3GPP TSG-RAN WG2 #116bis-e R2-22xxxxx

Electronical meeting, 17 – 25 January 2022

Agenda Item: 8.7.2.3

Source: Ericsson

Title: Summary of AI 8.7.2.3 on the adaptation layer

Document for: Discussion, Decision

# Introduction

This document is to summarize the proposals made by the contributions submitted under the AI 8.7.2.3.

# Summary of AI 8.7.2.3

## UP Issues

### PDU format

Regarding PDU format, companies’ views are summarized in the below.

For remote UE local ID, some companies [1][11][15] think 8 bits are sufficient. Some other companies [2][6][7] think it should be 5 bits, while the other companies [4][5] think it should be 10 bits. In addition, there is a company [3] supporting at least 6 bits.

Therefore, rapporteur makes the following proposal

1. (discussion) For the size of remote UE local ID, RAN2 to down select the following options:
	1. Option 1 – 5 bits
	2. Option 2 - 8 bits
	3. Option 3 – 10 bits

For RB ID, companies’ views are summarized as

5 bits: [2][3][4][5][6][7][10]

6 bits: [1][11]

Size corresponding to SL bearer ID space [15]

There is clear majority view to support 5 bits. Therefore, rapporteur makes the following proposal

1. (easy) The size of remote UE Uu RB ID is of 5 bits in the adaptation layer header,

Regarding whether control PDU is needed or not, not all companies have expressed views. For companies which have expressed views, views are summarized in the below table

|  |  |
| --- | --- |
| **Support control PDU** | **No control PDU in this release** |
| MediaTek [4], Samsung and Philips [9], | CATT [1], Qualcomm [2], Intel [3], OPPO [5], VIVO [6]  |

Among all companies who have expressed views, there is no majority view to not support control PDU in this release. Therefore, rapporteur would like to make the following proposal

1. (discussion) Control PDU is not supported for the adaptation layer in this release.

Whether remote UE ID shall be present in PC5 adaptation layer header was discussed in RAN2#116, however, no consensus was made. RAN2 is going to further down-select the following options

* **Option 1**: always absent in this release
* **Option 2**: always present in this release
* **Option 3**: always present but always remains to “00000000” in this release (i.e. remote/relay UE will never use this field in R17)

Companies’ views are summarized as the following.

Option 1 – [3][6][7][14][15]

Option 2 – [2][11][5][12][13]

Option 3 – [1][4]

Option 4 – configurable to be absent [10]

There is a majority of supports for Option 1 and Option 2, therefore, rapporteur would like to follow the majority view to further discuss Option 1 and Option 2.

1. (discussion) Regarding whether remote UE ID needs to be present in PC5 adaptation layer header, RAN2 to down select the following options:
	1. Option 1: always absent in this release
	2. Option 2: always present in this release

## CP Issues

### Remote UE ID in PC5 adaptation layer

RAN2 has made the following agreement in RAN2#116,

Proposal 15 (modified): Relay UE is configured by gNB with the local/temp remote UE ID to be used in adaptation layer by RRCReconfiguration message, after reporting the remote UE’s L2ID via SUI message to gNB and before forwarding the first SRB0 UL message of the remote UE. FFS if impact to the SUI contents is needed to enable this.

For the highlighted FFS, the actual issue is how to update the SUI contents to carry the L2 RM UE ID so that the gNB can assign a corresponding local ID upon reception of the SUI from relay UE. Companies have proposed different options for this issue.

Option 1: add a new IE to carry L2 ID of remote UE

Option 2: reuse the existing field *sl-DestinationIdentity* to request TX resources, in addition, introduce an indicator indicating that the ID is for relay purpose

Option 1 – [2] [5] [6] [15]

Option 2 – [3] [7][8][12]

There is equal support for both options. Therefore, RAN2 can further discuss which option shall be supported.

1. (discussion) Regarding how to indicate L2 ID of remote UE in the SUI message by relay UE, RAN2 to down select the following options:
	1. Option 1: add a new IE to carry L2 ID of remote UE
	2. Option 2: reuse the existing field *sl-DestinationIdentity* to request TX resources, in addition, introduce an indicator indicating that the destination ID is for relay purpose

If RAN2 agrees to support remote UE ID in PC5 adaption layer, another issue would be that how remote UE can obtain the temp/local ID for PC5 adaptation layer. The issue is discussed in [2][5][12]. The following options have been proposed and need further discussions in RAN2.

