3GPP TSG-RAN WG2 #116-e R2-211xxxx

Electronic meeting, 1st November – 12th November 2021

Agenda Item: 5.4.1.2

Source: Ericsson

Title: Summary of [AT116-e][002][NR15] RRC Inter Node Other and LTE

Document for: Discussion, Decision

# 1 Introduction

This document is to handle the following email discussion:

* [AT116-e][002][NR15] RRC Inter Node Other and LTE (Ericsson)

Scope: Determine agreeable parts in a first phase, for agreeable parts agree on CRs. Treat R2-2110460, R2-2110461, R2-2110462, R2-2110463, [R2-2110696](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110696.zip), [R2-2109370](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2109370.zip), [R2-2111182](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2111182.zip), [R2-2111265](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2111265.zip), [R2-2110022](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110022.zip), [R2-2110796](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110796.zip), [R2-2110939](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110939.zip), [R2-2110942](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_116-e\Docs\R2-2110942.zip)

Intended outcome: Report, agreed CRs if applicable

Deadline: Schedule 1

Regarding the deadlines, I would like to set the following 2 deadlines:

1) First deadline on **Thursday Nov 4 1200 UTC** to settle scope what is agreeable.

2) Second deadline on **Thursday Nov 11 1200 UTC** to agree the CRs (where applicable) and final check.

# 2 Contact information

|  |  |
| --- | --- |
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# 3 Discussion

Companies are encouraged to provide comments for each CR/document under this email discussion:

## 3.1 Inter-Node RRC messages

[R2-2110460](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110460.zip) Correction on reestablishmentInfo ZTE Corporation, Sanechips CR Rel-15 38.331 15.15.0 2834 - F NR\_newRAT-Core

[R2-2110461](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110461.zip) Correction on reestablishmentInfo(R16) ZTE Corporation, Sanechips CR Rel-16 38.331 16.6.0 2835 - A NR\_newRAT-Core

[R2-2110462](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110462.zip) Correction on reestablishmentInfo ZTE Corporation, Sanechips CR Rel-15 36.331 15.15.0 4732 - F LTE\_5GCN\_connect-Core

[R2-2110463](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110463.zip) Correction on reestablishmentInfo(R16) ZTE Corporation, Sanechips CR Rel-16 36.331 16.6.0 4733 - A LTE\_5GCN\_connect-Core

**Question 1**: Do company agree with the changes proposed in the CRs in [R2-2110460](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110460.zip), [R2-2110461](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110461.zip), [R2-2110462](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110462.zip), and [R2-2110463](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110463.zip)?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Agree | Yes the alignment seems to be required |
| Huawei, HiSilicon | No | Not needed.  The IE is useful only in one case: successful reestablishment after HO failure. Therefore we don’t think it should be made mandatory.  Besides, for the Resume scenarios, the anchor node will perform the verification, so the IE is not needed. |
| Ericsson | No | We agree with Huawei that the IE is only used for the handover case. Also, according tot he 38.423 when the UE context retrieve procedure is used, the handover preparation info is not included in the message. What is included is the RRCResumeRequest or the RRCReestablishmentRequest.  Therefore, we don’t think this IE should be mandatory. |
| Samsung | Agree | At least mis-alignment between specifications should be aligned for correct operation. |
| ZTE | Agree | For 36331, according to the following presence conditions of the field *reestablishmentInfo*, *reestablishmentInfo* is not present in case  of UE context retrieval. Obviously it is incorrect.  AS-Context ::= SEQUENCE {  reestablishmentInfo ReestablishmentInfo OPTIONAL -- Cond HO  }   |  |  | | --- | --- | | HO | The field is mandatory present in case of handover within E-UTRA; otherwise the field is not present. |   For 38331, we think it is necessary to ensure 38331 to be aligned with 36331 for the field *reestablishmentInfo*. |
| Docomo | Agree | Change to 36.331 seems required.  For 38.331, we tend to support the clarification for consistency. |
| vivo | No | Agree with HW and Ericsson that the filed is not needed in case of UE context retrieve procedure. |
| NEC | Agree | We are Ok for these change basically, but inter-operability in cover page shuold capture IOT between RAN nodes (i.e. source and target gNBs).  Not strong view, but „e.g. in case of resume or re-establishment „ in 36.331 CR seems not necessary. |
| Intel | yes | Alignment is needed. According to 38.423 9.2.1.13, HandoverPreparationInformation is included in the context retrieval and AS-Context has to include the AS context to provide the target kgNB\*. |
| CATT | No | Share the same view with HW and Ericsson that reestablishmentInfo is not needed in case of UE context retrieval. |
| Qualcomm | Yes | NR changes look necessary, and it is good to align LTE as well. |

