**3GPP TSG-RAN WG2 Meeting #121** **R2-230xxxx**

**Athens, Grecee, 27th Feb. – 03rd March 2023**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.331** | **CR** | **3842** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Clarification on RLC bearer re-association | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek Inc. | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2023/02/27 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | A |  | | | | | ***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-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In 38.331 5.3.5.5.4, it is specified that the NW does not re-associate an existing RLC bearer to another RB.  NOTE 1: For DRB and SRB, the network does not re-associate an already configured logical channel with **another radio bearer**. Hence, *servedRadioBearer* is not present in this case. For MRB, the network does not re-associate an already configured logical channel with DRB or SRB or another MRB (i.e. MRB with another PDCP entity). Hence *multicastRLC-BearerConfig* is not present in this case.  However, it is not clear that if a RB is **released and added with same ID** should be considered as *another* radio bearer. In our view, it is a *new* (another) radio bearer and an existing RLC bearer cannot be associated to it.  It is found in the field that some network may release and add a DRB with same ID but not releasing the existing RLC bearer associated with the same DRB ID. This is not expected behavior and has caused some IODT issue. We propose to clarify the intended scenario in 3GPP. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Modify the NOTE in 5.3.5.5.4 to clarify that if a radio bearer is released and added with same ID, it is considered as another bearer (a new bearer). Therefore, the NW should release the associated RLC bearer(s) if an RB is released. The network could add RLC bearer in same configuration (with same or different RLC logic channel ID).   **Impact analysis:**  Impacted 5G architecture options: Standalone, EN-DC, NGEN-DC, NE-DC, NR-DC  Impacted functionality:  Radio bearer Reconfiguration  Inter-operability:  If the network is implemented according to this CR while the UE is not, there is no inter-operability issue.  If the UE is implemented according to this CR while the network is not, the network may reconfigure radio bearer in an unexpected way. The UE may trigger RRC re-establishment and result in performance lost. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | It is unclear whether it is allowed to release and add a DRB with same DRB ID and not releasing the existing RLC bearer. As some UE does not expect this reconfiguration, it may cause IODT issue in the field. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.5.5.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | R2-2300813 | | | | | | | | |

5.3.5.5.4 RLC bearer addition/modification

For each *RLC-BearerConfig* received in the *rlc-BearerToAddModList* IE the UE shall:

1> if the UE's current configuration contains an RLC bearer with the received *logicalChannelIdentity/LogicalChannelIdentityExt* within the same cell group:

2> if the RLC bearer is associated with an DAPS bearer, or

2> if any DAPS bearer is configured and the RLC bearer is associated with an SRB:

3> reconfigure the RLC entity or entities for the target cell group in accordance with the received *rlc-Config*;

3> reconfigure the logical channel for the target cell group in accordance with the received *mac-LogicalChannelConfig*;

2> else:

3> if *reestablishRLC* is received:

4> re-establish the RLC entity as specified in TS 38.322 [4];

3> reconfigure the RLC entity or entities in accordance with the received *rlc-Config*;

3> reconfigure the logical channel in accordance with the received *mac-LogicalChannelConfig*;

3> if *servedMBS-RadioBearer* is received:

4> associate this logical channel with the PDCP entity identified by *servedMBS-RadioBearer*;

NOTE 1: For DRB and SRB, the network does not re-associate an already configured logical channel with another radio bearer. Hence, *servedRadioBearer* is not present in this case. For MRB, the network does not re-associate an already configured logical channel with DRB or SRB or another MRB (i.e. MRB with another PDCP entity). Hence *multicastRLC-BearerConfig* is not present in this case. If a radio bearer is released and an another added with same radio bearer identity, it is considered as a new (different) radio bearer. Hence, the network also releases the RLC bearer(s) associated with the released radio bearer.

NOTE 2: In DAPS handover, the UE may perform RLC entity re-establishment (if *reestablishRLC* is set) for an RLC bearer associated with a non-DAPS bearer when indication of successful completion of random access towards target cell is received from lower layers as specified in TS 38.321 [3].

1> else (a logical channel with the given *logicalChannelIdentity/LogicalChannelIdentityExt* is not configured within the same cell group, including the case when full configuration option is used):

2> if the *servedRadioBearer* associates the logical channel with an SRB and *rlc-Config* is not included:

3> establish an RLC entity in accordance with the default configuration defined in 9.2 for the corresponding SRB;

2> else:

3> establish an RLC entity in accordance with the received *rlc-Config*;

2> if the *servedRadioBearer* associates the logical channel with an SRB and if *mac-LogicalChannelConfig* is not included:

3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;

2> else:

3> configure this MAC entity with a logical channel in accordance to the received *mac-LogicalChannelConfig*;

2> associate this logical channel with the PDCP entity identified by *servedRadioBearer* or *servedMBS-RadioBearer*.