* Option 1: via Uu RRC messages, including *RRCSetup/RRCReconfiguration/RRCResume/RRCReestablishment*
* Option 2: Via SRAP header of *RRCResume / RRCReestablishment*
* Option 3: relay UE forward the local ID to remote UE via PC5 RRC message.

It would be beneficial to have a unified option which is applicable in all possible cases including initial setup, resume and reestablishment, handover.

Since there is no majority support for none of the above options, it would be necessary for RAN2 to further discuss which of the above options should be adopted.

1. (discussion) If remote UE local ID needs to be present in PC5 adaption layer header, RAN2 to down select the following options based on which remote UE can obtain the local ID from the gNB:
	1. Option 1: via Uu RRC messages, including *RRCSetup/RRCReconfiguration/RRCResume/RRCReestablishment*
	2. Option 2: Via SRAP header of *RRCResume / RRCReestablishment*
	3. Option 3: relay UE forwards the local ID to remote UE via PC5 RRC message

### Bearer mapping

RAN2 has made the following agreements regarding bearer mapping in RAN2#116

Agreements:

Proposal 1: For DL bearer mapping, relay UE is configured by gNB, for each remote UE, with a mapping from Uu E2E bearer ID in Uu adaptation layer header to egress PC5 RLC channel ID/LCID.

Proposal 2: For UL bearer mapping, relay UE is configured by gNB, for each remote UE, with a mapping from Uu E2E bearer ID used in PC5 adaptation layer header to egress Uu RLC channel ID/LCID.

Proposal 3: For UL bearer mapping, remote UE is configured by gNB with a mapping from Uu E2E bearer ID to egress PC5 RLC channel ID/LCID.

FFS detailed signalling design.

Bearer mapping is further discussed in [5-7][12].

Companies’ views are summarized in the following table

|  |  |
| --- | --- |
| Source | Related proposals |
| OPPO [5] | Proposal 9: Remote UE is configured with the PC5 RLC channel to be used for each Uu bearer, via specified configuration for SRB0, via default configuration for SRB1 message of RRCReconfigurationComplete in case of target relay UE being in RRC\_IDLE/RRC\_INACTIVE state, and otherwise network configuration. |
| Vivo [6] | Proposal 1: The mapping between Uu SRB0 (UL & DL) of the Remote UE and the associated PC5 RLC channel is 1-to-1 mapping.Proposal 2: The mapping between Uu SRB0 of the Remote UE and PC5 RLC channel is fixed in the Spec via a specified PC5 LCID.Proposal 3: The specified PC5 RLC channel for Uu SRB0 should be in bi-directional RLC UM mode.Proposal 8: The Uu/PC5 logical channel ID is used for bearer mapping configuration between Uu E2E bearers and Uu/PC5 RLC channels. No Uu/PC5 RLC channel ID needs to be introduced for SL relay purpose.Proposal 14: RAN2 does not pursue any PC5 SRAP functions/formats other than bearer mapping in this release. |
| Huawei [7] | Proposal 11: For the UL bearer mapping configuration at remote UE, the “egress PC5 RLC ID” refers to the PC5 connection of U2N relay. |
| ZTE [12] | Proposal7: It is suggested to use a separate ID to set bearer mapping, instead re-using legacy LCID and SL RLC bearer index. |

For UL data, remote UE has to know the PC5 RLC channel to be used for each bearer, the following proposal is proposed in [5],

***Proposal 9: Remote UE is configured with the PC5 RLC channel to be used for each Uu bearer, via specified configuration for SRB0, via default configuration for SRB1 message of RRCReconfigurationComplete in case of target relay UE being in RRC\_IDLE/RRC\_INACTIVE state, and otherwise network configuration.***

From rapporteur understanding, the above proposal covers handling of Uu RBs including SRB0 and SRB1 for remote UE, since SRB0 will be discussed in the following proposals therefore, which can be excluded from the above proposal. Rapporteur suggests the following two reworded proposals wherein one focuses on RBs other than SRB0 and SRB1, another one focuses on SRB1. However, rapporteur is reminded by a company that RAN2 has already made the similar agreement for SRB2 and DRB.

