3GPP TSG-RAN WG2 Meeting #116 Electronic R2-21xxxxx

**Online, November 1-12, 2021**

**Agenda item: 6.1.4.1.1**

**Source: vivo**

**Title: Draft-Summary of [AT116-e][010][NR16] Connection Control III (vivo)**

**Document for: Discussion and Decision**

# 1 Introduction

This document is a report on the following email discussion:

* [AT116-e][010][NR16] Connection Control III (vivo)

Scope: Determine agreeable parts in a first phase, for agreeable parts agree on CRs. Treat [R2-2110523](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110523.zip), [R2-2110524](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110524.zip), [R2-2110525](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110525.zip), [R2-2110526](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110526.zip), [R2-2109346](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2109346.zip), [R2-2110685](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110685.zip), [R2-2110686](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110686.zip), [R2-2111037](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2111037.zip), [R2-2111200](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2111200.zip)

Intended outcome: Report, Agreed CRs if applicable

Deadline: Schedule 1

The deadline Schedule 1 for this email discussion is copied from Chair notes:

* A first round with Deadline for comments Thursday W1 Nov 4 1200 UTC to settle scope what is agreeable etc
* A Final round with Final deadline Thursday W2 Nov 11 1200 UTC to settle details / agree CRs etc.
* Additional deadlines check points etc if needed are defined by the Rapporteur. In case some parts of an email discussion need more time, doesn’t converge, need on-line treatment etc Rapporteur please contact chair.

# 2 Contact Points

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

|  |  |  |
| --- | --- | --- |
| Company | Name | Email Address |
| vivo(rapporteur) | Xiaodong Yang | yangxiaodong5g@vivo.com |
| Nokia |  | amaanat.ali@nokia.com |
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# 3 Discussion

## 3.1 NR SA to ENDC Handover

This topic is from the following four contributions.

[1] R2-2110523 Discussion on the Timing Reference of PSCell SMTC Configuration vivo discussion Rel-16 NR\_newRAT-Core

[2] R2-2110524 Clarification on the Timing Reference of PSCell SMTC Configuration vivo CR Rel-16 38.331 16.6.0 2836 - F NR\_newRAT-Core

[3] R2-2110525 Define the UE capability for PSCell SMTC configuration vivo CR Rel-16 38.306 16.6.0 0652 - F NR\_newRAT-Core

[4] R2-2110526 Clarification on the Timing Reference of PSCell SMTC Configuration vivo CR Rel-16 36.331 16.6.0 4735 - F NR\_newRAT-Core

In [1], the company identifies that it’s unclear whether the UE applies the PSCell SMTC configuration based on the timing reference of NR PCell or target EUTRA PCell for the case of NR SA to EN-DC HO with PSCell addition. According to the proposal in [1], there are basically the following options to address such an ambiguous UE behavior:

* **Option 1**: The target NR PSCell SMTC configuration is provided through *MobilityFromNRCommand* based on the timing reference of source NR PCell;
* **Option 2**: The target NR PSCell SMTC configuration is provided through*targetRAT-MessageContainer* based on the timing reference of target EUTRA PCell.

**Question 1: For the Timing Reference of PSCell SMTC Configuration in NR SA to ENDC Handover, which option(s) do you prefer?**

* Option 1: based on the timing reference of source NR PCell;
* Option 2: based on the timing reference of target EUTRA PCell;
* Both Option 1 and Option 2;
* Other Option(s), please specify.

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| --- | --- | --- |
| Company | Option(s) | Comments |
| Nokia | Option 2 | This is clearly more aligned with reference to existing specifications. |
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**Question 2-1: If Option 1 is preferred to Question 1, do companies agree with the intention of 38.331 CR in [2] i.e., clarify that the target NR PSCell SMTC configuration through *MobilityFromNRCommand* is based on the timing reference of source NR PCell?**

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| Company | Agree or not? | Comments |
| Nokia |  | See above |
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**Question 2-2: If Option 1 is preferred to Question 1, do companies agree with the intention of 38.306 CR in [3] i.e., define a new UE capability for PSCell SMTC configuration?**

