**3GPP TSG-RAN WG2 Meeting #128 *R2-24011000***

**Orlando, USA, 18th – 22nd November 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **38.300** | **CR** | **draft** | **rev** |  | **Current version:** | **18.3.0** |  |
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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 | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | U2U Relays, Local ID Assignment |
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| ***Source to WG:*** | Ericsson  |
| ***Source to TSG:*** | R2 |
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| ***Work item code:*** | NR\_SL\_relay\_enh-Core |  | ***Date:*** | 2024-11-19 |
|  |  |  |  |  |
| ***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 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)* *Rel-20 (Release 20)* |
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| ***Reason for change:*** | The following agreement was made for the local ID assignment in RAN2#123bis:

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| The UE ID assignment for U2U remote UEs is up to U2U relay UE implementation, i.e., no specification impact on how to assign the local ID is needed. |

The following is the description for the control plane procedures for L2 U2U relays in 38.300: The L2 U2U Relay UE allocates two local IDs and the two local IDs are delivered via *RRCReconfigurationSidelink* message to each of the L2 U2U Remote UEs: one local ID to identify the L2 U2U Remote UE, the other local ID to identify the peer L2 U2U Remote UE. When the local IDs are delivered, an L2 ID of the peer L2 U2U Remote UE is also delivered to the U2U Remote UE for making the association between the local ID and the L2 ID of the peer U2U Remote UE.As highlighted in yellow, Step-3 describes that “*the L2 U2U Relay UE allocates two local IDs and the two local IDs are delivered via RRCReconfiguartionSidelink message to each of the L2 U2U Remote UEs*”. Semantically speaking, allocate means assigned or issued for a particular purpose. However, the agreement made in RAN2#123-bis is about how the assignment is done i.e., whether a particular value is assigned to a particular U2U Remote UE and this aspect is not captured in the current text. Hence, we propose to add a NOTE to clarify this behavior.  |
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| ***Summary of change:*** | Section 16.12.7* NOTE added to clarity how the U2U Relay UE assigns the local IDs to the U2U Remote UE and peer U2U Remote UE.

**Impact Analysis**Impacted 5G architecture options: NR SA, NR Sidelink Impacted functionality:Sidelink RelaysInter-operability:1. If the network is implemented according to the CR and the UE is not, there will be no inter-operability issues.2. If the UE is implemented according to the CR and the network is not, there is no inter-operability issues. 3. If one UE is implemented according to the CR and another UE is not, there will be no inter-operability issues. |
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| ***Consequences if not approved:*** | Ambiguity on how the local IDs are assigned to the U2U Remote UEs by the U2U Relay UE.  |
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| ***Clauses affected:*** | 16.12.7 |
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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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| START OF CHANGE |

## 16.12 Sidelink Relay

< Unmodified Parts Omitted >

### 16.12.7 Control plane procedures for L2 U2U Relay

The L2 U2U Remote UE needs to establish end-to-end SL-SRB/DRBs with the peer L2 U2U Remote UE before user plane data transmission.

The following high level connection establishment procedure in Figure 16.12.7-1 applies to a L2 U2U Relay UE, L2 U2U Remote UE and the peer U2U Remote UE:



Figure 16.12.7-1: Procedure for L2 U2U Remote UE connection establishment

1. The L2 U2U Remote UE, L2 U2U Relay UE, and peer L2 U2U Remote UE perform discovery procedure or integrated discovery procedure.

2a. The L2 U2U Remote UE establishes/modifies a PC5-RRC connection with the selected L2 U2U Relay UE (i.e., as specified in TS 23.304 [48]).

2b. The L2 U2U Relay UE establishes/modifies a PC5-RRC connection with the peer L2 U2U Remote UE (i.e., as specified in TS 23.304 [48]).

3. The L2 U2U Relay UE allocates two local IDs and the two local IDs are delivered via *RRCReconfigurationSidelink* message to each of the L2 U2U Remote UEs: one local ID to identify the L2 U2U Remote UE, the other local ID to identify the peer L2 U2U Remote UE. When the local IDs are delivered, an L2 ID of the peer L2 U2U Remote UE is also delivered to the U2U Remote UE for making the association between the local ID and the L2 ID of the peer U2U Remote UE.

NOTE X: It is up to L2 U2U Relay UE implementation on how to allocate the local ID(s).

4. The L2 U2U Remote UE establishes end-to-end PC5-RRC connection with the peer L2 U2U Remote UE via the L2 U2U Relay UE. For the end-to-end connection establishment, fixed indexes (i.e., 0/1/2/3) are defined for end-to-end SL-SRB 0/1/2/3 respectively, and specified PC5 Relay RLC Channel configuration is used on each hop. The sidelink UE capability is exchanged between the L2 U2U Remote UEs via PC5-RRC (e.g., SL-SRB3) message.

5. The L2 U2U Remote UE obtains PDCP and SDAP configuration for the intended end-to-end SL-DRB(s) via SIB/pre-configuration or dedicated RRC signalling. The L2 U2U Remote UE provides the portion of the configuration related to reception of the end-to-end SL-DRB(s) to the peer L2 U2U Remote UE using end-to-end *RRCReconfigurationSidelink* message. The end-to-end bearer IDs for SL-SRB and SL-DRB are used as input for the L2 U2U Relay ciphering and integrity protection at SL PDCP.

6. The L2 U2U Remote UE sends to the L2 U2U Relay UE the QoS profiles for the end-to-end QoS flows and the mapping of the end-to-end QoS flows to SLRB via PC5-RRC message.

7. The L2 U2U Relay UE performs QoS split only for PDB, per each end-to-end QoS flow.

NOTE: It is up to L2 U2U Relay UE implementation on how to split PDB.

8. The L2 U2U Relay UE sends the split QoS value (i.e., PDB) via PC5-RRC message to the L2 U2U Remote UE.

9a. The L2 U2U Remote UE obtains first hop configuration (e.g. PC5 Relay RLC Channel configuration) for each end-to-end for SL-DRB via dedicated RRC signalling or based on merged first hop QoS in RB-level via SIB/pre-configuration. The L2 U2U Remote UE provides the L2 U2U Relay UE with the configuration related to receiving on the first hop (i.e., Rx by the relay UE), using per-hop *RRCReconfigurationSidelink* message.

9b. The L2 U2U Relay UE obtains second hop configuration (e.g. PC5 Relay RLC Channel configuration) for each end-to-end SL-DRB via dedicated RRC signalling or based on merged second hop QoS in RB-level via SIB/pre-configuration. The Relay UE provides the peer L2 U2U Remote UE with the configuration related to receiving on the second hop (i.e., RX by the peer remote UE), using per-hop *RRCReconfigurationSidelink* message.

10. The L2 U2U Remote UE and the peer L2 U2U Remote UE transmit or receive data via L2 U2U Relay UE.

< Unmodified Parts Omitted >

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| END OF CHANGE |