**3GPP TSG-RAN WG3 Meeting #125 R3-244706**

**Maastricht, Netherlands, 19 – 23 August 2024**

Agenda Item: 21.2

Source: Nokia (moderator)

Title: Summary of Offline Discussion for CB: # XR2\_NRDC

Document for: Discussion

# Introduction

**CB: # XR2\_NRDC**

* **Discuss open issues above and other issues is any**
* **Provide CRs to capture agreements**

(moderator - Nok)

Summary of offline disc [R3-244706](file:///C%3A%5CTemp%5CRAN3%20docs%5C125%5CInbox%5CDrafts%5CCB%20%23%20XR2_NRDC%5CInbox%5CR3-244706.zip)

# For the Chair’s Notes

* **Turn the WA to agreement, and no NGAP enhancement.**

**WA: SN reports the PDU Set based Handling Indicator in S-NG-RAN node Addition Preparation procedure and M-NG-RAN node initiated S-NG-RAN node Modification Preparation procedure for the MN-terminated SCG bearer, SN-terminated MCG bearer and SN-terminated SCG bearer.**

**Agree following CRs/TPs:**

* **R3-244760 (TP for 38.423 BLCR) PDU Set Based Handling Support in NR-DC**
* **R3-244762 (TP to BL CR for TS 38.423) PSI Based SDU Discard DL**
* **R3-244767 Support for DL PSI based discard**
* **R3-244768 (TP for TS 38.425) Support for DL PSI based discard**
* **R3-244769 Support of XR enhancements**
* **R3-244770 (TP to BL CR for TS 37.340) Update on XR in DC**
* **R3-244750 Enhancements for NR-NR DC**
* **R3-244771 (TP to BL CR for TS 38.423) Update on ECN marking in DC**

# Discussion

## PDU Set based handling

Notes from online session:

**Turn WA to agreement?**

**WA: SN reports the PDU Set based Handling Indicator in S-NG-RAN node Addition Preparation procedure and M-NG-RAN node initiated S-NG-RAN node Modification Preparation procedure for the MN-terminated SCG bearer, SN-terminated MCG bearer and SN-terminated SCG bearer.**

**Whether to support per-node PDU Set based Handling Indicator over NG?**

**Q1: Please share your view on 1) whether turn above WA to agreement. 2) whether support per-node PDU Set based Handling Indicator over NG.**

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| **Company** | **Comment** |
| Nokia | We agree to turn the WA to agreement, and the related XnAP TP.For per-node indicator over NG, no strong view. We can accept the majority view.  |
| Huawei | 1. **Conditional YES, if per node indicator over NG can be .**
2. **Yes. Otherwise, the UPF will still add the PDU set information to the packets of SN terminated QoS flow, even if SN do not support the PDU set handling. The feedback over Xn is meaningless.**
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**Summary**

**Offline discussion concluded to turn the WA to agreement, and no NGAP enhancement.**

**Lenovo will prepare TP to BL CR for TS38.423 to capture the agreement.**

**Potential proposals:**

* **Turn WA to agreement and no NGAP enhancement.**
* **Agree XnAP TP in R3-244760 (TP for 38.423 BLCR) PDU Set Based Handling Support in NR-DC**

## DL PSI based Discard coordination

Notes from online session:

**For DL, MN/SN notifies SN/MN whether the DL PSI based discard is configured or not via XnAP signaling.**

**RAN3 to introduce new notification over F1AP and F1-U for DL PSI Discard.**

**Moderator suggest to use following TP as starting point.**

* XnAP TP based on [R3-244531](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125%5CDocs%5CR3-244519.zip) (CMCC will upload the draft TP)
* F1AP TP based on [R3-244519](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125%5CDocs%5CR3-244519.zip) (Huawei will upload the draft TP)
* F1-U TP based on [R3-244520](file:///D%3A%5C%E4%BC%9A%E8%AE%AE%E7%A1%AC%E7%9B%98%5CTSGR3_125%5CDocs%5CR3-244519.zip) (Huawei will upload the draft TP)

**Q2: Please share your view on the draft TPs in the folder.**

**Summary**

* Based on the comments, it is proposed to agree the XnAP TP, F1AP CR and F1-U TP.