## 3.2 RRC Rapporteur CR

This CR usually continues in a short email discussion after the meeting, but companies are encouraged to provide preliminary comments, if there is something to be highlighted.

[R2-2110696](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110696.zip) Miscellaneous non-controversial corrections Set XII Ericsson CR Rel-15 38.331 15.15.0 2843 - F NR\_newRAT-Core

**Question 2**: Do company agree with the changes proposed in the CRs in [R2-2110696](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110696.zip)?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Agree |  |
| Lenovo | Yes but | 1. Cover page: latest spec version is “15.15.0”. 2. Further issues can be fixed as well:  * In SIB4: in IE InterFreqCarrierFreqInfo the need code "Need R" for field ss-RSSI-Measurement is missing. * 6.4: in the comments to maxNrofP0-PUSCH-AlphaSets and maxNrofP0-PUSCH-AlphaSets-1 the cited reference “38,213” should be corrected to “TS 38.213”.   maxNrofP0-PUSCH-AlphaSets INTEGER ::= 30 -- Maximum number of P0-pusch-alpha-sets (see 38,213, clause 7.1)  maxNrofP0-PUSCH-AlphaSets-1 INTEGER ::= 29 -- Maximum number of P0-pusch-alpha-sets minus 1 (see 38,213, clause 7.1)   * 6.4: in the comment to maxNrofCandidateBeams the redundant word „that“ can be removed.   maxNrofCandidateBeams INTEGER ::= 16 -- Max number of PRACH-ResourceDedicatedBFR that in BFR config. |
| Huawei, HiSilicon | Yes |  |
| Ericsson | Yes | Proponent. Further updates can be taken into account in a short email discussion. |
| MediaTek | Agree |  |
| Samsung | Yes | Fine for editorial corrections. |
| ZTE | Yes |  |
| Docomo | Yes |  |
| vivo | Yes |  |
| NEC | Yes |  |
| Intel | Agree |  |
| CATT | Yes |  |
| Qualcomm | Yes |  |

## 3.3 Measurements

### 3.3.1 Association between serving cell and measurements object

[R2-2109370](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2109370.zip) Association between serving cell and measurement object (R5-215762; contact: HiSilicon) RAN5 LS in Rel-15 5GS\_NR\_LTE-UEConTest To:RAN2

Moved from 3

[R2-2111182](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2111182.zip) Discussion on association between serving cell and measurement object MediaTek Inc. discussion Rel-15

R2-2111265 Discussion on servingCellMO Huawei, HiSilicon

discussion Rel-15

Regarding this issue, the contribution in R2-2111182 formulates the following proposals:

**Proposal 1**: Reply RAN5 that the servingCellMO indication is used to determine the association between serving cell and measurement object in TS 38.331.

**Proposal 2**: Reply RAN5 that, for event A3/A5 triggering reporting configured on SCC, it is compulsory to configure servingCellMO for SCell in order to enable UE considering SCell to be a neighbouring cell.

