3GPP TSG-RAN WG2 Meeting #113 Electronic R2-210xxxx

Elbonia, 25 January – 05 February 2021

**Agenda item: 5.2**

**Source: Nokia (Rapporteur)**

**Title: Offline 001 on Stage 2 Corrections**

**WID/SID: NR\_newRAT-Core - Release 15**

**Document for: Discussion and Decision**

# 1 Introduction

This document is the report of the following email discussion:

* [AT113-e][001][NR15] Stage-2 (Nokia)

Scope: Treat [R2-2100270](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100270.zip), [R2-2100271](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100271.zip), [R2-2101345](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101345.zip), [R2-2100091](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100091.zip), [R2-2100092](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100092.zip), [R2-2101478](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101478.zip), [R2-2101653](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101653.zip)

Phase 1, determine agreeable parts, Phase 2, for agreeable parts Work on CRs.

Intended outcome: Report and Agreed CRs.

Deadline: Schedule **Thursday Feb 28 1200 UTC**

# 2 UE Capabilities

The CRs on UE capabilities endorsed at the last meeting are resubmitted as such since no comments have been received in the meantime.

**Question 1**: Can we now agree the CRs [R2-2100270](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100270.zip) & [R2-2100271](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100271.zip)?

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| Answers to Question 1 | | |
| Company | Yes/No | Technical Arguments |
| Qualcomm Incorporated | Yes | Proponent. |
| Huawei, HiSilicon | Yes |  |
| Ericsson | Yes | Proponent. |
| Apple | Yes | Looks ok to us. |
| Nokia | Yes | Proponent. |
| vivo | Yes |  |
| Google | Yes |  |
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**Summary 1**: TBD.

**Proposal 1**: TBD.

# 3 Data Forwarding

A CR on *data forwarding upon intra-system HO using full configuration* was submitted in [R2-2101345](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101345.zip). It is the rapporteur’s understanding that this CR was first discussed in RAN3, where it was felt that it would be more appropriate to handle it in RAN2. The CR argues that “it is unclear how to handle forwarded data upon intra-system HO using full configuration.”

**Question 2A**: Do you agree with the intention of the CR?

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| --- | --- | --- |
| Answers to Question 2A | | |
| Company | Yes/No | Technical Arguments |
| Qualcomm Incorporated |  | We would like to understand why the use of full configuration would affect retransmissions for loss-less data delivery in the target NG-RAN node. This also should be captured in the reason for change. |
| Huawei, HiSilicon |  | We understand in such a handover scenario, if only PDU session tunnel is setup, this does not apply. So this CR applies only in case of DRB level tunnel, and means that in this case, full configuration would clear the PDCP parameters and thus the original data from source gNB would not be forwarded anymore. We are wondering whether in this case it is essential to make such a change, as implementation wise, not all cases lead to data loss by full configuration. |
| Ericsson |  | We echo the comment from Qualcomm and Huawei. We believe that this is only one of the cases in which there is a data loss upon full configuration. However, this does not mean that full configuration is equal to data loss. Therefore, we are not sure we need to capture something in the spec. |
| Apple | Yes | We are fine to duplicate the 36.300 text in 38.300. |
| Nokia | Yes | Proponent. |
| vivo |  | We also wonder why PDCP SDU cannot be retransmitted in target NG-RAN if RLC-AM and FULL configuration are used? |
| Google | Yes | Proponent. As the target node has decided to perform full configuration, the PDCP SN is reset. We understand that the intention is to avoid wasting radio resources for retransmitting the PDCP SDU with SN which has been transmitted. Also with the proposed change, the possibly duplicated data received at the UE can be avoided. |
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**Summary 2A**: TBD.

**Proposal 2A**: TBD.

**Question 2B**: If you agree with the intention, are you happy with the wording or would you like to enhance it?

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| Answers to Question 2B | | |
| Company | Yes/No | Technical Arguments & Possible Changes |
| Apple | Happy | The coversheet of the CR has some issues:   1. The inter-operabiltiy part: I think the change has impact on NW for DL delivery, so we do not understand the meaning of “duplicates might be delivered delivered to upper layers”   The sentence in “Consequence if not approve” seems incomplete. |
| Nokia | Yes |  |
| Google | Yes |  |
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**Summary 2B**: TBD.

**Proposal 2B**: TBD.

# 4 PDCP Change Indication

CRs on *PDCP change indication* were submitted in [R2-2100091](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100091.zip) & [R2-2100092](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2100092.zip). The CR argues that the PDCP change indication can be included in the *SN Modification Request* message for the MN initiated SN modification.

**Question 3A**: Do you agree with the intention of the CRs?

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| --- | --- | --- |
| Answers to Question 3A | | |
| Company | Yes/No | Technical Arguments |
| Qualcomm Incorporated | Yes |  |
| Huawei, HiSilicon | Yes |  |
| Ericsson | No | If RAN3 specification is clear, we believe there is no need to update also stage 2. At the end of the story, current specification does not prevent the PDCP change indication to be included in the SN modification request message. We would like to not add over-clarifications in stage 2. |
| Apple | Yes |  |
| Nokia | Yes | PDCP Change Indication is indeed missing. |
| vivo | Yes |  |
| Google | Yes |  |
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**Summary 3A**: TBD.

