**3GPP TSG-RAN WG3 Meeting #113-e *R3-214412***

**E-meeting, 16-26 Aug 2021**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **38.413** | **CR** | **0632** | **rev** | **1** | **Current version:** | 15.12.0 |  |
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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 | **X** |

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| ***Title:***  | Deactivation of the MICO mode indication |
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| ***Source to WG:*** | Huawei, Nokia, Nokia Shanghai-Bell, China Telecom |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2021-08-16 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-15 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | The *MICO Mode Indication* IE included in the *Core Network Assistance Information for RRC INACTIVE* IE could be signaled in many interface messages. When checking into section 5.4.1.3 in TS 23.501, the AMF may deactivate the MICO mode and signal to the UE as follows. * *When the UE is in CM-CONNECTED, the AMF may deactivate MICO mode by triggering Mobility Registration Update procedure through UE Configuration Update procedure as described in clause 4.2.4 of TS 23.502 [3].*

This means that the MICO Mode Indication included in the *Core Network Assistance Information for RRC INACTIVE* IE may be updated. However, as specified in the UE context modification request message, the NG-RAN just stores the received new information. * If the *Core Network Assistance Information for RRC INACTIVE* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it for the RRC\_INACTIVE state decision and RNA configuration for the UE and RAN paging if any for a UE in RRC\_INACTIVE state, as specified in TS 38.300 [8]

Then if the *MICO Mode Indication* is received initially by the NG-RAN node, but later it is not included in the UE Context modification request message, the NG-RAN may misunderstand that this MICO Mode Indication is not changed. There are two potential options as follows. * **Option 1**: add a new codepoint for MICO Mode Indication
* **Option 2**: specify the “overwrite” operation for the Core Network Assistance Information for RRC INACTIVE in the UE context modification request procedure.

Both options could work. Option 2 is proposed in the CR.  |
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| ***Summary of change:*** | * Specify the “overwrite” operation for the Core Network Assistance Information for RRC INACTIVE in the UE context modification request procedure.

 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).The impact can be considered isolated because the change only affects the MICO mode function. |
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| ***Consequences if not approved:*** | The MICO mode indication can not be deactivated towards the NG-RAN. Not aligned with stage 2 CN specification.   |
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| ***Clauses affected:*** | 8.3.4.2 |
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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:*** |  |

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| **Change Begins** |

### 8.3.4 UE Context Modification

#### 8.3.4.1 General

The purpose of the UE Context Modification procedure is to partly modify the established UE context. The procedure uses UE-associated signalling.

#### 8.3.4.2 Successful Operation



Figure 8.3.4.2-1: UE context modification: successful operation

If the *Security Key* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall store it and perform AS key re-keying according to TS 33.501 [13].

If the *UE Security Capabilities* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall store them and take them into use together with the received keys according to TS 33.501 [13].

If the *Index to RAT/Frequency Selection Priority* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall, if supported, use it as defined in TS 23.501 [9].

If the *RAN Paging Priority* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node may use it to determine a priority for paging the UE in RRC\_INACTIVE state.

If the *UE Aggregate Maximum Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall

- replace the previously provided UE Aggregate Maximum Bit Rate by the received UE Aggregate Maximum Bit Rate in the UE context;

- use the received UE Aggregate Maximum Bit Rate for all Non-GBR QoS flows for the concerned UE as specified in TS 23.501 [9].

If the *Core Network Assistance Information for RRC INACTIVE* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node shall, if supported, replace the previously provided Core Network Assistance Information for RRC INACTIVE in the UE context and use it for e.g. the RRC\_INACTIVE state decision and RNA configuration for the UE and RAN paging if any for a UE in RRC\_INACTIVE state, as specified in TS 38.300 [8].

If the *CN Assisted RAN Parameters Tuning* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the NG-RAN node may use it as described in TS 23.501 [9].

**<Unchanged Text Omitted>**

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| **Change Ends** |