**Question 3**: Do company agree to reply RAN5 that the servingCellMO indication is used to determine the association between serving cell and measurement object in TS 38.331?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Agree |  |
| Huawei, HiSilicon | Yes | It is clear according to the field description of *servingCellMO*:   |  | | --- | | ***servingCellMO***  *measObjectId* of the *MeasObjectNR* in *MeasConfig* which is associated to the serving cell. For this *MeasObjectNR*, the following relationship applies between this MeasObjectNR and *frequencyInfoDL* in *ServingCellConfigCommon* of the serving cell: if *ssbFrequency* is configured, its value is the same as the *absoluteFrequencySSB* and if *csi-rs-ResourceConfigMobility* is configured, the value of its *subcarrierSpacing* is present in one entry of the *scs-SpecificCarrierList*, *csi-RS-CellListMobility* includes an entry corresponding to the serving cell (with *cellId* equal to *physCellId* in *ServingCellConfigCommon*) and the frequency range indicated by the *csi-rs-MeasurementBW* of the entry in *csi-RS-CellListMobility* is included in the frequency range indicated by in the entry of the *scs-SpecificCarrierList*. | |
| Ericsson | yes |  |
| MediaTek | Yes (Proponet) | It seems obvious from the field description. |
| Samsung | Yes |  |
| ZTE | Yes |  |
| Docomo | Yes |  |
| vivo | Yes |  |
| NEC | Yes |  |
| CATT | Yes |  |
| Qualcomm | Yes |  |

**Question 4**: Do company agree to reply RAN5 that, for event A3/A5 triggering reporting configured on SCC, it is compulsory to configure servingCellMO for SCell in order to enable UE considering SCell to be a neighbouring cell?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Agree |  |
| Huawei, HiSilicon | Yes | As stated in our paper R2-2111265, servingCellMO is always configured for a serving cell if the UE is expected to measure the serving cell. Therefore we would like to also capture this to make the spec clearer:  ***servingCellMO***  *measObjectId* of the *MeasObjectNR* in *MeasConfig* which is associated to the serving cell. For this *MeasObjectNR*, the following relationship applies between this MeasObjectNR and *frequencyInfoDL* in *ServingCellConfigCommon* of the serving cell: if *ssbFrequency* is configured, its value is the same as the *absoluteFrequencySSB* and if *csi-rs-ResourceConfigMobility* is configured, the value of its *subcarrierSpacing* is present in one entry of the *scs-SpecificCarrierList*, *csi-RS-CellListMobility* includes an entry corresponding to the serving cell (with *cellId* equal to *physCellId* in *ServingCellConfigCommon*) and the frequency range indicated by the *csi-rs-MeasurementBW* of the entry in *csi-RS-CellListMobility* is included in the frequency range indicated by in the entry of the *scs-SpecificCarrierList*. The field is always configured for a serving cell if the UE is expected to measure the serving cell. |
| Ericsson | Yes |  |
| MediaTek | Yes (Proponet) | The UE behavior is actually not so clear in the concern scenario if *servingCellMO* is missing. At least for test case design, we should avoid this kind of ambigulity.  We have no strong view on whether to have additional change on field descritption (proposed by Huawei). |
| Samsung | No | We think there are some other implementations such as blind SCell configuratiions, i.e. NW reconfigures Scell without measConfig.  We think this issue anyhow can be solved by NW implementations even SCell is not configured as servingCellMO. |
| ZTE | Yes |  |
| Docomo | Yes | Our understanding is that the network could choose not to configure an MO for an SCC, but if an MO is configured on SCC then servingCellMO is needed. |
| vivo | Yes |  |
| NEC | Yes |  |
| Intel | Yes |  |
| CATT | Yes |  |
| Qualcomm | No | As the RRC text below clearly indicates, the neighbor cell, including SCells, can be associated with any MO for A3/A5 events. We don’t see any reason to force the NW to configure servingCellMO.  4> if the *eventA3* or *eventA5* is configured in the corresponding *reportConfig*:  5> if a serving cell is associated with a *measObjectNR* and neighbours are associated with another *measObjectNR*, consider any serving cell associated with the other *measObjectNR* to be a neighbouring cell as well; |

### 3.3.2 L3 filtering clarification

[R2-2110022](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110022.zip) L3 Filtering (filterCoefficient) Clarification Apple, Ericsson discussion Rel-16 NR\_newRAT-Core, TEI16

Moved from 6.1.4.1.2

[R2-2110796](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110796.zip) Draft LS to RAN4 on L3 filter configuration Apple, Ericsson LS out Rel-16 NR\_newRAT-Core, TEI16 To:RAN4

Moved from 6.1.4.1.2

Regarding this issue, the contribution in R2-2110022 fomulates the following proposals:

**Proposal 1:** Confirm that the UE operation on the adaptation of the filter coefficient configuration is independent from the L1/L2 mechanism.