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| Company | Agree or not? | Comments |
| Nokia |  | See above |
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**Question 3: If option 2 is preferred to Question 1, do companies agree with the intention of 36.331 CR in [4] i.e., clarify that the target NR PSCell SMTC configuration through *targetRAT-MessageContainer* is based on the timing reference of target EUTRA PCell?**

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| Company | Agree or not? | Comments |
| Nokia | We think no clarification is required for Option 2 being the correct understanding | Going with the description of smtc in TS 36.331. smtc. Entry into EN-DC and NR PSCell addition is clearly stated in this description.  The SSB periodicity/offset/duration configuration of target cell for NR PSCell addition and SN change. It is based on timing reference of EUTRA PCell.  NOTE 2.  If the field is absent, the UE uses the SMTC in the measObjectNR having the same SSB frequency and subcarrier spacing, as configured before the reception of the RRC message. |
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## 3.2 UP security policy update

In the incoming LS from RAN3 [5], the following action is required:

**To RAN1 :** RAN3 kindly requests RAN2 to provide feedback whether the enabling/disabling of ciphering or integrity protection of one or multiple DRBs can be achieved by intra-cell handover within one RRC reconfiguration message.

There are several contributions related to this issue as follows.

[6] R2-2110685 Discussion on UP security policy updated by intra-cell handover Ericsson discussion Rel-16 TEI16

[7] R2-2110686 [Draft] Reply LS on UP security policy updated by intra-cell handover Ericsson LS out Rel-16 TEI16 To:RAN3 Cc:SA3

[8] R2-2111037 Discussion on Ls on UP security update vivo discussion Rel-16 TEI16

[9] R2-2111200 Discussion on UP security policy updated by intra-cell handover China Telecommunications discussion

Referring to contributions above, all companies express similar views, i.e., enabling/disabling of ciphering or integrity protection of one or multiple DRBs can be achieved by intra-cell handover within one RRC reconfiguration message. The rapporteur shares the same view with these companies, according to current TS 38.331, clause 5.3.1.2, integrity protection and ciphering for all DRBs related to the same PDU session are always activated together. A DRB can be reconfigured using *RRCReconfiguration* message according to the TS 38.331 clause 5.3.5.3.

In order to form a common view to reply to RAN3’s question, companies are encouraged to answer the following question.

**Question 4: Do companies agree that enabling/disabling of ciphering or integrity protection of one or multiple DRBs can be achieved by intra-cell handover within one RRC reconfiguration message？**

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| Company | Agree or not | Comments |
| Nokia | Yes | From NR perspective this implies reconfiguration and sync in single RRC message. We think also DRB release and add is another option and even that is possible with single reconfiguration message. |
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# 4 Conclusion

TBD.

# 5 Reference

[1] R2-2110523 Discussion on the Timing Reference of PSCell SMTC Configuration vivo discussion Rel-16 NR\_newRAT-Core

[2] R2-2110524 Clarification on the Timing Reference of PSCell SMTC Configuration vivo CR Rel-16 38.331 16.6.0 2836 - F NR\_newRAT-Core

[3] R2-2110525 Define the UE capability for PSCell SMTC configuration vivo CR Rel-16 38.306 16.6.0 0652 - F NR\_newRAT-Core

[4] R2-2110526 Clarification on the Timing Reference of PSCell SMTC Configuration vivo CR Rel-16 36.331 16.6.0 4735 - F NR\_newRAT-Core

[5] R2-2109346 LS on UP security policy updated by intra-cell handover (R3-214464; contact: China Telecom) RAN3 LS in Rel-16 TEI16 To:RAN2 Cc:SA3

[6] R2-2110685 Discussion on UP security policy updated by intra-cell handover Ericsson discussion Rel-16 TEI16

[7] R2-2110686 [Draft] Reply LS on UP security policy updated by intra-cell handover Ericsson LS out Rel-16 TEI16 To:RAN3 Cc:SA3

[8] R2-2111037 Discussion on Ls on UP security update vivo discussion Rel-16 TEI16

[9] R2-2111200 Discussion on UP security policy updated by intra-cell handover China Telecommunications discussion