**3GPP TSG-RAN WG2 Meeting #112 electronic Draft R2-2010719**

**Elbonia, 02 – 13 November 2020**

**Agenda item:** 6.7.2

**Source:** Intel Corporation

**Title:** Summary of discussion [211][MOB] CHO/CPC RRC corrections (Intel)

**Document for:**  Discussion and decision

# Introduction

This is the summary of below offline discussion:

* [AT112-e][211][MOB] CHO/CPC RRC corrections (Intel)

Scope:

* + - Discuss which CHO/CPC corrections for 36.331/38.331 are seen necessary and provide merged CRs with agreeable corrections (if any)

 Intended outcome:

* + - Discussion summary in [R2-2010719](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_112-e%5CR2-2010719.zip) (by email rapporteur).
		- Merged CRs to 36.331 ([R2-2010720](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_112-e%5CR2-2010720.zip)) and 38.331 ([R2-2010721](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_112-e%5CR2-2010721.zip)) (if any)

 Deadline for providing comments, for rapporteur inputs, conclusions and CR finalization:

* + - Initial deadline (for companies' feedback): 1st week Fri, UTC 0900
		- Initial deadline (for rapporteur's summary in [R2-2010719](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_112-e%5CR2-2010719.zip)): 2nd week Mon, UTC 13:00
		- Deadline for CR finalization: 2nd week Thu, UTC 1000

# Discussion

To make it easier to find the correct contact delegate in each company for potential follow-up questions, the rapporteur encourages the delegates who provide input to provide their contact information in this table:

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| --- | --- |
| Company | Delegate contact |
| COMPANY\_NAME | NAME (email@address.com) |
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As indicated by chairman, following CRs are handled in this offline discussion for CHO;

R2-2009996 Missing release of VarConditionalReconfig Ericsson CR Rel-16 38.331 16.2.0 2153 - F NR\_Mob\_enh-Core

[R2-2009997](file:///C%3A%5CUsers%5Cterhentt%5CDocuments%5CTdocs%5CRAN2%5CRAN2_112-e%5CR2-2009997.zip) Missing release of VarConditionalReconfiguration Ericsson CR Rel-16 36.331 16.2.1 4491 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

The entities in VarConditionalReconfig are released in case of a successful inter-RAT handover in 5.4.3.4.

**LTE:**

The entities in VarConditionalReconfiguration are released as part of the actions when entering RRC\_INACTIVE in 5.3.8.7.

The entities in VarConditionalReconfiguration are released as part of the actions when leaving to RRC\_IDLE with suspended configuration in 5.3.12.

The entities in VarConditionalReconfiguration are released in case of a successful inter-RAT handover from E-UTRA/5GC to NR and in case of inter-system HO in 5.4.3.4.

**[Rapp comments] The intention is ok. But wonder why we did not do this for measurement related variables?**

**Question 1: Do companies agree the changes proposed in R2-2009996 (NR) and R2-2009997(LTE)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2009533 Correction on configuration of triggerCondition for CHO CATT CR Rel-16 36.331 16.2.1 4466 - F LTE\_feMob-Core

**Summary of change:**

**LTE:**

To add in the field description “When configuring 2 triggering events (MeasIds) for a candidate cell, network ensures that both refer to the same measObject.”

**[Rapp comments] The CR just copied the sentence from NR RRC to LTE RRC.**

**Question 2: Do companies agree the changes proposed in R2-2009533(LTE)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2009848 Correction to attemptCondReconfig in ConditionalReconfiguration Ericsson CR Rel-16 38.331 16.2.0 2140 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

1. 6.3.2, ConditionalReconfiguration field descriptions, field attemptCondReconfig

Redundant and inconsistent text in field description is deleted.

1. 6.3.2, ConditionalReconfiguration field descriptions, Conditional presence explanation for attemptCondReconfig

The Conditional presence explanation is changed to “optional present, Need R”.