**Proposal 2:** It is expected that NW and UE have the same understanding on the sample rate X.

**Proposal 3:** Send an LS to RAN4 on RAN2’s understanding of the impact of L1/L2 mechanism on the L3 sampling rate X used for filter co-efficient configuration.

**Question 5**: Do company agree to confirm that the UE operation on the adaptation of the filter coefficient configuration is independent from the L1/L2 mechanism?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | P1 is very confusingly worded. Here is our understanding. | Already during WCDMA and LTE specification work it was agreed that L3 filter coefficients are provided based on the RAN4 (L1) measurement period and UE implementations need to scale the practical L3 filter coefficients based on this information to match with the actual sampling rate(s) used in the implementation. The L3 filtering should not change when UE implementation changes its internal sampling rate also all UEs should use the same reference period, which is UE measurement period, when defining the actual L3 filter coefficients in the UE implementation. Each UE vendor may decide its own actual sampling rate in the implementation, also UE vendor can vary sampling rate if it likes but this should not impact the outcome of L3 filtering output or effective length of L3 filter. |
| Ericsson | Yes | Proponent |
| MediaTek | Not sure | According to current descirption, it is clear that the UE should adapt the filter to the sample rate X ms accodring to 38.133. We don’t know this is independent from the L1/L2 mechanism or not. |
| Samsung | Not sure | Same view with MediaTek. |
| Huawei, HiSilicon | Yes |  |
| Docomo | Not sure | Is the intention of the question „nominal sample rate X used for L3 filtering is determined when the UE receives measurement configuration and is not changed by something other than measurement configuration like Scell setup or de/activation“? |
| vivo | Not sure | We can send an LS to RAN4 for confirmation. |
| Intel | P1 (with comments) | L1 is always up to UE implementation. NW doesn’t need to know UE sampling rate. Therefore, it is doesn’t need to relate with L3. |
| CATT | Not sure |  |
| Qualcomm | Not sure | This seems clear enough. We need more time to check further. |

**Question 6**: Do company agree that it is expected that NW and UE have the same understanding on the sample rate X?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Yes, but | L3 filter coefficients are provided based on the RAN4 (L1) measurement period and UE implementations need to scale the practical L3 filter coefficients based on this information to match with the actual sampling rate(s) used in the implementation.  So we are not sure why network needs to be in sync to the UE implementation choice as the black box just expects L3 filter coefficients are provided based on the RAN4 (L1) measurement period.  Note the L3 filtering process is agnostic to UE implementation of sample rate etc. It is the UEs responsibility to ensure that UE vendor can vary sampling rate if it likes but this should not impact the outcome of L3 filtering output or effective length of L3 filter.  We also agree that there is no spec impact due to this. |
| Ericsson | Yes | Proponent |
| MediaTek | Yes | Both UE and NB need to have the same understanding of X in order for L3 filtering to work predictably. |
| Samsung | Yes |  |
| Huawei, HiSilicon | Yes but | Looks logical, but we wonder whether this has any spec impact. |
| Docomo | Yes | Agree with MTK |
| vivo | Yes |  |
| Intel | Yes but | X is internal to UE and does not impact specifications. |
| CATT | Yes |  |
| Qualcomm | Yes |  |

**Question 7**: Do company agree to send an LS to RAN4 (be [R2-2110796](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110796.zip) the baseline) on RAN2’s understanding of the impact of L1/L2 mechanism on the L3 sampling rate X used for filter co-efficient configuration?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Yes, but | We can ask a question to confirm an understanding but we are really unsure what changes in this and what is the exact question as the filtering is there for several RAT generations now and hasn’t changed at all.  In short, L3 filtering coefficient k is associated with sampling rate X (L1 value), but that cannot be avoided.  The question in the LS is also ambiguous. |
| Ericsson | Yes | We can futher on the LS text based on the companies inputs on the previous questions. |
| MediaTek | No | The LS seems asking R4 to do fundamental change on measurement requirement, which is not acceptable to us. We do not really understand what’s broken in current specification and prefer not to increase R4 working load with unclear question. |
| Samsung | Yes |  |
| Huawei, HiSilicon | Yes | Since this issue has RAN4 impact, we should make sure the understanding is aligned with RAN4. |
| Docomo | Yes | Agree with Huawei’s comment.  The question in the LS should be clarified. |
| vivo | Yes |  |
| Intel | No | We don’t see it necessary to send an LS to RAN4 at this time as we don’t think we are changing anything. |
| CATT | Yes |  |
| Qualcomm | No | We can send an LS if there is an actual action for RAN4. |

