3GPP TSG-RAN WG2 Meeting #131 DRAFT R2-2506332

Bengaluru, India, 25 – 29 August 2025

**Agenda item: 8.7.4**

**Source: Nokia, Nokia Shanghai Bell**

**Title: [AT131][503][XR] Cover remaining PDCP/RLC issues for DSR (Nokia)**

**WID/SID: NR\_XR\_Ph3-Core - Release 19**

**Document for: Discussion and Decision**

# 1 Introduction

This document is the report of the following email discussion:

* [AT131][503][XR] Cover remaining PDCP/RLC issues for DSR (Nokia)

 Scope: Cover remaining PDCP/RLC issues, including PDCP-1, RLC-13 and new issue from R2-2506331

 Intended outcome: Report with proposals

 Deadline: Report ready for Thursday CB session

# 2 RLC-13

**Agreements:**

* PDCP should indicate to RLC what needs to be included in the data volume calculation in RLC for each threshold
* We can remove definition of delay reporting and non-delay reporting data from RLC

**Issue Description**: Remaining question is whether the PDCP 1) indicates total volume to be considered as delay-reporting RLC data volume for each threshold, or 2) indicates which PDCP PDU is considered for the delay-reporting RLC data volume for each threshold. Rapporteur understands this could be left to the PDCP specification rapporteur, but it would be good to briefly check the companies view to make his life easier.

**Question 1**: How to specify in TS 38.323 that *PDCP should indicate to RLC what needs to be included in the data volume calculation in RLC for each threshold*?

- Option 1. For each threshold, the PDCP indicates total volume to be considered as delay-reporting RLC data volume

- Option 2. For each threshold, the PDCP indicates which PDCP Data PDU is to be considered as delay-reporting RLC data

**Summary 1**: Rapporteur thinks either way is possible. But will implement with option 1. If not work properly, he will go to option 2. Lenovo clarifies from RLC perspective option 1 is very simple. Apple wonders if option 2 is consistent with R18. Sharp thinks we can keep consistency to R18, i.e., delay-critical indication. Xiaomi thinks no big difference between two, wonder if option 1 can be accurate given that PDCP is not aware of RLC buffer status. Vivo thnks it is up to the rapporteur while we can be consistent to R18.

**Proposal 1 [RLC-13]**: RAN2 will start from option 2 and will check during the running CR review.

# 3 New issue from [R2-2506331](https://www.3gpp.org/ftp/meetings_3gpp_sync/RAN2/Inbox/R2-2506331.zip)

**Issue description**: One issue from R2-2506331 is incorrect calculation of delay-reporting PDCP data volume, which arises because the procedural text in S5.15 specifies that the calculation of delay-reporting data volume is performed in two iterations, and the definition in S3.1 excludes any PDCP SDU from being identified as a non-delay-reporting PDCP SDU in the second iteration once it has been identified as a delay-reporting PDCP SDU for any threshold in the first iteration.

The current procedural text in clause 5.15:



The current definition in clause 3.1:

**Non-delay-reporting PDCP SDU**: a non-delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* is a PDCP SDU that will be transmitted prior to any of the delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* and that is not a delay-reporting PDCP SDU.

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**Figure 1. Example case for discussion**

**Question 2**: Do companies agree to the corrections to PDCP and the text proposal (in Annex) from R2-2506331?

- Correct the definition in subclause 3.1 that a PDCP SDU can be identified as a non-delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* unless it is identified as a delay-reporting-PDCP SDU associated with the i:th *dsr-ReportingThreshold*.

- Correct the procedural text in subclause 5.15 so that the data volume for each threshold is calculated by considering both delay-reporting PDCP SDUs and non-delay-reporting PDCP SDUs before moving on to the next threshold in ascending order.

**Summary 2**: Xiaomi thinks it has been discussed during the running CR. Nokia clarifies the correction is not sufficient. Ericsson, Apple agree with the correction. Vivo is okay with the first change on definition, but wonder if the second change changes the definition, and now okay with the explanation from the companies. QC is also fine with the change, but concern is the readability so that it can be easily understood for implementation. PDCP rapporteur promised to work hard on this.

