**3GPP TSG-RAN WG3 Meeting #129 R3-255860**

**Bengaluru, India, 25 – 29 August 2025**

**Agenda item: 21.3**

**Source: Nokia, Nokia Shanghai Bell**

**Title: Summary of offline discussion for CB: # 21\_XR**

**Document for: Discussion and Decision**

# 1 Introduction

This contribution provides summary of offline discussion for CB#21.

**CB: # 21\_XR**

**- continue discussion on above open issues captured in blue**

**- Implement above agreements in TPs**

**- BL CR cleanup and corrections**

(Nokia)

**The offline discussion includes two phases:**

* **Phase 1: Discuss the issues. Please share your comments by 13:00 Aug 28th (Thursday, local time)**
* **Phase 2: based on the agreements, develop the related TPs.**

# 2 For the Chair’s Notes

**For Unnecessary RLC retransmission avoidance, no consensus on whether needs new F1AP IE for gNB-CU to provide signalling to the gNB-DU to enable or disable unnecessary RLC retransmission avoidance.**

**For Clean-up for QNC, agree to use general terminology (e.g. GBR QoS) rather the specific QoS parameter (e.g. GFBR, PDB, etc) to describe the QNC notification, and add the reference to TS 23.501.**

**For MMSID, agree to not change the MMSID format in RAN3 BL CRs.**

**For UL Rate Control,**

* **no consensus on gNB-CU provides Recommended UL bit rate info per QoS flow to gNB-DU**
* **agree no coordination between MN and SN.**
* **agree no need for gNB to inform SMF for the rate control information**
* **agree to develop XnAP TP based on R3-255280, to add the missing behaviour text for Indication of Bitrate Adaptation IE.**

**For Support of exposure of available bitrate, agree to wait for reply LS from SA2.**

**Agree following TPs:**

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| **Tdoc#** | **revision of** | **Title** | **Company** |
| **R3-255861** | **R3-255409** | (TP to BL CR for TS 38.425) On Unnecessary RLC Retransmission Avoidance | Lenovo |
| **R3-255862** | **R3-255731** | (TP to BL CR for TS 37.483) enhancements to support timely RLC retransmissions | ZTE Corporation |
| **R3-255863** | **R3-255417** | (TP to BL CR for TS 38.425) enhancements to support timely RLC retransmissions | Huawei |
| **R3-255864** | **R3-255298** | (TP to BL CR for TS 38.300) enhancements to Stage-2 | Nokia, Nokia Shanghai Bell, ZTE Corporation, Ericsson |
| **R3-255865** | **R3-255573** | (TP to BL CR for TS 37.483) Support of DL PDU Set Information Marking Support Indication | Ericsson, ZTE Corporation, Nokia, Nokia Shanghai Bell |
| **R3-255866** | **R3-255733** | (TP to BL CR for TS 38.473) Support of DL PDU Set Information Marking Support Indication | ZTE Corporation, Nokia, Nokia Shanghai Bell, Ericsson |
| **R3-255867** | **R3-255610** | (TP to BL CR for TS 38.300) Clean-up for QNC  | Huawei, CMCC, China Telecom |
| **R3-255868** | **R3-255611** | (TP to BL CR for TS 37.340) Clean-up for QNC  | Huawei, CMCC, China Telecom |
| **R3-255869** | **R3-255280** | (TP to BL CR for TS 38.423) Support of UL rate control | Ofinno, LLC |

# 3 Unnecessary RLC retransmission avoidance

Continue discussion on following:

**For Unnecessary RLC retransmission avoidance, gNB-CU provide signalling to the gNB-DU to enable or disable unnecessary RLC retransmission avoidance via F1AP.**

**Moderator**: the main question is whether needs **new F1AP IE** for gNB-CU to provide signalling to the gNB-DU to enable or disable unnecessary RLC retransmission avoidance.

