3GPP TSG-RAN WG2 #109bis-e R2-20xxxxx

Electronic Meeting, April 20th – 30th 2020

Agenda Item: 5.4.1.1

Source: Ericsson

Title: Summary from [AT109bis-e][001][NR15] PDCP version change (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* [AT109bis-e][001][NR15] PDCP version change (Ericsson)

Part 1: first rounds of comments, suggest decisions based on initial comments, identify whether there is need for on-line treatment. Deadline: April 23, 0700 UTC

Part 2: if agreeable, expected continuation to agree CRs.

The following three sets of papers relate to this topic:

**Set 1**

[R2-2003685](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003685.zip) Clarification on PDCP version change Huawei, HiSilicon

[R2-2003686](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003686.zip) Clarification on PDCP version change Huawei, HiSilicon

[R2-2003687](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003687.zip) Clarification on PDCP version change Huawei, HiSilicon

[R2-2003688](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003688.zip) Clarification on PDCP version change Huawei, HiSilicon

**Set 2**

[R2-2003399](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003399.zip) PDCP version change with or without handover Ericsson, Intel Corporation

[R2-2003400](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003400.zip) Allowing PDCP version change without handover Ericsson, Intel Corporation

[R2-2003401](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003401.zip) Allowing PDCP version change without handover Ericsson, Intel Corporation

[R2-2003402](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003402.zip) Allowing PDCP version change without handover Ericsson, Intel Corporation

[R2-2003405](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003405.zip) Allowing PDCP version change without handover Ericsson, Intel Corporation

**Set 3**

[R2-2002987](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002987.zip) TS 36.331 Clarifying the options for PDCP version change Nokia, Nokia Shanghai Bell

[R2-2002988](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002988.zip) TS 37.340 Clarifying the options for PDCP version change Nokia, Nokia Shanghai Bell

# 2 Background

The issue of PDCP version change between LTE and NR PDCP has been discussed in the past few RAN2 meetings. Due to an ambiguity in the specifications, companies had different understandings of whether PDCP version could be changed with or without handover.

When this ambiguity was discovered companies originally proposed CRs to:

1. Force all UEs to support PDCP version change without handover

2. Forbid PDCP version change without handover

The proponents of 1 assumed that the specification already allowed PDCP version change without handover, hence arguing that the ambiguity in the specification shall be resolved by making it clear that PDCP version change without handover is allowed.

Other companies argued that 1 would not be backwards compatible as there may be UEs in the field which assumes that PDCP version change is never be performed without a handover or fullConfig. Hence these companies proposed CRs forbidding this, i.e. 2.

# 3 Discussion

Based on the interpretation of the rapporteur of this email discussion there seem like no company proposing option 1 any longer. Instead we have these two options on the table in this meeting:

2. Forbid PDCP version change without handover

3. Add a UE capability bit indicating if PDCP version change without handover is supported

First, it is suggested that companies agree on which proposals are still open for discussion to ensure that there is no fourth solution which has been missed.

**Q1: Do you agree that only option 2 and 3 above are on the table? If "no", please elaborate in the comment-field.**

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| --- | --- | --- |
| Company | Yes/No | Comments |
| Ericsson | Yes |  |
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The proponents of option 3 suggests that there is a benefit of allowing PDCP version change without handover as a handover can be avoided and hence unnecessary interruption and signalling can be avoided. It would however require that RAN2 introduces a bit in UE capability signalling.

**Q2: Which of option 2 and 3 should be adopted? Please provide reasoning in the comment-field.**

|  |  |  |
| --- | --- | --- |
| Company | 2 or 3 | Comments |
| Ericsson | 3 | We think small cost of a capability bit is justified considering that handovers can be avoided hence avoiding interruptions and unnecssary random access-procedures can be avoided. |
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Companies are invited to provide any other input they might have on this issue.

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| Company | Comments |
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# 3 Conclusion

**TBD**

# 4 References