## 3.4 LTE changes – Correction to nas-Container

[R2-2110939](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110939.zip) Correction to nas-Container Sequans Communications CR Rel-15 36.331 15.15.0 4741 - F NR\_newRAT-Core, LTE\_5GCN\_connect-Core

[R2-2110942](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110942.zip) Correction to nas-Container Sequans Communications CR Rel-16 36.331 16.6.0 4742 - A NR\_newRAT-Core, LTE\_5GCN\_connect-Core

**Question 7**: Do company agree with the changes proposed in [R2-2110939](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110939.zip) and [R2-2110942](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_116-e/Docs/R2-2110942.zip)?

|  |  |  |
| --- | --- | --- |
| Company | Agree (y/n) | Comments |
| Nokia | Yes, but | The problem statement is correct though not sure UEs in the field misunderstood this and there is a real field issue.  Would support the clarification though as it makes sense if companies do agree that there is a potential for misunderstanding. |
| Lenovo | Yes but | 1. In the sentence below some minor issues need to be fixed: to be aligned with ASN.1 „EPS“ should be corrected to “EPC”, „5GS“ to “5GC” and „NAS“ should be set in lowercase letters.   *In case of inter-system handover from EPS to 5GS, the content of NAS-Container is the value part of the S1 mode to N1 mode NAS transparent container IE.*   1. Cover page: the statements to “Inter-operability” and “Consequences if not approved” should be corrected. Were there any issues observed in the field wrt the content of nas-Container, i.e. RRC reconfiguration or HO failures? We tend to think that current NAS implementations at UE and NW side are correctly implemented acc. to TS 24.501, so the CRs fix only some misalignments with NAS and ASN.1. |
| Ericsson | Partly | Not agree to add “the value part of“. Already completely clear that content is defined in TS 24.501 [95], and should not be repeated also in this field description.  Ok to correct the existing text on “handover to from 5GS to EPS“. Also fine to make this in Rapporteur CR. |
| MediaTek | Partly | Simialr view as Ericsson.  The correcdtion of about „from EPS to 5GS“ can be includeded in Rapp’s CR. The other change is not really necessary. |
| Sequans | Proponent | @Ericsson  Agree it is clear from 24.501.  But 36.331 also says  "the content of the container **is** the xxx IE." Which is also very clear.  The reason for the CR is that 36.331 both says  A) the content of the container is defined in 24.501(which leads to the value part of the IE)  B) the content of the container **is** the xxx IE. Both are "completely clear" but not saying the same thing.  The other change (from EPS to 5GS) is minor to us, the important correction is the one above. |
| Samsung | Yes, but | Same view with Huawei. |
| Huawei, HiSilicon | Partly | Same view with Ericsson. On the first change, AS needs not comprehend the nas container, so no need to add “the value part of“. |
| ZTE | Yes | We are fine to merge the CR to rapporteur CR. |
| Docomo | See comment | Agree with the “from EPS to 5GS” change. No strong view on “value part of”. |
| vivo | Partly | Agree with the “from EPS to 5GS” change. Disagree with “the value part of” change, this should be clear. |
| NEC | Yes | Including editorial corrections suggested by Lenovo (1st point), then can merged to Rapporteur CR |
| Intel | Yes | From a UE behaviour perspective, it is not essential to add “the value part” as the UE AS simply provides this to upper layers.  However from network and system perspective, it is useful to clarify in RRC what is included even though it is clear in NAS spec. Hence we support this change.  We are OK to include in rapporteur CR. |
| CATT | Yes | Agree with the change (from EPS to 5GS). No strong view on the other change. |
| Qualcomm | Partially | Agree with Ericsson. The first change is not necessary as it is already clear in 24.501. Fine with the second change and also to include in rapporteur CR. |

# Conclusion

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