminating IAB-donor-CU during mobile IAB-DU migration.

#### 8.10.5.2 Successful Operation



Figure 8.10.5.2-1: Mobile IAB F1 Setup Triggering: Successful Operation

The gNB-CU initiates the procedure by sending the MIAB F1 SETUP TRIGGERING message to the gNB-DU.

When the gNB-DU receives the MIAB F1 SETUP TRIGGERING message, the gNB-DU’s co-located target logical gNB-DU shall, if supported, initiate the TNL connection establishment and F1 setup to a target F1-terminating IAB-donor-CU indicated by the *Target gNB ID* IE included in the MIAB F1 SETUP TRIGGERING message.

If the MIAB F1 SETUP TRIGGERING message received by the gNB-DU contains the *Target gNB IP address* IE, the gNB-DU’s co-located target logical gNB-DU shall, if supported, store the IP address and use it for establishing the TNL connection towards a target F1-terminating IAB-donor-CU.

If the MIAB F1 SETUP TRIGGERING message received by the gNB-DU contains the *Target SeGW IP address* IE, the gNB-DU’s co-located target logical gNB-DU shall, if supported, store the IP address and use it for establishing the security connection to protect the F1 interface towards the target F1-terminating IAB-donor-CU.

*NEXT CHANGE*

#### 9.3.1.307 Mobile IAB-MT User Location Information

This IE contains the user location information of mobile IAB-MT which is co-located with the mobile IAB-DU.

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| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| NR CGI | M |  | 9.3.1.12 | The NR CGI of the cell, which is the serving cell of the mobile IAB-MT co-located with the mobile IAB-DU that serves the UE. |
| TAI | M |  | 9.3.1.308 | The TAI supported by the cell, which is the serving cell of the mobile IAB-MT co-located with the mobile IAB-DU which serves the UE.  |

*NEXT CHANGE*

### 9.4.3 Elementary Procedure Definitions

-- ASN1START

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-- Elementary Procedure definitions

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-------------------unchanged parts are skipped----------------------

timingSynchronisationStatusReport F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE TimingSynchronisationStatusReport

 PROCEDURE CODE id-TimingSynchronisationStatusReport

 CRITICALITY ignore

}

mIABF1SetupTriggering F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MIABF1SetupTriggering

 PROCEDURE CODE id-MIABF1SetupTriggering

 CRITICALITY reject

}

mIABF1SetupOutcomeNotification F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MIABF1SetupOutcomeNotification

 PROCEDURE CODE id-MIABF1SetupOutcomeNotification

 CRITICALITY reject

}

multicastContextNotification F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MulticastContextNotificationIndication

 SUCCESSFUL OUTCOME MulticastContextNotificationConfirm

 UNSUCCESSFUL OUTCOME MulticastContextNotificationRefuse

 PROCEDURE CODE id-MulticastContextNotification

 CRITICALITY reject

}

*CHANGES END*