**Potential proposals:**

* **Agree the XnAP TP in R3-244762 (TP to BL CR for TS 38.423) PSI Based SDU Discard DL**
* **Agree the F1AP CR in R3-244767 Support for DL PSI based discard**
* **Agree the F1-U TP in R3-244768 (TP for TS 38.425) Support for DL PSI based discard**

## End of Data Burst Indication to the peer gNB

Contribution (R3-244109) proposed source gNB should forward the End of Data Burst Indication to target gNB during the data forwarding for handover. (Nokia will upload the draft TS38.300 TP based on R3-244109)

Contribution (R3-244531) proposed to clarify that the End of Data Burst Indication is provided to the corresponding node when the Data Burst is going to transmit through the corresponding node

* Moderator consider this is a small update, and suggest it can be merged in the same TS 37.340 TP for Clause **3.4.**

**Q3: Please share your view on the draft TS 38.300 CR in the folder**

**Summary**

* Based on majority view, it is proposed to agree the draftCR for TS38.300.

**Potential proposals:**

* **Agree TS38.300 draftCR in R3-244769 Support of XR enhancements**

## Burst Arrival Time reporting

It is unclear on whether the SN can receive the BAT from the MN.

(ZTE will upload the draft TS37.340 TP based on R3-244471)

**Q4: Please share your view on whether SN can receive the BAT from the MN. If yes, please share your view on the draft TS 37.340 TP (based on *R3-244471***) **in the folder.**

* Please note the TS 37.340 TP also includes the proposal from R3-244531 related to End of Data Burst indication.

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| **Company** | **Comment** |
| Nokia | Yes. TP for 37.340 is needed.  |
| Samsung | Yes. |
| Huawei | No, SN will only get UAI from UE vis SRB3 or SRB1 if it trigger the UAI report. |
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**Summary**

* Based on majority view, it is suggested to agree TP to BL CR for TS37.340 in R3-244770 (TP to BL CR for TS 37.340) Update on XR in DC

**Potential proposals:**

* **Agree the TS37.340 TP in R3-244770 (TP to BL CR for TS 37.340) Update on XR in DC**

## L4S

Contribution (R3-244301) proposed following:

- The node hosting PDCP takes into account the UL Congestion Information and/or DL Congestion information reported by the corresponding node to derive a single value of the UL Congestion Information and/or DL Congestion information and to to further send it to the UPF

(Ericsson will upload the draft TS38.425 CR based on R3-244301)

**Q5: Please share your view on the draft TS 38.425 CR (based on R3-244301) in the folder.**

**Summary**

* Based on majority view, it is suggested to agree TS38.425 CR in R3-244750 Enhancements for NR-NR DC

**Potential proposals:**

* **Agree TS38.425 CR in R3-244750 Enhancements for NR-NR DC**

## ECN marking for SN-initiated modification procedure

Contribution (R3-244268) describes:

The SN may trigger SN-initiated procedures to modify the configuration for XR services, and the ECN marking status may thus change (e.g. due to change of SN-DU). Therefore IEs added into the “S-NODE MODIFICATION REQUEST ACKNOWLEDGE” message for ECN marking should be copied into the “S-NODE MODIFICATION REQUIRED” message.

(CATT will upload the draft TS38.423 TP based on R3-244268)

**Q6: Please share your view on following proposal:**

**IEs added into the “S-NODE MODIFICATION REQUEST ACKNOWLEDGE” message for ECN marking should be copied into the “S-NODE MODIFICATION REQUIRED” message.**

 **In case you agree with the proposal, please share your view on the draft XnAP TP based on R3-244268 in the folder.**

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| **Company** | **Comment** |
| Nokia | Proposal is ok.  |
| Samsung | No strong view, and not sure if different SN-DCs under the same SN-CU can have different ECN marking status. |
| Huawei | ok |
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**Summary**

* Based on majority view, it is suggested to agree the proposal and the corresponding TS38.423 TP in R3-244771 (TP to BL CR for TS 38.423) Update on ECN marking in DC