*Proposal 6-4: [21/23, 22/23] [Easy] For the delivery of remote UE’s SRB2 RRC message, network configuration via dedicated signalling is used for the configuration of PC5 RLC channel and Uu RLC channel.*

*Proposal 6-5: [23/23, 23/23] [Easy] For the delivery of remote UE’s Uu DRB packet, network configuration via dedicated signalling is used for the configuration of PC5 RLC channel and Uu RLC channel.*

Therefore, we will not formulate the proposal for SRB2 and DRBs.

1. (discussion) Remote UE is configured with the PC5 RLC channel to be used for SRB1 message of RRCReconfigurationComplete via default configuration in case of target relay UE being in RRC\_IDLE/RRC\_INACTIVE state, and otherwise network configuration.

SRB0 related mapping issues are discussed in [6], the following proposals are made. From rapporteur understanding, the below three proposals mimic configuration behaviours as SL-SRB0.

1. (discussion) After how LCID for PC5 RLC channel is allocated is concluded, RAN2 to confirm that the mapping between Uu SRB0 (UL & DL) of the Remote UE and the associated PC5 RLC channel is 1-to-1 mapping.
2. (discussion) The mapping between Uu SRB0 of the Remote UE and PC5 RLC channel is fixed in the Spec. FFS whether LCID for PC5 RLC channel is to be allocated by UE as in R16 or specified for Uu SRB0.
3. (discussion) RAN2 to discuss whether the specified PC5 RLC channel for Uu SRB0 should be RLC UM mode.

In addition, companies think it is a generic issue that how LCID is allocated for PC5 RLC channel of remote UE UU RBs. Since the issue has been captured by FFS in P10 for SRB0, rapporteur suggests to add the following proposal

1. (discussion) Regarding how to allocate LCID for PC5 RLC channel of remote UE Uu RBs including SRB2 and DRBs, RAN2 to down select the following options. FFS on SRB1
	1. Option 1:  allocated by UE same as in R16 SL
	2. Option 2: up to gNB dedicated configuration same as in Uu

For SRB1, PC5 RLC channel configuration may be provided in default configuration (if relay UE is in RRC IDLE or RRC INACTIVE), in that case, UE has to allocate the ID same as in R16. Therefore, further discussion is needed.

Regarding P14 in [6], since RAN2 has already agreed that adaptation layer on PC5 is only supported for bearer mapping, it would be reasonable for RAN2 to confirm this proposal.

1. (easy) RAN2 does not pursue any PC5 SRAP functions/formats other than bearer mapping in this release.

RAN2 has already agreed that bearer mapping for remote UE or relay UE is defined from Uu E2E bearer ID to RLC channel ID/LCID. However, a different mapping rule is proposed in [12].

***Proposal7: It is suggested to use a separate ID to set bearer mapping, instead re-using legacy LCID and SL RLC bearer index.***

The arguments in [12] are that CU only knows the ***SLRB-Uu-ConfigIndex***and does not know the ***SL-RLC-BearerConfigIndex***and***LCID***allocated by DU*.*

Meanwhile, according to P8 in [6], it is suggested that

***Proposal 8: The Uu/PC5 logical channel ID is used for bearer mapping configuration between Uu E2E bearers and Uu/PC5 RLC channels. No Uu/PC5 RLC channel ID needs to be introduced for SL relay purpose.***

In addition, P13 in [7] has also discussed the same issue. Based on rapporteur understanding, since the issue is also discussed in RAN3, it would be reasonable for RAN2 to wait for discussion outcome in RAN3. Therefore, there is no corresponding proposal formulated in this meeting.