**Q1: Please share your view on whether needs new F1AP IE for gNB-CU to provide signalling to the gNB-DU to enable or disable unnecessary RLC retransmission avoidance.**

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| **Company** | **Yes/No** | **Comments** |
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**Summary of offline discussion:**

**No consensus on enhancement to F1-C.**

# 4 Clean-up for QNC

Contribution 5610 ([17]) and 5611 ([18]) raised an issue for the inconsistency between RAN3 specs and SA2 spec. According to TS 23.501, QoS parameters including GFBR, PDB and PER should be considered for QNC. The NG-RAN shall send notifications of “GFBR can no longer (or can again) be guaranteed” when it determines that the GFBR, PDB or PER of the QoS profile cannot be fulfilled (or can be fulfilled again). When PDU Set QoS parameters PSDB and PSER are included in the QoS profile, the NG-RAN uses PSDB and PSER to supersede PDB and PER when determining whether to send the notifications.

**Moderator**: it is only **one** codepoint sent to CN, so the CN can only know whether the GBR QoS is met or not met, but not possible to know whether it’s a specific parameter (e.g. GFBR and/or PDB and/or PER) is met or not met. Moderator suggest update current text to be general, e.g. “to indicate that the **GBR QoS** … cannot be fulfilled…”, rather to mention a specific parameter (e.g. GFBR or PDB or PER).

**One possible solution is to use general terminology (e.g. GBR QoS) rather the specific QoS parameter (e.g. GFBR, PDB, etc) to describe the QNC notification. If this is agreed, TPs for TS 38.300 and TS 37.340 are needed.**

**Q2: Please share your view on above solution.**

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| **Company** | **Yes/No** | **Comments** |
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**Summary of offline discussion:**

**Agree to use general terminology (e.g. GBR QoS) rather the specific QoS parameter (e.g. GFBR, PDB, etc) to describe the QNC notification, and add the reference to TS 23.501.**

# 5 MMSID

In current RAN3 BL CR, the MMSID is defined as OCTET STRING (SIZE (1)), while CT3/CT4 spec defines MMSID as a string.

**TS 29.514:**

MultiModalId string Contains a multi-modal service identifier.

It is unclear whether RAN3 need to align with CT spec.

**Q3: Please share your view on whether using the STRING format defined in CT3 specification also for RAN3 specifications.**

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| **Company** | **Yes/No** | **Comments** |
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**Summary of offline discussion:**

**Agree to not change the MMSID format in RAN3 BL CRs.**

# 6 UL Rate Control / Recommended bit rate to gNB-DU

**Issue #1: whether additional assistance information from CU to DU. Following options were proposed:**

* Option 1: Recommended UL bit rate info per QoS flow
* Option 2: No additional information

**Moderator: Please consider the RAN2 agreement that UE can indicate a preferred bit rate (Copied as below):**

**TS 38.300 Running CR:**

##### 16.15.4.2.Z Uplink Rate Control

To enable faster adaptation of the uplink source rate (e.g. to handle to uplink congestion), an uplink physical-layer bit rate available to a QoS flow can be suggested by the gNB via a downlink MAC CE, and via an uplink MAC CE, the UE can also request a desired one.

**TS 38.321 Running CR:**

#### 6.1.3.x Uplink Rate Control MAC CE

The Uplink Rate Control MAC CE is identified by a MAC subheader with an eLCID as specified in Table 6.2.1-1 and Table 6.2.1-2 for available bit rate recommendation from the serving gNB and bit rate query from the UE, respectively.

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* Bit rate: In a bit rate recommendation from the serving gNB, this field indicates a recommended bit rate for the indicated QoS flow. In a bit rate query from the UE, this field indicates a preferred bit rate.

**Issue #2: Whether need coordination for DC**

* Option a: coordination is needed between MN and SN, e.g. to only send one MAC CE to UE.
* Option b: No coordination is needed between MN and SN.

**Issue #3: Whether gNB need to inform SMF for the rate control information (i.e. the recommended rate sent to UE)**

Contribution 5389 ([9]) and Contribution 5717 ([23]) proposes the gNB may inform SMF/UPF when UL rate control MAC CE send to UE in order to coordinate with CN for congestion handling.

**Moderator:** This is not required by SA2, and it is unknown how the CN uses this information. Unless it is required by SA2, RAN3 cannot make the decision. It is recommended that companies submitted the proposals in SA2.

**#4: Contribution 5280 ([6]) proposes XnAP TP to add the missing behaviour text for *Indication of Bitrate Adaptation* IE.**

**Moderator suggest to develop XnAP TP based on 5280.**

**Q4: Please share your view on above three issues, and your comments on the XnAP TP from 5280.**

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| **Company** | **Yes/No** | **Comments** |
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**Summary of offline discussion:**

For Issue #1, no consensus on gNB-CU provides Recommended UL bit rate info per QoS flow to gNB-DU.

