**3GPP TSG-RAN WG3 Meeting #129bis *R3-257252***

Prague, Czech Republic, 13th ~17th Oct, 2025

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.413** | **CR** | **1322** | **Rev** | **1** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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 | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Correction on Interface Management procedures for A-IoT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, CMCC, Lenovo, China Unicom, China Telecom | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Ambient\_IoT\_Solutions-Core | | | | |  | ***Date:*** | | | 2025-10-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The *A-IoT Support* IE ENUMERATED (A-IoT only, A-IoT and NR Uu, ...) was introduced in NG SETUP REQUEST message, but not in the RAN CONFIGURATION UPDATE message, therefore if the gNB only supports NR-Uu at the beginning, after NG setup, if we would like to update the gNB to also support A-IoT, we have to re-setup the NG interface, this will have severe impacts on the ongoing NR operations. Therefore, it is needed to also include the *A-IoT Support* IE in the RAN CONFIGURATION UPDATE message. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Include the *A-IoT Support* IE in the RAN CONFIGURATION UPDATE message.  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) because it only adds missing A-IoT related information in interface management procedures. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The gNB only supports NR is not able to add the support of A-IoT without tear down the established NG interface. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.7.1.2, 8.7.2.2, 9.2.6.1, 9.2.6.4, 9.4.4, 9.4.5, 9.4.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1: only keep the changes on introducing A-IoT Support IE in the RAN CONFIGURATION UPDATE message. | | | | | | | | |

***-------------------------Start of the First Change-------------------------***

### 8.7.2 RAN Configuration Update

#### 8.7.2.1 General

The purpose of the RAN Configuration Update procedure is to update application level configuration data needed for the NG-RAN node and the AMF to interoperate correctly on the NG-C interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non UE-associated signalling.

If the NG-RAN node supports A-IoT and is communicating directly with an AIOTF, as specified in TS 23.369 [60], the RAN Configuration Update procedure, as depicted in Figures 8.7.2.2-2 and 8.7.2.3-2 and specified in the respective sections, is executed between the NG-RAN node and the AIOTF.

#### 8.7.2.2 Successful Operation



Figure 8.7.2.2-1: RAN configuration update: successful operation with the AMF



Figure 8.7.2.2-2: RAN configuration update: successful operation with the AIOTF

**//skip unchanged part**

If the RAN Configuration Update procedure is executed between the NG-RAN node and the AIOTF:

- The NG-RAN node initiates the procedure by sending a RAN CONFIGURATION UPDATE message to the AIOTF including an appropriate set of updated configuration data that it has just taken into operational use. The AIOTF responds with a RAN CONFIGURATION UPDATE ACKNOWLEDGE message to acknowledge that it successfully updated the configuration data. If an information element is not included in the RAN CONFIGURATION UPDATE message, the AIOTF shall interpret that the corresponding configuration data is not changed and shall continue to operate the NG-C interface with the existing related configuration data.

If the RAN Configuration Update procedure is triggered by an NG-RAN node supporting A-IoT:

- If the *A-IoT Support* IE is included in the RAN CONFIGURATION UPDATE message and set to “A-IoT only”, the receiving node shall, if supported, consider that the NG-RAN node only supports A-IoT radio.

- If the *A-IoT Support* IE is included in the RAN CONFIGURATION UPDATE message and set to “A-IoT and NR Uu”, the receiving node shall, if supported, consider that the NG-RAN node supports both A-IoT radio and NR Uu radio.

If the *Additional ULI* IE is included in the RAN CONFIGURATION UPDATE message, the AMF shall, if supported, store this information, and take it into account for determining the location of UEs served by the NG-RAN node, as specified in TS 23.501 [9].

***-------------------------Start of the Next Change-------------------------***

#### 9.2.6.4 RAN CONFIGURATION UPDATE

This message is sent by the NG-RAN node to transfer updated application layer information for an NG-C interface instance.

Direction: NG-RAN node → AMF

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| RAN Node Name | O |  | PrintableString  (SIZE(1..150, …)) |  | YES | ignore |
| ***//skip unchanged part*** |  |  |  |  |  |  |
| NB-IoT Default Paging DRX | O |  | 9.3.1.137 |  | YES | ignore |
| Extended RAN Node Name | O |  | 9.3.1.193 |  | YES | ignore |
| Additional ULI | O |  | 9.3.1.280 |  | YES | ignore |
| A-IoT Support | O |  | 9.3.1.278 |  | YES | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofTACs | Maximum no. of TACs. Value is 256. |
| maxnoofBPLMNs | Maximum no. of Broadcast PLMNs. Value is 12. |
| maxnoofTNLAssociations | Maximum no. of TNL Associations between the NG-RAN node and the AMF. Value is 32. |

***-------------------------Start of the Next Change-------------------------***

### 9.4.4 PDU Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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-- PDU definitions for NGAP.

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-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NGAP-PDU-Contents {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

***//skip unchanged part***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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-- RAN CONFIGURATION UPDATE

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-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

RANConfigurationUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {RANConfigurationUpdateIEs} },

...

}

RANConfigurationUpdateIEs NGAP-PROTOCOL-IES ::= {

{ ID id-RANNodeName CRITICALITY ignore TYPE RANNodeName PRESENCE optional }|

{ ID id-SupportedTAList CRITICALITY reject TYPE SupportedTAList PRESENCE optional }|

{ ID id-DefaultPagingDRX CRITICALITY ignore TYPE PagingDRX PRESENCE optional }|

{ ID id-GlobalRANNodeID CRITICALITY ignore TYPE GlobalRANNodeID PRESENCE optional }|

{ ID id-NGRAN-TNLAssociationToRemoveList CRITICALITY reject TYPE NGRAN-TNLAssociationToRemoveList PRESENCE optional }|

{ ID id-NB-IoT-DefaultPagingDRX CRITICALITY ignore TYPE NB-IoT-DefaultPagingDRX PRESENCE optional }|

{ ID id-Extended-RANNodeName CRITICALITY ignore TYPE Extended-RANNodeName PRESENCE optional }|

{ ID id-AdditionalULI CRITICALITY ignore TYPE AdditionalULI PRESENCE optional }|

{ ID id-AIoT-Support CRITICALITY reject TYPE AIoT-Support PRESENCE optional },

...

}

***-------------------------End of the Changes-------------------------***