**3GPP TSG-RAN WG3 #119 R3-230935**

**27th Feb – 3rd Mar 2023**

**Athens, Greece**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.423** | **CR** | **0964** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  |
| *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 |  |

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| ***Title:***  | Correction on the UE identity index to TS38.423 |
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| ***Source to WG:*** | ZTE, Nokia, Nokia Shanghai Bell, Ericsson, Huawei, CATT, Qualcomm Incorporated |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_redcap-Core, NR\_UE\_pow\_sav\_enh-Core |  | ***Date:*** | 2023-03-02 |
|  |  |  |  |  |
| ***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 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)* |
|  |  |
| ***Reason for change:*** | In Rel-17, NR supports to configure eDRX for RedCap UE in RRC INACTIVE/IDLE. According to TS 38.304 spec, if eDRX is used to page UE, 12 bits of UE identity index is used for the PF and PO calculation. Furthermore, As specified in TS 38.304, when the UE determines the UE-ID based subgrouping ID, it shall use 15bits if eDRX is applied, otherwise, 13bits of UE identity index.However, only 10 bits UE Identity Index for NR is included in XnAP RAN paging message, it is not enough. |
|  |  |
| ***Summary of change:*** | Specify the existing Extended UE Identity Index Value IE (for eMTC) in RAN paging message can be reused for NR for eDRX and UE-ID based subgrouping paging.Impact Analysis:This change only impacts the RAN PF and PO calculation for RedCap UE, and the UE-ID based subgroup ID calculation.This CR is BC. |
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| ***Consequences if not approved:*** | The PO, PF, and the UE-ID based subgroup ID selected between UE and RAN may be different, and the RAN paging will fail |
|  |  |
| ***Clauses affected:*** | 8.2.5.2, 9.1.1.7, 9.2.3.141 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **Y** |  |  Other core specifications  | TS 38.413 CR 0929TS 38.473 CR 1114 |
| ***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:*** | R3-230120 Fix WID code and support UE-ID based subgroup ID |

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#### 8.2.5.2 Successful operation



Figure 8.2.5.2-1: RAN Paging: successful operation

The RAN Paging procedure is triggered by the NG-RAN node1 by sending the RAN PAGING message to the NG-RAN node2,in which the necessary information e.g. UE RAN Paging Identity should be provided.

If the *Paging Priority* IE is included in the RAN PAGING message, the NG-RAN node2 may use it to prioritize paging.

If the *Assistance Data for RAN Paging* IE is included in the RAN PAGING message, the NG-RAN node2 may use it according to TS 38.300 [9].

If the *UE Radio Capability for Paging* IE is included in the RAN PAGING message, the NG-RAN node2 may use it to apply specific paging schemes.

If the *Extended UE Identity Index Value* IE is included in the RAN PAGING message, the NG-RAN node2 may use it according to TS 36.304 [34], and for eDRX or the UE\_ID based subgrouping according to TS 38.304 [33]. When available, NG-RAN node1 may include the *Extended UE Identity Index Value* IE in the RAN PAGING message towards the NG-RAN node2.

When available, the NG-RAN node1 shall include the *E-UTRA Paging eDRX Information* IE in the RAN PAGING message towards the NG-RAN node2. If the *E-UTRA Paging eDRX Information* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 36.304 [34].

When available, the NG-RAN node1 shall include the *UE Specific DRX* IE in the RAN PAGING message towards the NG-RAN node2. If the *UE specific DRX* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 36.304 [34].

When available, the NG-RAN node1 shall include the *NR Paging eDRX Information* IE in the RAN PAGING message towards the NG-RAN node2. If the *NR Paging eDRX Information* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 38.304 [33].

If the *NR* *Paging eDRX Information for RRC INACTIVE* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 38.304 [33].

When available, the NG-RAN node1 shall include the *Paging Cause* IE in the RAN PAGING message towards the NG-RAN node2. If the *Paging Cause* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 38.331 [10].

If the *PEIPS Assistance Information* IE is included in the RAN PAGING message, the NG-RAN node2 shall, if supported, use it according to TS 38.300 [9].

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#### 9.1.1.7 RAN PAGING

This message is sent by the NG-RAN node1 to NG-RAN node2 to page a UE.

Direction: NG-RAN node1 → NG-RAN node2.

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| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| CHOICE *UE Identity Index Value* | M |  |  |  | YES | reject |
| *>Length-10* |  |  |  |  |  |  |
| >>Index Length-10 | M |  | BIT STRING (SIZE(10)) | Coded as specified in TS 38.304 [33] and TS 36.304 [34]. | – |  |
| UE RAN Paging Identity | M |  | 9.2.3.43 |  | YES | ignore |
| Paging DRX | M |  | 9.2.3.66 | Includes the RAN paging cycle as defined in TS 36.304 [34] and 38.304 [33]. | YES | ignore |
| RAN Paging Area | M |  | 9.2.3.38 |  | YES | reject |
| Paging Priority | O |  | 9.2.3.44 |  | YES | ignore |
| Assistance Data for RAN Paging | O |  | 9.2.3.41 |  | YES | ignore |
| UE Radio Capability for Paging | O |  | 9.2.3.91 |  | YES | ignore |
| Extended UE Identity Index Value | O |  | 9.2.3.141 | Coded as specified in TS 36.304 [34] and 38.304 [33]. | YES | ignore |
| E-UTRA Paging eDRX Information | O |  | 9.2.3.142 |  | YES | ignore |
| UE specific DRX | O |  | 9.2.3.143 | Includes the UE specific paging cycle as defined in TS 36.304 [34] and 38.304 [33]. | YES | ignore |
| NR Paging eDRX Information | O |  | 9.2.3.161 |  | YES | ignore |
| NR Paging eDRX Information for RRC INACTIVE | O |  | 9.2.3.162 |  | YES | ignore |
| Paging Cause | O |  | ENUMERATED (voice, …) |  | YES | ignore |
| PEIPS Assistance Information | O |  | 9.2.3.166 |  | YES | ignore |

<<<<<<<<<<<<<<<<<<<< NEXT OF CHANGES >>>>>>>>>>>>>>>>>>>>

#### 9.2.3.141 Extended UE Identity Index Value

This IE is used by the target NG-RAN node to calculate the Paging Frame and Paging Occasion as specified in TS 36.304 [34], and the Paging Frame and Paging Occasion for eDRX or the UE\_ID based subgroup ID as specified in TS 38.304 [33].

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| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Extended UE Identity Index Value | M |  | BIT STRING (SIZE(16)) |  |

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