For Issue #2, agree no coordination between MN and SN.

For Issue #3, agree no need for gNB to inform SMF for the rate control information

# For # 4, agree to develop XnAP TP based on R3-255280, to add the missing behaviour text for *Indication of Bitrate Adaptation* IE.7 Support of DL PDU Set Information Marking Support Indication

RAN3 agreed

**Indication is needed in F1AP and E1AP for support of DL PDU Set Information Marking without PSQP, RAN3 to develop TPs based on Contribution 5573, 5733 and 5298.**

**Q5: Please share your comments on the TPs in the Drafts\CB # 21\_XR\DL PDU Set Information Marking without PSQP folder**

**Summary of offline discussion:**

 Companies will share comments on the uploaded draft TPs.

# 8 Support of exposure of available bitrate

# **To be updated based on the reply LS from SA2.**

**Wait for reply LS from SA2. No action is required in this meeting.**

# 9 Other issues

Please add any missing issues.

**Issue #: (Company) description of the issues**

**Issue #1:**

# References

1. R3-255013, Reply to LS on Indicating Time to the Next Data Burst (TTNB) (RAN2(Qualcomm))
2. R3-255014, Reply LS to SA2 on XR rate control (RAN2(vivo))
3. R3-255297, (TP to BL CR for TS 37.340) Discussion on the remaining issues for Rel-19 XR (Nokia, Nokia Shanghai Bell)
4. R3-255215, Discussion on RLC enhancement (NEC)
5. R3-255279, Remaining issues on XR uplink rate control (Ofinno, LLC)
6. R3-255280, (TPs for TS 38.423, TS 37.340) Support of UL rate control (Ofinno, LLC)
7. R3-255298, (TP for BL CR for TS 38.300) enhancements to Stage-2 (Nokia, Nokia Shanghai Bell, ZTE Corporation, Ericsson)
8. R3-255323, R19 XR Signaling Enhancements (Qualcomm Incorporated)
9. R3-255389, Discussion on XR rate control (vivo)
10. R3-255408, (TP to XR BLCR for 38.473) On Timely RLC Retransmission (Lenovo)
11. R3-255409, (TP to XR BLCR for 38.425) On Unnecessary RLC Retransmission Avoidance (Lenovo)
12. R3-255416, Discussion on UL rate control (Huawei)
13. R3-255417, (TP for XR BL CRs) Discussion on RLC enhancements for XR (Huawei)
14. R3-255422, (TP for BL CR for TS 38.473) enhancements to support timely RLC retransmissions (Nokia, Nokia Shanghai Bell)
15. R3-255573, [TP for BL CR TS 37.483] Support of DL PDU Set Information Marking Support Indication (Ericsson, ZTE Corporation, Nokia, Nokia Shanghai Bell)
16. R3-255574, [TP to XR BL CR for 38.413] RAN status indication of Available data rate reporting (Ericsson)
17. R3-255610, (TP for XR BL CR for TS38.300) Clean-up for QNC (Huawei, CMCC, China Telecom)
18. R3-255611, (TP for XR BL CR for TS37.340) Clean-up for QNC (Huawei, CMCC, China Telecom)
19. R3-255638, (draft LS to SA2) Discussion on other aspects for NR XR enhancements (Samsung)
20. R3-255639, (TP to BLCR for TS 38.473 and TS 38.413) NR XR enhancements (Samsung)
21. R3-255647, Disccsion on NR XR Enhancements for others (CATT)
22. R3-255648, (TP for 38.473 and 38.425) NR XR enhancement for others (CATT)
23. R3-255717, Discussion on XR RAN Awareness and UL Rate Control (Meta)
24. R3-255731, [TP to BLCR 38413, 38473, 37483, 38425, 38300] TPs for XR remaining issues on UL Bit Rate Control and Timely RLC retransmission (ZTE Corporation)
25. R3-255732, Discussion on remaing issues in XR with draft reply LS to SA2 (ZTE Corporation)
26. R3-255733, [TP for BL CR TS 38.473] Support of DL PDU Set Information Marking Indication (ZTE Corporation, Nokia, Nokia Shanghai Bell, Ericsson)