## Other Issues

The other issues are captured in the following table.

|  |  |
| --- | --- |
| Source | Related proposals |
| CATT [1] | Proposal 2: The Uu adaptation layer header should always be present, not configurable. |
| Qualcomm [2] | Proposal 4: Both local remote UE ID and E2E Uu bearer ID are included in Uu SRAP header of SRB0 messageProposal 6: In relay UE’s UL traffic forwarding, the receiving part of its SRAP entity on the PC5 interface delivers the whole SRAP PDU (without modification of SRAP header) to the transmitting part of its SRAP entity on the Uu interfaceProposal 7: In relay UE’s DL traffic forwarding, the receiving part of its SRAP entity on the Uu interface delivers the whole SRAP PDU (without modification of SRAP header) to the transmitting part of its SRAP entity on the PC5 interfaceProposal 8: PC5 SRAP header is present for SRB1/2/DRB of PC5 hop. |
| Intel [3] | Proposal 3: DRB/SRB differentiation indication is not necessary in the adaptation layer header. |
| OPPO [5] | Proposal 5: No spec impact for “As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel)”Proposal 7: For error data handling, a SRAP Data PDU that contains a UE-ID or a BEARER-ID which is not configured, discard the received SRAP Data PDU.Proposal 10: No spec impact for “Serving gNB can perform local remote UE ID update (based on its implementation) independent of the PC5 unicast link L2 ID update procedure.” |
| VIVO [6] | Proposal 5: RAN2 to capture a NOTE and leave it to Relay UE implementation to handle the exceptional case where the PC5 unicast link L2 ID update procedure and local Remote UE ID update procedure coincide. No other Spec impact is needed.Proposal 6: Extended PC5 RLC/logical channel number, e.g. larger than 16, is not needed in PC5.Proposal 7: Whether to configure extended number of Uu RLC/logical channel, e.g. larger than 32, depends on Relay UE’s capability.Proposal 9: Different E2E DRBs from one remote UE or from different remote UEs, which belong to different PDU sessions, can be mapped to the same Uu RLC channel at the relay UE.Proposal 10: If the previous agreement to rely on completely bearer mapping configuration for E2E SRB and DRB differentiation is followed:* the requirement that a E2E DRB and a E2E SRB cannot be mapped to the same PC5 RLC channel or the same Uu RLC channel may need to be specified;
* Relay UE may need to be made aware of the RB type associated with each PC5 LCID and that associated with each Uu LCID for the relay link respectively.
 |
| Huawei [7] | Proposal 1: For DL, relay UE determines the egress PC5 connection, based on the remote UE ID included in the Uu SRAP header.Proposal 2: For UL, relay UE determines the remote UE ID to be added in the Uu SRAP layer header, based on the ingress PC5 connection.Proposal 7: RAN2 confirm that gNB configures relay UE with the mapping between remote UE’s L2 ID and remote UE’s local ID. |
| Fujitsu [8] | Proposal 3: A relay UE may initiate the SUI procedure to report to the network the L2 ID of a remote UE to request the assignment of the remote UE’s local/temp ID.Proposal 4: After establishing the PC5 connection with a remote UE or after receiving the remote UE’s first RRC message, the relay UE can initiate transmission of the SUI message to indicate the remote UE’s L2 ID.Proposal 5: The SL SRAP configuration is included in RRCSetup message, RRCRe-establishment message and RRCResume message for the remote UE. |
| Samsung, Philips [9] | Proposal 4: No more granular packet forwarding at Relay UE is supported for flow control. |
| CMCC [10] | Proposal 3: RAN2 discuss the remote UE local ID in SRAP header for SRB0 transmission.Proposal 4: If dedicated uu RLC channel configuration is used for SRB0 transmission, gNB assigns local ID; if default uu RLC channel configuration is used for SRB0 transmission, relay UE assigns local ID. |
| ZTE [12] | Proposal 2: During DST L2 ID update procedure, to avoid allocating the local ID for same remote UE again, it is suggested to include the allocated remote UE’s local ID in SUI message.Proposal 3: Considering it is a corner case that gNB update the local ID, it is suggested not to discuss the local ID update issue. |
| Samsung [15] | Proposal 2: The temporary remote UE ID is relay-specific.Proposal 5: RAN2 to agree that presence of Adapt header can be configurable in the general case. |

The issues corresponding to FFS are prioritized over the other issues which are not corresponding to FFS.