**Potential proposals:**

* **Agree the XnAP TP in R3-244771 (TP to BL CR for TS 38.423) Update on ECN marking in DC**

## UE assistance information

Contribution (R3-244546) describes:

The ul-TrafficInfo IE is included in the UEAssistanceInformation message. The ul-TrafficInfo includes more information for XR QoS flow, such as jitter range, burst arrival time, traffic periodicity and so on. These information can help SN to configure a proper DRX because the gNB decides the parameters of DRX configuration considering both UL and DL traffic information. But currently, UEAssistanceInformation is not included in S-NODE ADDITION REQUEST message and/or S-NODE MODIFICATION REQUEST message.

Contribution (R3-244546) proposes: adding the UE assistance information in S-NODE ADDITION REQUEST and/or S-NODE MODIFICATION REQUEST SN to help SN for DRX configuration.

**Q7: Please share your view on following:**

adding the UE assistance information in S-NODE ADDITION REQUEST and/or S-NODE MODIFICATION REQUEST SN to help SN for DRX configuration.

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| **Company** | **Comment** |
| Nokia | Not sure why it is needed. MN can initiate the Xn RRC Transfer procedure to transfer the UE assistance information. |
| Samsung | In our understanding, if the MN receives UAI from UE, it implicitly means that the UE expects the DRX configuration. If MN receives UAI, it is better for MN to send it to SN when it decides to add SN, i.e. during S-Node addition request procedure. In this way, the SN can configure the DRX for UE as soon as possible. We think it is a little late if UAI is sent from MN to SN via Xn RRC transfer. |
| Huawei | UAI report can triggered by the MN/SN, if SN want UAI, it will configure the UE to provide UAI by itself, we are not sure on the intention of this proposal. |
| CMCC | UAI can be triggered by SN, not just MN. We are not why UAI needs to be included in S-NODE ADDITION REQUEST and/or S-NODE MODIFICATION REQUEST  |
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**Summary**

* There is no consensus.

**Potential proposals:**

## Any other issues

**Please add any other issues that you want to discuss.**

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**Summary**

**Potential proposals:**

# 2nd Round (TBD)

***Please add your comments in the draft TP.***

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# References

1. R3-243358, (TP to BL CR for TS 38.423) Discussion on the support of XR in NR-NR DC (Nokia, Nokia Shanghai Bell)
2. R3-243407, (TP to BLCR for 37.340) Burst Arrival Time handling in NR-DC (Lenovo, Samsung, ZTE, Qualcomm Incorporated, Xiaomi, Huawei, CATT)
3. R3-243345, (TP for NR\_XR\_Ph3 BL CR) Enhancement for NR-DC support of XR (Huawei)
4. R3-243173, R19 XR DC Signaling Enhancements (Qualcomm Incorporated)
5. R3-243239, (TP to TS 38.423 on Support of XR in DC) ECN Marking/Congestion Information Reporting on SN Terminated bearer (NEC)
6. R3-243240, (TP to TS 38.423 on Support of XR in DC) PSI-Based SDU Discarding (NEC)
7. R3-243408, Remaining issues on PSI discard, ECN marking and End of Data Burst (Lenovo)
8. R3-243483, (TP to BLCR for 38.423) Remaining issues for support of XR in DC (Ericsson)
9. R3-243485, Support for L4S in DC (Ericsson, Deutsche Telekom, Charter, BT)
10. R3-243486, Support for L4S in NR-NR DC (Ericsson, Deutsche Telekom, Charter, BT)
11. R3-243487, (TP to TS38.423) Support for L4S in DC (Ericsson, Deutsche Telekom, Charter, BT)
12. R3-243598, Discussion on support XR in DC (ZTE)
13. R3-243599, (TP to TS 37.340 and 38.423) Support XR in DC (ZTE)
14. R3-243640, Discussion on XR in DC (CATT)
15. R3-243652, Discussion on support XR in DC (Samsung)
16. R3-243653, (TP to TS 38.423) Support XR in DC (Samsung)
17. R3-243728, (TP to TS 38.423 and 37.340) Support of XR in DC (CMCC)
18. R3-243729, Discussion on support XR in DC (CMCC)