Modified to cover the intended case (UE is configured with at least one conditionalReconfiguration for CHO).

| *ConditionalReconfiguration* field descriptions |
| --- |
| ***attemptCondReconfig***If present, the UE shall after failure act as described in clause 5.3.7.3. |
| ***condReconfigToAddModList***List of the configuration of candidate SpCells to be added or modified for CHO or CPC. |
| ***condReconfigToRemoveList***List of the configuration of candidate SpCells to be removed. |

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| Conditional Presence | Explanation |
| *CHO* | The field is optional present, Need R, if the UE is configured with at least one conditional reconfiguration for CHO. Otherwise the field is not present. |

**[Rapp comments] No strong opinion on the first change. Second change looks correct. Then the LTE changes are also needed.**

**Question 3a: Do companies agree the changes proposed in R2-2009848 (NR)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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**Question 3b: Do companies agree the changes proposed in R2-2009848 should also be applied for LTE RRC?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2009640 Correction to remove conditional reconfiguration related measurement configuration ITRI CR Rel-16 38.331 16.2.0 2100 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

Add corresponding procedures of the missing agreements in the part after the *RRCReconfiguration* is applied due to a conditional reconfiguration execution upon cell selection while timer T311 is running in section 5.3.5.3.

#### 5.3.5.3 Reception of an *RRCReconfiguration* by the UE

The UE shall perform the following actions upon reception of the *RRCReconfiguration,* or upon execution of the conditional reconfiguration (CHO or CPC):

1> if the *RRCReconfiguration* is applied due to a conditional reconfiguration execution upon cell selection while timer T311 is running, as defined in 5.3.7.3:

2> remove all the entries within *VarConditionalReconfig*, if any;

2> for each *measId*, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig*:

3> for the associated *reportConfigId*:

4> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;

3> if the associated *measObjectId* is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig*:

4> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;

3> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;

**[Rapp comments] Tend to agree this part is missing for NR.**

**Question 4: Do companies agree the changes proposed in R2-2009640 (NR)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2009639 Correction to conditional reconfiguration evaluation ITRI CR Rel-16 38.331 16.2.0 2099 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

1. Change “received *condRRCReconfig*” to “stored *condRRCReconfig*” in section 5.3.5.13.4 (*condRRCReconfig* is an optional field with need code M).
2. Based on the 1st change, add “associated to *CondReconfigId*” after “stored *condRRCReconfig*”.
3. Revise the editorial error in the spelling of “reconfiguration” in section 5.3.5.13.4.

**[Rapp comments] Do not see the problem even if we do not have change 1 and 2. Change 3 is editorial change.**

**Question 5: Do companies agree the changes proposed in R2-2009639 (NR)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2010190 Correction on TS 36.331 for CHO Huawei, HiSilicon CR Rel-16 36.331 16.2.1 4498 - F LTE\_feMob-Core

**Summary of change:**

**LTE:**

In section 5.3.7.2 ad 5.3.7.3, the text is updated so that the UE will always suspend all RBs, except SRB0, upon initiation of the RRC connection re-establishment procedure.

**[Rapp comments] Do not understand the changes. The results looks exactly same as original text.**

**Question 6a: Do companies agree the changes proposed in R2-2010190 (LTE)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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**Question 6b: Do companies agree the changes proposed in R2-2010190 should also be applied for NR RRC?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2010205 Issue on failure handling of handover without key change for the UE configured with attemptCondReconfig SHARP Corporation discussion Rel-16 NR\_Mob\_enh-Core

R2-2010206 Correction of reconfiguration with sync failure procedure for the UE configured with attemptCondReconfig SHARP Corporation CR Rel-16 38.331 16.2.0 2190 - F NR\_Mob\_enh-Core

**Observation 1: When DAPS handover without key change fails and the UE falls back to the source configuration, PDCP COUNT is maintained to avoid reusing the same key stream for transmitting FailureInformation message. This is because PDCP COUNT may be incremented to transmit Msg3 at the target if CBRA was used for the DAPS handover.**

**Observation 2: The UE configured with attemptCondReconfig performs CHO after reverting back to the source PCell configuration upon handover failure, if the selected cell is one of the candidate cells.**

**Observation 3: Unlike the DAPS case, PDCP COUNT is not maintained for the UE configured with attemptCondReconfig in the failure handling of handover without key change. Therefore the UE may reuse the same key stream to transmit RRCReconfiguratinComplete message for CHO after the handover failure.**