### Local remote UE ID update

Agreements:

Proposal 18 (modified): Serving gNB can perform local remote UE ID update (based on its implementation) independent of the PC5 unicast link L2 ID update procedure. FFS if any spec impact.

This FFS is discussed in [5] [6][12]. The related proposals are summarized in the below table

|  |  |
| --- | --- |
| **Source** | **Related proposals** |
| Qualcomm [2] | Observation 5: Endorsed running CR of TS 38.300 has captured agreements on local ID update. No need to capture these agreements in other specifications. |
| OPPO [5] | Proposal 10: No spec impact for “Serving gNB can perform local remote UE ID update (based on its implementation) independent of the PC5 unicast link L2 ID update procedure.” |
| VIVO [6] | Proposal 5: RAN2 to capture a NOTE and leave it to Relay UE implementation to handle the exceptional case where the PC5 unicast link L2 ID update procedure and local Remote UE ID update procedure coincide. No other Spec impact is needed. |
| ZTE [12] | Proposal 2: During DST L2 ID update procedure, to avoid allocating the local ID for same remote UE again, it is suggested to include the allocated remote UE’s local ID in SUI message.Proposal 3: Considering it is a corner case that gNB update the local ID, it is suggested not to discuss the local ID update issue. |

As indicated in [2][5], it is up to gNB implementation to determine when to reconfigure the local ID for remote UE. There will be no additional spec impact due to this. Meanwhile, it is pointed that in [6], it is sufficient to leave to relay UE implementation to handle the exception case if there is overlapping PC5 unicast L2 ID update and remote UE local ID update. Rapporteur agrees with this. In addition, it is suggested in [12] to also include remote UE’s local ID in the SUI message so that the gNB is aware of the association with the local ID and the new updated DST L2 ID and the gNB will not assign a new local ID for the updated DST L2 ID. This needs to be further discussed in RAN2. Given there is limited time left in R17, it would be beneficial to follow the majority view and close the issue with minimized or zero standardization efforts. Give this in mind, rapporteur therefore suggests the following proposals

1. (discussion) It is up to Relay UE implementation to handle the exceptional case where the PC5 unicast link L2 ID update procedure and local Remote UE ID update procedure coincide. FFS whether a note needs to be added in the spec.
2. (discussion) During DST L2 ID update procedure, to avoid allocating the local ID for same remote UE again, it is suggested to include the allocated remote UE’s local ID in SUI message.

### Differentiation of SRB and DRB

Agreement:

As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel). FFS if there is any spec impact.

This FFS is discussed in [5] [6][3]. The related proposals are summarized in the below table

|  |  |
| --- | --- |
| Source | Related proposals |
| Intel [3] | Proposal 3: DRB/SRB differentiation indication is not necessary in the adaptation layer header. |
| OPPO [5] | Proposal 5: No spec impact for “As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel)”” |
| VIVO [6] | Proposal 10: If the previous agreement to rely on completely bearer mapping configuration for E2E SRB and DRB differentiation is followed:* the requirement that a E2E DRB and a E2E SRB cannot be mapped to the same PC5 RLC channel or the same Uu RLC channel may need to be specified;
* Relay UE may need to be made aware of the RB type associated with each PC5 LCID and that associated with each Uu LCID for the relay link respectively.
 |

Since RAN2 has already agreed to adopt the similar behavior as in Uu, it is worth noting that there was no any spec impact in Uu. Give this in mind, rapporteur tend to agree with proposals in [3] and [5], and therefore, make the following proposal

1. (easy) Same as in Uu, no spec impact is expected for “As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel)”.

### Configurability of adaptation layer

The related proposals are summarized in the below table

|  |  |
| --- | --- |
| Source | Related proposals |
| CATT [1] | Proposal 2: The Uu adaptation layer header should always be present, not configurable. |
| Samsung [15] | Proposal 5: RAN2 to agree that presence of Adapt header can be configurable in the general case. |

Given RAN2 has already made the following agreement

Proposal 1: RAN2 postpones discussions on configurability of Uu adaptation layer header and revisits it if time allows.

Rapporteur suggests to down prioritize this issue in this meeting. Therefore, no proposal is formulated.

