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

Electronic Meeting, April 20th – 30th 2020

Agenda Item: 6.10.6

Source: ZTE Corporation

Title: [AT109bis-e][038][DCCA] MCG SCell and SCG configuration with RRC Resume

Document for: Discussions, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* [AT109bis-e][038][DCCA] MCG SCell and SCG Configuration with RRC Resume (ZTE)

Scope: Treat topics in 6.10.6, based on [R2-2003812](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_109bis-e%5CDocs%5CR2-2003812.zip) and comments. Can start discussion on non-controversial proposals immediately, if any. Wait for on-line discussion for contriversial proposal.

Part 1: Determine which issues that need resolution, find agreeable proposals. Deadline: April 24 0700 UTC

# 2 Discussion

Regarding the summary of AI 6.10.6 in [R2-2003812](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_109bis-e%5CDocs%5CR2-2003812.zip), there are three proposals. Companies are requested to add their comments for each of proposal in the boxes below.

## LS to RAN3 on stored AS context

RAN2 has just made the following agreement during RAN2\_109bis.

* The *sPCellCommonConfig* for the PSCell is saved as part of the UE AS Inactive AS context.

One company pointed out in [2] that RAN3’s spec may need update based on this agreement. See below the highlighted sentence.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~extract from TS 38.473 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

9.3.1.94 Lower Layer Presence Status Change

This IE indicates lower layer resources’ presence status shall be changed.

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| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| Lower Layer Presence Status Change | M |  | ENUMERATED (suspend lower layers, resume lower layers ...) | “suspend lower layers” will store CellGroupConfig except ReconfigurationWithSync “resume lower layers” shall restore SCG and only set after "suspend lower layers" has been indicatedEditor Note: The usage of this IE may need to be refined. |

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**Q1: Do company agree to send LS to RAN3 to to inform that stored UE Inactive AS context needs update? (E.g. to update the field description of “Lower Layer Presence Status Change”).**

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| --- | --- | --- |
| Company | Agree/Disagree | Comments |
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**Q2: If answers “Agree” to Q1, any comment to the draft LS provided in** [R2-2003146](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003146.zip) **?**

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| --- | --- | --- |
| Company | Agree/Disagree | Comments |
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## restoreSCG in NE-DC

The following agreement made by RAN2 only refers to *reconfigurationWithSync*, which is applicable to UEs configured with NR SCG. One company suggests in [1] to confirm the principle also applies to mobilityControlInfoSCG in case of NE-DC, the corresponding proposal is given in below table.

* For *restoreSCG* upon RRC resume, Network shall always include *secondaryCellGroup* (with at least reconfigurationWithSync) together with *restoreSCG*.

To avoid misleading, the previous agreement can be updated into:

* For *restoreSCG* upon RRC resume, Network shall always include *secondaryCellGroup* (with at least reconfigurationWithSync of NR SCG, or mobilityControlInfoSCG of LTE SCG) together with *restoreSCG*.

**Q3: Do companies agree that the agreement made last meeting can be updated as above?**

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| Company | Agree/Disagree | Comments |
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## Validity check of stored SCG

Regarding whether and how to check the validity of stored PSCell, 5 companies provide a co-signed contribution [6], including the following solution:

* Solution: network configures RSRP/RSRQ threshold in *RRCResume* message, and UE applies stored SCG configuration only when the stored PSCell quality is above the threshold;

Considering this topic has been discussed for more than 3 meetings, but without consensus. Some companies also suggest to postpone the discussion to Rel-17. So companies are invited to show your views on whether to solve this in Rel-16.

**Q4: Do companies agree to introduce mechanism to check the validity of stored PSCell in Rel-16?**

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| --- | --- | --- |
| Company | Agree/Disagree | Comments |
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**Q5: If answers “Agree” to Q4, any comment to the solution proposed in** [R2-2003243](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003243.zip), [R2-2003242](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003242.zip), [R2-2003241](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003241.zip)**?**

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| Company | Agree/Disagree | Comments |
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## Applicability of RRCConnectionResume in LTE

#Related to RIL Q502, Z302, Z307, Z308#

During 36.331 ASN.1 review, the field description of several fields have indicated that “The field can be included only when the UE is connected to 5GC” (see below). This implies that RRCConnectionResume messge can not be used in case of EN-DC. Thus RILs are raised to make further clarification.

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| --- |
| ***nr-SecondaryCellGroupConfig***Includes the NR *RRCReconfiguration* message as specified in TS 38.331 [82]. In this version of the specification, the NR RRC message only includes fields *secondaryCellGroup* and/ or *measConfig*. This field can be included only when the UE is connected to 5GC. |
| ***restoreMCG-Scells***Indicates that the UE shall restore the MCG Scell configurations from the UE AS Context or UE Inactive AS Context, if configured. |
| ***restoreSCG***If included, the UE shall restore the SCG configurations from the UE AS Context or UE Inactive AS Context, if configured. |
| ***sCellGroupToAddModList***Indicates the SCell group to be added or modified. This field can be included only when the UE is connected to 5GC. |
| ***sCellGroupToReleaseList***Indicates the SCell group to be released. This field can be included only when the UE is connected to 5GC |
| ***sCellToAddModList***List of SCells to be added or modified. This field can be included only when the UE is connected to 5GC. |
| ***sCellToReleaseList***List of SCells to be released. This field can be included only when the UE is connected to 5GC. |

It is clear that RRC\_INACTIVE state is not supported for UE connected to LTE-EPC. However, it is unclear in Rel-16, whether the “suspended RRC connection” is applicable to LTE-EPC UEs (e.g. EN-DC UEs). Therefore, companies are invited to show your understanding to this issue.

**Q6: Whether *RRCConnectionResume* message can be used to restore NR SCG in case of EN-DC?**

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| Company | Yes/No | Comments |
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# 3 Conclusion

In the previous sections we made the following observations:

Based on the discussion in the previous sections we propose the following:

# 4 References

1. [R2-2002699](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2002699.zip) Remaining issues of restoreSCG in RRC resume ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core
2. [R2-2003128](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003128.zip) Remaining issue on stored SCG context LG Electronics Inc. discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core
3. [R2-2003146](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003146.zip) Draft LS to RAN3 on updated Inactive AS context LG Electronics Inc. LS out Rel-16 To:RAN3
4. [R2-2003241](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003241.zip) Draft 36.331 CR for Handling SCG Configuration in Resume InterDigital, Ericsson, LG, OPPO draftCR Rel-16 36.331 16.0.0 LTE\_NR\_DC\_CA\_enh-Core R2-2000551
5. [R2-2003242](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003242.zip) Draft 38.331 CR for Handling SCG Configuration in Resume InterDigital, Ericsson, LG, OPPO draftCR Rel-16 38.331 16.0.0 LTE\_NR\_DC\_CA\_enh-Core R2-2000552
6. [R2-2003243](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003243.zip) Handling the SCG Configuration in RRC Resume InterDigital, Ericsson, LG, OPPO, KT Corp discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core R2-2000553
7. [R2-2003383](file://D://__%E4%BC%9A%E8%AE%AE%5C2020%5C3GPP_202004%5CTSGR2_109bis-e%5CDocs%5CR2-2003383.zip) Report on email discussion [Post109e][037][DCCA] RRC open issues (Ericsson) Ericsson discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core