**Proposal 1: In the reconfiguration with sync failure procedure, if the UE is configured with attemptCondReconfig and masterKeyUpdate was not included in the RRCReconfiguration for the previous reconfiguration with sync, the UE reverts back to the configuration used in the source PCell except state variables of each SRB PDCP entity.**

**[Rapp comments] The issue should not exist for CHO since the UE did not suspend RBs, and did not touch PDCP COUNT.**

**Question 7a: Do companies agree the issue and proposal mentioned in R2-2010205?**

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| **Company** | **Yes/No** | **Remark**  |
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**Question 7b: Do companies agree the changes proposed in R2-2010206 (NR RRC)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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**Question 7c: Do companies agree the changes proposed in R2-2010206 (NR RRC) is also applied for LTE RRC?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2009472 Target cell ID parsing in CHO and CPAC Apple CR Rel-16 38.331 16.2.0 2080 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

In *CondReconfigToAddMod*, explicitly indicates the physical cell ID associated with each set of *condExecutionCond* and *condRRCReconfig*.

##### 5.3.5.13.4 Conditional reconfiguration evaluation

The UE shall:

1> for each *condReconfigId* within the *VarConditionalReconfig*:

2> consider the cell which has a physical cell identity matching the value indicated in the *condReconfigToAddModList* included in the received *conditionalReconfiguration* to be applicable cell;

CondReconfigToAddMod-r16 ::= SEQUENCE {

 condReconfigId-r16 CondReconfigId-r16,

 condExecutionCond-r16 SEQUENCE (SIZE (1..2)) OF MeasId OPTIONAL, -- Cond condReconfigAdd

 condRRCReconfig-r16 OCTET STRING (CONTAINING RRCReconfiguration) OPTIONAL, -- Cond condReconfigAdd

...,

[[phyCellId-r16 PhyCellId OPTIONAL -- Need N

]]

}

**[Rapp comments] Nice to have. But too late for Rel-16 since nothing is broken.**

**Question 8a: Do companies agree the changes proposed in R2-2009472 (NR)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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**Question 8b: Do companies agree the changes proposed in R2-2009472 should also be applied for LTE RRC?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2010589 Correction to CG-Config for CPC Google Inc. CR Rel-16 38.331 16.2.0 2251 - F NR\_Mob\_enh-Core

**Summary of change:**

**NR:**

Add in the *scg-CellGroupConfig* of the CG-Config that the *RRCReconfiguration* message may also contain the *conditionalReconfiguration*.

***scg-CellGroupConfig***

Contains the *RRCReconfiguration* message (containing only *secondaryCellGroup* and/or *measConfig* and/or *otherConfig, radioBearerConfig,* and/or *conditionalReconfiguration*):

**[Rapp comments] In the change, why** **radioBearerConfig is needed?.**

**Question 9: Do companies agree the changes proposed in R2-2010589 (NR)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2010641 Cell selection upon RRCConnectionReestablishment Samsung R&D Institute UK CR Rel-16 36.331 16.2.1 4525 - F LTE\_feMob-Core

**Summary of change:**

**LTE:**

Since already cell selection is executed in RRCConnectionReestablishment procedure initiation (5.3.7.2) regardless of conditional Reconfiguration, there is no need to re execute the cell selection in 5.3.7.3.

4> release *delayBudgetReportingConfig*, if configured and stop timer T342, if running;

**[Rapp comments] The change seems correct.**

**Question 10: Do companies agree the changes proposed in R2-2010641 (LTE)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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R2-2010645 Miscellaneous corrections on LTE CHO procedures Samsung R&D Institute UK CR Rel-16 36.331 16.2.1 4526 - F LTE\_feMob-Core

**Summary of change:**

**LTE:**

Change 1. Remove “only” in the initiation section.

Change 2. (editorial) remove duplicated “entry”.

Change 3. (editorial) change the typo “evulation”.

Change 4. (editorial) put new line.

Change 5. Remove “only” in the field description of conditionalReconfiguration field

**[Rapp comments] The changes seems correct.**

**Question 11: Do companies agree the changes proposed in R2-2010645 (LTE)? And if any additional correction is needed for the CRs?**

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| **Company** | **Yes/No** | **Remark**  |
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# Summary

To be added: