**3GPP TSG-CT WG1 Meeting #133-eC1-21xxxx**

**E-meeting, 11-19 November 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **3699** | **rev** | **1** | **Current version:** | **17.4.1** |  |
|  | | | | | | | | |
| *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 |  | Core Network | **x** |

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| ***Title:*** | Paging using eDRX for NR RedCap UE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon, China Mobile | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ARCH\_NR\_REDCAP | | | | |  | ***Date:*** | | | 2021-11-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per stage 2 requirements that eDRX will be used for paging for NR Redcap UEs and hence, the restrictions on paging using eDRX for NR Redcap UEs needs to be removed.  Also, about using the PTW for paging, different eDRX values are referred as per current specified in SA2 and RAN2:   1. For the legacy E-UTRA cell connected to 5GCN, PTW is used for eDRX cycle lengths greater than 5.12s. 2. For NR connected to 5GCN, PTW is used for eDRx cycle length greater than 10.24s. | | | | | | | | |
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| ***Summary of change:*** | | It proposes to remove unnecessary restrictions on paging using eDRX for NR Redcap UEs to cover NR cell connected to 5GCN. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage 2 requirements are not implemented in stage 3. | | | | | | | | |
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| ***Clauses affected:*** | | 5.6.2.1 | | | | | | | | |
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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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

#### 5.6.2.1 General

The paging procedure is performed only in 3GPP access and used by the network to request the establishment of a NAS signalling connection to the UE. The paging procedure is also used by the network to request the UE to re-establish the user-plane resources of PDU sessions for downlink user data transport. Another purpose of the paging procedure is to request the UE to re-establish the user-plane resources of PDU session(s) associated with non-3GPP access over 3GPP access.

Additionally, the network can use the paging procedure to initiate the mobile terminating SMS.

For the UE using eDRX, the network initiates the paging procedure when NAS signalling messages or user data is pending to be sent to the UE within the paging time window. If NAS signalling messages or user data is pending to be sent to the UE outside the paging time window and the eDRX value that the network provides to the UE in the Negotiated extended DRX parameters IE during the last registration procedure indicates:

a) the eDRX cycle length duration of the E-UTRA cell connected to 5GCN, is higher than 5.12 seconds; or

b) the eDRX cycle length duration of the NR cell connected to 5GCN, is higher than 10.24 seconds,

the network initiates the paging procedure at T time ahead of the beginning of the next paging time window.

NOTE: T time is a short time period based on implementation. The operator can take possible imperfections in the synchronization between the 5GCN and the UE into account when choosing T time.

If the network detects that the pending user data to be sent to the UE is related to the voice service as specified in 3GPP TS 23.502 [9] and the network decides to initiate the paging procedure based on the stored paging restriction information, if any, the AMF should request the lower layer to include the Voice Service Indication in the paging message when the UE and the network support the paging cause feature.

\* \* \* End of Change \* \* \* \*