**Proposal 3A**: TBD.

**Question 3B**: If you agree with the intention, are you happy with the wording or would you like to enhance it?

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| Answers to Question 3B | | |
| Company | Yes/No | Possible Changes |
| Qualcomm Incorporated | No | This is an alignment to stage-3, which does not seem very essential to warrant a release-15 CR. |
| Huawei, HiSilicon | Yes | The wording seems OK. |
| Apple | Yes |  |
| Nokia | Yes |  |
| vivo | yes |  |
| Google | Yes | No strong opinion as it is to align 38.423 and 37.340 |
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**Summary 3B**: TBD.

**Proposal 3B**: TBD.

# 5 Power Sharing

A CR on *power sharing* was submitted in [R2-2101478](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101478.zip). The CR argues that “the description of power sharing for (NG)EN-DC and NE-DC is missing although the description for NR-DC was introduced in Rel-16.”

**Question 4A**: Do you agree with the intention of the CRs?

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| Answers to Question 4A | | |
| Company | Yes/No | Technical Arguments |
| Qualcomm Incorporated | Yes |  |
| Huawei, HiSilicon | Yes | Proponent |
| Ericsson | No | We are a bit hesitant to have this CR as the proposed change is not critical. The reason for having the description for NR-DC in Rel-16 is because the overall framework is more complex and so the signalling used. But for (NG)EN-DC and NE-DC probably there is no need for have the description. |
| Apple | Yes |  |
| Nokia | No | Not an essential correction |
| Google | Yes |  |
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**Summary 4**: TBD.

**Proposal 4**: TBD.

**Question 4B**: If you agree with the intention, are you happy with the wording or would you like to enhance it?

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| Answers to Question 4B | | |
| Company | Yes/No | Technical Arguments & Possible Changes |
| Qualcomm Incorporated | Yes | The text “through configuration” is not entirely clear and can be improved. |
| Huawei, HiSilicon | Yes | The intention of “through configuration” was trying to say semi-static power sharing is statically split by configuration. How about “…the maximum UE transmission power is split statically between MCG and SCG by RRC configuration”? |
| Apple | Yes | Wording is ok. |
| Google | Yes |  |
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**Summary 4B**: TBD.

**Proposal 4B**: TBD.

# 6 Data Forwarding

A CR on user plane handling for full configuration in SN Change was submitted in [R2-2101653](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_113-e/Docs/R2-2101653.zip). It is the rapporteur’s understanding that this CR was first discussed in RAN3, where it was felt that it would be more appropriate to handle it in RAN2. The CR argues that “it is unclear how to handle the forwarded data in case of full configuration in SN change and duplicated data received at the UE should be avoided.”

**Question 5A**: Do you agree with the intention of the CR?

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| --- | --- | --- |
| Answers to Question 5A | | |
| Company | Yes/No | Technical Arguments |
| Qualcomm Incorporated |  | We would like to understand why the use of full configuration would affect retransmissions for loss-less data delivery in the target NG-RAN node. This also should be captured in the reason for change. |
| Huawei, HiSilicon |  | We understand this is a similar issue as described in Sec 3. So better conclude Sec 3 first and then apply the same principle for this one. |
| Ericsson |  | We have basically the same comment as in Q2.A as the change seems to be the same but for LTE. |
| Apple | Yes | We think this follows the same logic of HO case with full configuration. |
| Nokia | Yes |  |
| vivo |  | We also wonder why PDCP SDU cannot be retransmitted in target SN if RLC-AM and FULL configuration are used? |
| Google | Yes | Proponent. As the target Secondary node has decided to perform full configuration, the PDCP SN is reset. The intention is to avoid wasting radio resources for retransmitting the PDCP SDU with SN which has been transmitted. Also with the proposed change, the possibly duplicated data received at the UE can be avoided. |
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**Summary 5A**: TBD.

**Proposal 5A**: TBD.

**Question 5B**: If you agree with the intention, are you happy with the wording or would you like to enhance it?

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| --- | --- | --- |
| Answers to Question 5B | | |
| Company | Yes/No | Technical Arguments & Possible Changes |
| Apple | Yes |  |
| Nokia | Yes |  |
| Google | Yes |  |
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**Summary 5B**: TBD.

**Proposal 5B**: TBD.

# 3 Conclusion

TBD

# Annex – Contact Points

Respondents to the email discussion are kindly asked to fill in the following table.

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| --- | --- | --- |
| Company | Name | Email Address |
| Nokia (Rapporteur) | Benoist Sébire | [benoist.sebire@nokia.com](mailto:benoist.sebire@nokia.com) |
| Huawei, HiSilicon | Yang Zhao | zhaoyang@huawei.com |
| Ericsson (Tony) | Antonino Orsino | antonino.orsino@ericsson.com |
| vivo | Xiaodong Yang | Yangxiaodong5g@vivo.com |
| Google | Jing-Rong Hsieh | jinghsieh@google.com |
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