**Proposal 2 [NewIssue]**: The text proposal in R2-2506331 is adopted.

# 4 PDCP-1 (Editorial)

**Issue description**: Whether the text in clause 5.15 “and are not considered as delay-reporting PDCP data volume associated with any of the k:th *dsr-ReportingThreshold* where k < i” needs to be moved to the definition section in clause 3.1 for both delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

The current definition in clause 3.1:

**Delay-reporting PDCP SDU**: if *pdu-SetDiscard* is not configured, a delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* is a PDCP SDU for which the remaining time till *discardTimer* expiry is less than the i:th *dsr-ReportingThreshold* and larger than or equal to the i-1:th *dsr-ReportingThreshold* (if i>1) or larger than zero (if i=1). If *pdu-SetDiscard* is configured, a delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* is a PDCP SDU belonging to a PDU Set of which the PDU Set remaining time is less than the i:th *dsr-ReportingThreshold* and larger than or equal to the i-1:th *dsr-ReportingThreshold* (if i>1) or larger than zero (if i=1).

**Non-delay-reporting PDCP SDU**: a non-delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* is a PDCP SDU that will be transmitted prior to any of the delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* and that is not a delay-reporting PDCP SDU.

Two options on the table (planned to be discussed by the session chair):

- Option 1: P5 from R2-2505372 (ZTE)

The text “and are not considered as delay-reporting PDCP data volume associated with any of the k:th dsr-ReportingThreshold where k < i” should be moved to the definition section for both delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

- Option 2: P6 from R2-2505458 (LGE)

Keep the current definition of delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

**Question 3**: Which option do companies agree?

**Summary 3**: LG thinks option2 is good to go since definition is already very complex. Not good to have procedural text to the definition. Apple agrees with LGE.

**Proposal 3 [PDCP-1]**: Keep the current definition of delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

# 5 Conclusion

**Proposal 1 [RLC-13]**: RAN2 will start from option 2 and will check during the running CR review.

**Proposal 2 [NewIssue]**: The text proposal in R2-2506331 is adopted.

**Proposal 3 [PDCP-1]**: Keep the current definition of delay-reporting PDCP SDU and non-delay-reporting PDCP SDU.

# Annex: Text proposal based on PDCP running CR (R2-2505438)

## 3.1 Definitions

<… omitted unimpacted part …>

**Non-delay-reporting PDCP SDU**: a non-delay-reporting PDCP SDU associated with the i:th *dsr-ReportingThreshold* is a PDCP SDU that will be transmitted prior to any of the delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* and that is not a delay-reporting PDCP SDU associated with the i:th *drx-ReportingThreshold*.

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## 5.15 Data volume calculation for delay status reporting

<… omitted unimpacted part …>

For the purpose of multiple entry MAC delay status reporting, the transmitting PDCP entity shall evaluate the delay-reporting PDCP data volume in ascending order of *dsr-ReportingThreshold*, and consider the following as delay-reporting PDCP data volume associated with the i:th *dsr-ReportingThreshold*:

- the delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* for which no PDCP Data PDUs have been constructed, and are not considered as delay-reporting PDCP data volume associated with any of the k:th *dsr-ReportingThreshold* where k < i;

- the PDCP Data PDUs that contain the delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* and have not been submitted to lower layers, and are not considered as delay-reporting PDCP data volume associated with any of the k:th *dsr-ReportingThreshold* where k < i;

- if *dsr-ReportNonDelayCriticalData* is configured:

- the non-delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* for which no PDCP Data PDUs have been constructed, and are not considered as delay-reporting PDCP data volume associated with any of the k:th *dsr-ReportingThreshold* where k < i;

- the PDCP Data PDUs that contain the non-delay-reporting PDCP SDUs associated with the i:th *dsr-ReportingThreshold* and have not been submitted to lower layers, and are not considered as delay-reporting PDCP data volume associated with any of the k:th *dsr-ReportingThreshold* where k < i;

- if i = 1, the PDCP Control PDUs;

- if i = 1, for AM DRBs, the PDCP SDUs to be retransmitted according to clause 5.1.2 and clause 5.13;

- if i = 1, for AM DRBs, the PDCP Data PDUs to be retransmitted according to clause 5.5.