# Conclusion

We have the following proposal:

[Proposal 1 (discussion) For the size of remote UE local ID, RAN2 to down select the following options:](#_Toc92984090)

[a. Option 1 – 5 bits](#_Toc92984091)

[b. Option 2 - 8 bits](#_Toc92984092)

[c. Option 3 – 10 bits](#_Toc92984093)

[Proposal 2 (easy) The size of remote UE Uu RB ID is of 5 bits in the adaptation layer header,](#_Toc92984094)

[Proposal 3 (discussion) Control PDU is not supported for the adaptation layer in this release.](#_Toc92984095)

[Proposal 4 (discussion) Regarding whether remote UE ID needs to be present in PC5 adaptation layer header, RAN2 to down select the following options:](#_Toc92984096)

[a. Option 1: always absent in this release](#_Toc92984097)

[b. Option 2: always present in this release](#_Toc92984098)

[Proposal 5 (discussion) Regarding how to indicate L2 ID of remote UE in the SUI message by relay UE, RAN2 to down select the following options:](#_Toc92984099)

[a. Option 1: add a new IE to carry L2 ID of remote UE](#_Toc92984100)

[b. Option 2: reuse the existing field *sl-DestinationIdentity* to request TX resources, in addition, introduce an indicator indicating that the destination ID is for relay purpose](#_Toc92984101)

[Proposal 6 (discussion) If remote UE local ID needs to be present in PC5 adaption layer header, RAN2 to down select the following options based on which remote UE can obtain the local ID from the gNB:](#_Toc92984102)

[a. Option 1: via Uu RRC messages, including *RRCSetup/RRCReconfiguration/RRCResume/RRCReestablishment*](#_Toc92984103)

[b. Option 2: Via SRAP header of *RRCResume / RRCReestablishment*](#_Toc92984104)

[c. Option 3: relay UE forwards the local ID to remote UE via PC5 RRC message](#_Toc92984105)

[Proposal 7 (discussion) Remote UE is configured with the PC5 RLC channel to be used for SRB1 message of RRCReconfigurationComplete via default configuration in case of target relay UE being in RRC\_IDLE/RRC\_INACTIVE state, and otherwise network configuration.](#_Toc92984107)

[Proposal 8 (discussion) After how LCID for PC5 RLC channel is allocated is concluded, RAN2 to confirm that the mapping between Uu SRB0 (UL & DL) of the Remote UE and the associated PC5 RLC channel is 1-to-1 mapping.](#_Toc92984108)

[Proposal 9 (discussion) The mapping between Uu SRB0 of the Remote UE and PC5 RLC channel is fixed in the Spec. FFS whether LCID for PC5 RLC channel is to be allocated by UE as in R16 or specified for Uu SRB0.](#_Toc92984109)

[Proposal 10 (discussion) RAN2 to discuss whether the specified PC5 RLC channel for Uu SRB0 should be RLC UM mode.](#_Toc92984110)

[Proposal 11 (discussion) Regarding how to allocate LCID for PC5 RLC channel of remote UE Uu RBs including SRB2 and DRBs, RAN2 to down select the following options. FFS on SRB1](#_Toc92984111)

[a. Option 1:  allocated by UE same as in R16 SL](#_Toc92984112)

[b. Option 2: up to gNB dedicated configuration same as in Uu](#_Toc92984113)

[Proposal 12 (easy) RAN2 does not pursue any PC5 SRAP functions/formats other than bearer mapping in this release.](#_Toc92984114)

[Proposal 13 (discussion) It is up to Relay UE implementation to handle the exceptional case where the PC5 unicast link L2 ID update procedure and local Remote UE ID update procedure coincide. FFS whether a note needs to be added in the spec.](#_Toc92984115)

[Proposal 14 (discussion) During DST L2 ID update procedure, to avoid allocating the local ID for same remote UE again, it is suggested to include the allocated remote UE’s local ID in SUI message.](#_Toc92984116)

[Proposal 15 (easy) Same as in Uu, no spec impact is expected for “As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel)”.](#_Toc92984117)

3.1 For chair notes (proposal in priority order)

**Easy Proposals for Block Approval**

[Proposal 2 (easy) The size of remote UE Uu RB ID is of 5 bits in the adaptation layer header,](#_Toc92984094)

