3GPP TSG-RAN WG2#113-e R2-2102140

Electronic meeting, 25th Jan – 5th Feb 2020

Agenda Item: 6.10.3

Source: Ericsson

Title: Report of controversial corrections of 38.331 (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

This contribution is related to the following email discussion.

* [AT113-e][808][NR/R16 SON/MDT]  Controversial corrections of 38.331(Ericsson)

- The discussion including R2-2100873, R2-2101420, R2-2101421, R2-2101425, R2-2101943, R2-2101419 (only issue 2 ), R2-2101690, R2-2100448, R2-2100583.

- Every change in these documents should be addressed with clear conclusion (i.e., either agreed or not pursued)

- All the agreed changes will be merged into one CR.

The email discussion will be in two phases to make sure that we can produce the CR in time. During the first phase, the email discussion will be using the questionnaire in this contribution. In the second phase, we will implement the agreeable changes in the CR.

Phase-1:

Intended outcome: Identification of agreeable changes

Deadline: Monday 01/02/2021 23:59 UTC

Phase2:

Intended outcome: Agreeable CR

Deadline: Thursday 04/02/2021

# 2 Contact Information

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

## 3.1 R2-2100873 related

R2-2100873 Cleanup on miscellaneous issues in SON/MDT Apple CR Rel-16 38.331 16.3.1 2362 - F NR\_SON\_MDT-Core

**Summary of changes.**

1. **Change#1**: When the number of PLMN entries in *plmn-IdentityList* stored in VarRA-Report reaches to the *maxPLMN*, from the procedure, it’s not crystal clear if the complete list of EPLMNs should be contained in *plmn-IdentityList*, in order for the UE to keep storing more *RA-Report* entries. The possible confusion is if part of EPLMNs are contained in *plmn-IdentityList*, whether UE should continue logging more *RA-Report* entries. 🡪 Makes it clear that the condition is the complete list of EPLMNs is contained in *plmn-IdentityList*.
2. **Change#2**: From current description, VarConnEstFailReport carries **both** connection establishment failure and connection resume failure information 🡪 Clarifies that VarConnEstFailReport carries either connection establishment failure or connection resume failure information.
3. **Change#3**: The maxPLMN in VarRA-Report is 12, which is not aligned with the requirement on EPLMN number (16) from TS24.501 🡪 Changes the maximum PLMN in VarRA-Report to 16, to align with the requirement on PLMN number from TS24.501.

**Question-1: Are you fine with the changes?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Agreeable changes (All, Change#1, Change#2, Change#3, None)** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | May be change#2 with modifications | The change-2 is editorial as procedural text is very clear. Further, the correct change is ‘and/or’ instead of ‘or’.  First and third change is not necessary. Changing the number of PLMNs stored by the UE from 12 to 16 is not required as this is not a necessary change. PLMNIdentityList2 is used only for MDT logging and RLF report currently. In fact, even for RLF report, maxPLMN of 12 is sufficient in NR. |
| Qualcomm | Agree with Ericsson |  |
| ZTE | Share the same view as Ericsson |  |
| Huawei, HiSilicon | Only change#2 | Share the same view as Ericsson |
| Apple | Yes | Proponent.  For the first change, the confusion from our side is we are not sure when partial EPLMN(s) are contained in the *plmn-IdentityList*, whether UE can append the RA-Report entries. We would like to confirm the condition here is that the WHOLE list of EPLMN is contained in *plmn-IdentityList.*  For the second change, we are fine to change it to and/or as it covers the case when UE fails resume and also fails following connection setup on the same cell.  For the third change, RA-Report might be not that critical than RLF-Report, but it’s strange why different design was made in the spec. |
| CATT | Only change#2 |  |
| Nokia, Nokia Shanghai Bell | Ok for Change #2 |  |
| Samsung | Change#2 | Regarding the change#1, it seems sufficiently clear.  Change#3 is NBC. If there is no critical problem, we would like to keep the current value. |

**Rapportuer summary**:

Based on the comments from comapnies, only change#2 is agreeable.

Only change#2: Ericsson, Qualcomm, ZTE, Huawei, CATT, Nokia, Samsung.

All changes: Apple.

The rapporteur further observes that the change#2 is already included in the miscellaneous CR (R2-2102273) produced as a result of [RAN2#113-e][803] email discussion. Therefore, no changes from this CR needs to be agreed.

1. Change#2 is already captured in R2-2102273 and the rest of the changes are not pursued in phase-2.

## 3.2 R2-2101420 related

R2-2101420 ON RA Report extension possibilities Ericsson, Nokia, Nokia Shanghai Bell discussion.

**Summary of the contriubtion:**

The contribution discusses the necessity and the methods to extend the RAReport (simillar to the extension of logged MDT related contents discussed online). Five different options are provided.

1. **Option-1:** Introduction of ellipses (‘…’) in the RA report in a NBC way
2. **Option-2:** Introduction of ellipses (‘…’) in the RA report in a BC way
3. **Option-3:** Including completely new RA Report version in Rel-17 that contains both 2 step and 4 step RA related contents
4. **Option-4:** Including completely new RA Report version in Rel-17 that contains only 2 step RA contents and re use the 4 step RA related contents from Rel-16 version of the RA report.
5. **Option-5:** Using the non-critical extension to extend the RA report.

**Question-2: Which option is the preferred method of extending the RA report?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Option-1, 2,3,4 or option-5** | **Comments, if any** |
| Ericsson | Option-1 | Similar to logged MDT related discussion that was help online, this was also a mistake during rel-16 RA report ASN.1 structure. As it is already clear that we will be extending the RA report with 2-step RA related content, we see this as the most clean change. |
| Qualcomm | Maybe it needs discussion | In rel-16, RAN2 introduced UE capability for RACH reporting for 4-step RACH, therefore UE does not indicate the availability and network request RACH-reporting capable UE to report the RA-report. In the context of 2-step RACH, it needs to be discussed first whether we need a separate UE capability for 2-step RACH reporting. In such a scenario, when UE can independently indicate the capability of 2-step and 4-step RACH-report, it needs to be discussed whether we need a single RA report or two RA report one of each. For example, what is the difference of ways that network can request the RA-report in the two scenarios below:   1. UE capable of 2-step and 4-step RACH reporting 2. UE capable of 4-step RACH but not 2-step RACH   Is there a need of differentiating the two scenarios? Our preference is to tie the 2-step and 4-step RA-reporting with respective UE capability. |
| ZTE | None | We think it can be discussed in R17 not right now. |
| Huawei, HiSilicon | Maybe it needs discussion | On one hand, we understand the intention and also thanks to Ericsson and Nokia for considering potential Rel-17 enhancements. On the other hand, Qualcomm’s comments are also valid.  In our opinon, this RA report extension is a bit different from logged MDT, so we may need to check case by case (in case there may be more siimlar Ies that face the same issue). |
| Apple | Option 1 | We are fine to make similar changes in RA report for extensisbilty |
| CATT | Option 1 | We consider option 1 is the most clear and simple way to add the extension of 2-step RACH or other extension (e.g. about CHO info) in the future if possible, therefore it is worth to introduce the extension marker in the RA report in R16 even in a NBC way. |
| Nokia, Nokia Shangai Bell | Option 1 | This is cleanest solution, isolated in terms of impacts (RA Report only) |
| Samsung | Option-1, but | We think it is sensible to introduce an extension marker.  In addition, we can consider to add an extension marker even into RA-InformationCommon-r16.  We however think there is no need to agree anything further. I.e. no need to rule out certain extension options for 2-step RA in R17 when more is known about actual fields to be added. E.g. at such time we can still consider use of a parallel list |

**Rapportuer summary**:

Based on the comments from companies, there seems to be some consensus for option-1 based extension.

Option-1: Ericsson, Apple, CATT, Nokia, Samsung (5)

No change: ZTE (1)

Needs discussion: Huawei, Qualcomm (2)

Based on the above, it is proposed that the discussion could take place online as some companies needs to discuss this further.

**Outdated proposal: RAN2 to further check if it is acceptable to extend the RA report report in a NBC way.**

This topic was treated online during the session on Monday, 1st of February and it was agreed that the RA report will be extended in a NBC way (as captured in the chairman notes).

=> Extend RA report in a NBC way. This NBC change should be merged with R2-2100608

1. RA report is extended in a NBC way.

## 3.3 R2-2101421 related

R2-2101421 On the lack measResultServingCell availability in Any Cell Selection state Ericsson discussion

**Summary of the contriubtion:**

The contribution discusses the clarifications related to the last serving cell measurements included while the UE is in any cell selection state. There are two proposals in this contribution.

Proposal 1 UE includes the quantities of the last logged cell it was camping on only if it can listen to it while in the Any Cell Selection state, otherwise leaves the field empty

Proposal 2 UE includes the updated quantities of the last logged cell it was camping on if it can listen to it while in the Any Cell Selection state

**Question-3: Is the proposed changes needed?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments, if any** |
| Ericsson | Yes | Proponent. |
| Qualcomm | Yes |  |
| ZTE | Yes for 38.331 but not sure for 36.331 | In 38.331 the inclusion of neighboring cell is optional therefore it is possible for UE to include it according to availability.  However in 36.331 it is mandatory, if we change the detailed behavior then it will impact ASN.1. |
| Huawei, HiSilicon | No | We understand that the current text in NR and LTE is clear, and it refers to the measurement of the last serving cell when the UE is just OOS. And we do not see a strong need for the UE to keep updating the mesurement of that cell, because anyway the UE is OOS and what is the real value for the UE to do that? |
| Apple | Yes | Good to have it in NR spec. But we also echo ZTE’s observation that this field is mandatory in LTE spec. |
| CATT | Yes | Could be Yes for NR spec. |
| Nokia, Nokia Shanghai Bell | No | In our view current text is clear. It is obvious in the anycellSelection the UE has no "current" cell measurements |
| Samsung | No | We have sympathized the intention of the CR.  However, it seems an enhancement and it’s too late for Rel-16. |

**Rapportuer summary**:

Companies supporting the proposed changes: Ericsson, Qualcomm, ZTE (oly for TS38.331), Apple, CATT (5)Companies not supporting the proposed changes: Huawei, Nokia, Samsung (3)

As there is no clear consensus on the clarification related to the last serving cell related measurements included in the logged MDT report while being in OOC, the rapporteur proposes not to pursue the changes.

1. Proposals in R2-2101421 are not pursued in phase-2.

## 3.4 R2-2101425 and the first change of R2-2101943 related

R2-2101425 On WLAN-BT-sensor configration related Ericsson CR Rel-16 38.331 16.3.1 2412 - F NR\_SON\_MDT-Core

R2-2101943 Clarification on location configuration in MDT ZTE Corporation, Sanechips discussion Rel-16

**Summary of the CR and the contribution:**

There are three changes proposed.

1. **Change#1 of R2-2101425 and change#1 of R2-2101943**:

**Option-1 (Change#1 of R2-2101425):**

Currently, the WLAN, BT ans sensor information included in the CEF report is based on the configuration obtained in the *otherConfig* configured when the UE was in RRC\_Connected mode, while CEF report shall be logged when UE is in RRC\_IDLE mode.

In proponent’s understanding the UE should include the WLAN, BT and sensor information in CEF report based on the configuration obtained from logged MDT configuration instead of what is obtained in *otherConfig* because of following reasoning:

* 1. Once the UE goes to Idle/Inactive, it starts to log WLAN+BT+Sensor information based on the logged MDT configuration i.e., it maintains those logs for MDT logging purposes. If the UE declares CEF, then the UE ideally should store what is already available in terms of WLAN+BT+Sensor info, not something that is differently configured compared to logged MDT configuration.
  2. This assist the UE not maintaining the WLAN+BT+Sensor measurement configuration received in ‘otherConfig’ once the UE goes to Idle/Inactive.
* Procedural text concerning the configuration of WLAN, BT and sensor is corrected in association with the CEF report.

**Option-2 (Change#1 of R2-2101943):**

The change propsoed in the contribution is to add a NOTE in the procedural text.

1> if the received *otherConfig* includes the *Sensor-NameList*:

2> if *Sensor-NameList* is set to *setup*, include available Sensor measurement results for any subsequent measurement report or any subsequent RLF report, CEF report and SCGFailureInformation;

NOTE 3: The UE is requested to store the *obtainCommonLocation/BT-NameList/WLAN-NameList* and *Sensor-NameList* if received in otherConfig when UE goes to idle and release the corresponding configuration upon successful RRC connection setup/resume. How to store the received *obtainCommonLocation/BT-NameList/WLAN-NameList* and *Sensor-NameList* when UE is in idle is up to UE’s implementation.

**Question-4: Which option is preferrable?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Agreeable changes (Option#1, Option#2, No change)** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | Option#1 | When the UE goes to Idle the UE does not keep any configuration from otherConfig. So, the option-2 is not technically correct.  The option#1 aligns the procedural text with the LTE specification as was agreed in RAN2. |
| Qualcomm | Option#2 | Our choice here is motivated by the following factors:   1. In Rel-16, the MDT and locationInformation are coupled, i.e. a UE that has not provided the user consent for MDT cannot be configured with the location information. Similarly, a UE that has provided consent for MDT, automatically provides the consent for location information. This needs to be decoupled such that a user can be configured with location information without MDT consent and similarly can be configured with MDT without location information. 2. Option 1 inherently opposes this network and UE flexibility, where UE cannot report location information if logged MDT is not configured. 3. The proponent argument is only valid if UE is configured with logged MDT and T330 timer is running.   Therefore, our choice is option 2. |
| ZTE | Option#2 | As explained in our contribution, we think to couple the location configuration of CEF report and logged MDT might restrict configuration flexibility. And it is too late to introduce new variable to store location configuration for CEF report in idle state (inactive is fine since UE won’t release the configuration based on current specs), therefore we suggest to do it in an implementation method. |
| Huawei, HiSilicon | Option#2 | