**3GPP TSG-RAN WG2 Meeting #127 *R2-24XXXX***

**Maastricht, Netherlands, Aug 19th – 23rd, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.322** | **CR** | **0057** | **rev** | **1** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:*** | RLC correction for multi-path relay with N3C | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SL\_relay\_enh-Core | | | | |  | ***Date:*** | | | 2024.08.20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | According to TS 38.300, the protocol stack for L2 MP relay using N3C indirect path is show as below   |  | | --- | | <TS 38.300 clause 16.21.2.2>    Figure 16.21.2.2-1: User plane protocol stack for L2 Multi-path Relay using N3C indirect path    Figure 16.21.2.2-2: Control plane protocol stack for L2 Multi-path Relay using N3C indirect path |     If RLC entity transmits or receives RLC SDU from N3C link, the RLC channel refers to a Uu Relay RLC channel.  However, in current version of RLC spec, the description for L2 MP Relay using N3C indirect path is missing. | | | | | | | | |
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| ***Summary of change:*** | | In clause, clarify that i f RLC entity transmits or receives RLC SDU from N3C link, the RLC channel refers to a Uu Relay RLC channel.  **Impact analysis**  Impacted functionality: MP operation  Impacted architecture options: NR SA  Inter-operability:   * There are no inter-operability issues, considering this CR is only to clarify UE behaviour. | | | | | | | | |
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| ***Consequences if not approved:*** | | Without the change, the RLC entity behavior/ description for L2 MP Relay using N3C indirect path will be missing. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.1 | | | | | | | | |
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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:*** | |  | | | | | | | | |

-----------------------------------------------------------start of Change-------------------------------------------------------------------

## 4.2 RLC architecture

### 4.2.1 RLC entities

The description in this clause is a model and does not specify or restrict implementations.

RRC is generally in control of the RLC configuration.

Functions of the RLC sub layer are performed by RLC entities. For an RLC entity configured at the gNB, there is a peer RLC entity configured at the UE and vice versa. In NR sidelink communication, in NR sidelink discovery, for an RLC entity configured at the transmitting UE, there is a peer RLC entity configured at each receiving UE.

An RLC entity receives/delivers RLC SDUs from/to upper layer or N3C and sends/receives RLC PDUs to/from its peer RLC entity via lower layers.

An RLC PDU can either be an RLC data PDU or an RLC control PDU. If an RLC entity receives RLC SDUs from upper layer or N3C, it receives them through a single RLC channel between RLC and upper layer or N3C, and after forming RLC data PDUs from the received RLC SDUs, the RLC entity submits the RLC data PDUs to lower layer through a single logical channel. If an RLC entity receives RLC data PDUs from lower layer, it receives them through a single logical channel, and after forming RLC SDUs from the received RLC data PDUs, the RLC entity delivers the RLC SDUs to upper layer or N3C through a single RLC channel between RLC and upper layer or N3C. If an RLC entity submits/receives RLC control PDUs to/from lower layer, it submits/receives them through the same logical channel it submits/receives the RLC data PDUs through.

NOTE 1: In case the upper layer is BAP as defined in TS 38.340 [7], an RLC channel refers to a Backhaul RLC channel.

NOTE 2: In case the upper layer is SRAP as defined in TS 38.351 [9], an RLC channel refers to either a PC5 Relay RLC channel or a Uu Relay RLC channel.

NOTE 3: In case the RLC entity transmits or receives RLC SDU from N3C link as defined in TS 38.300 [2], an RLC channel refers to a Uu Relay RLC channel.

An RLC entity can be configured to perform data transfer in one of the following three modes: Transparent Mode (TM), Unacknowledged Mode (UM) or Acknowledged Mode (AM). Consequently, an RLC entity is categorized as a TM RLC entity, an UM RLC entity or an AM RLC entity depending on the mode of data transfer that the RLC entity is configured to provide.

A TM RLC entity is configured either as a transmitting TM RLC entity or a receiving TM RLC entity. The transmitting TM RLC entity receives RLC SDUs from upper layer and sends RLC PDUs to its peer receiving TM RLC entity via lower layers. The receiving TM RLC entity delivers RLC SDUs to upper layer and receives RLC PDUs from its peer transmitting TM RLC entity via lower layers.

An UM RLC entity is configured either as a transmitting UM RLC entity or a receiving UM RLC entity. The transmitting UM RLC entity receives RLC SDUs from upper layer and sends RLC PDUs to its peer receiving UM RLC entity via lower layers. The receiving UM RLC entity delivers RLC SDUs to upper layer and receives RLC PDUs from its peer transmitting UM RLC entity via lower layers.

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