[Proposal 12 (easy) RAN2 does not pursue any PC5 SRAP functions/formats other than bearer mapping in this release.](#_Toc92984114)

[Proposal 15 (easy) Same as in Uu, no spec impact is expected for “As in Uu, a Uu DRB and a Uu SRB are mapped to different RLC channels (i.e., PC5 RLC channel and Uu RLC channel)”.](#_Toc92984117)

**Proposals for Online discussion**

[Proposal 1 (discussion) For the size of remote UE local ID, RAN2 to down select the following options:](#_Toc92984090)

[a. Option 1 – 5 bits](#_Toc92984091)

[b. Option 2 - 8 bits](#_Toc92984092)

[c. Option 3 – 10 bits](#_Toc92984093)

[Proposal 3 (discussion) Control PDU is not supported for the adaptation layer in this release.](#_Toc92984095)

[Proposal 4 (discussion) Regarding whether remote UE ID needs to be present in PC5 adaptation layer header, RAN2 to down select the following options:](#_Toc92984096)

[a. Option 1: always absent in this release](#_Toc92984097)

[b. Option 2: always present in this release](#_Toc92984098)

[Proposal 5 (discussion) Regarding how to indicate L2 ID of remote UE in the SUI message by relay UE, RAN2 to down select the following options:](#_Toc92984099)

[a. Option 1: add a new IE to carry L2 ID of remote UE](#_Toc92984100)

[b. Option 2: reuse the existing field *sl-DestinationIdentity* to request TX resources, in addition, introduce an indicator indicating that the destination ID is for relay purpose](#_Toc92984101)

[Proposal 6 (discussion) If remote UE local ID needs to be present in PC5 adaption layer header, RAN2 to down select the following options based on which remote UE can obtain the local ID from the gNB:](#_Toc92984102)

[a. Option 1: via Uu RRC messages, including *RRCSetup/RRCReconfiguration/RRCResume/RRCReestablishment*](#_Toc92984103)

[b. Option 2: Via SRAP header of *RRCResume / RRCReestablishment*](#_Toc92984104)

[c. Option 3: relay UE forwards the local ID to remote UE via PC5 RRC message](#_Toc92984105)

[Proposal 7 (discussion) Remote UE is configured with the PC5 RLC channel to be used for SRB1 message of RRCReconfigurationComplete via default configuration in case of target relay UE being in RRC\_IDLE/RRC\_INACTIVE state, and otherwise network configuration.](#_Toc92984107)

[Proposal 8 (discussion) After how LCID for PC5 RLC channel is allocated is concluded, RAN2 to confirm that the mapping between Uu SRB0 (UL & DL) of the Remote UE and the associated PC5 RLC channel is 1-to-1 mapping.](#_Toc92984108)

[Proposal 9 (discussion) The mapping between Uu SRB0 of the Remote UE and PC5 RLC channel is fixed in the Spec. FFS whether LCID for PC5 RLC channel is to be allocated by UE as in R16 or specified for Uu SRB0.](#_Toc92984109)

[Proposal 10 (discussion) RAN2 to discuss whether the specified PC5 RLC channel for Uu SRB0 should be RLC UM mode.](#_Toc92984110)

[Proposal 11 (discussion) Regarding how to allocate LCID for PC5 RLC channel of remote UE Uu RBs including SRB2 and DRBs, RAN2 to down select the following options. FFS on SRB1](#_Toc92984111)

[a. Option 1:  allocated by UE same as in R16 SL](#_Toc92984112)

[b. Option 2: up to gNB dedicated configuration same as in Uu](#_Toc92984113)

[Proposal 13 (discussion) It is up to Relay UE implementation to handle the exceptional case where the PC5 unicast link L2 ID update procedure and local Remote UE ID update procedure coincide. FFS whether a note needs to be added in the spec.](#_Toc92984115)

[Proposal 14 (discussion) During DST L2 ID update procedure, to avoid allocating the local ID for same remote UE again, it is suggested to include the allocated remote UE’s local ID in SUI message.](#_Toc92984116)

# Reference

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# Appendix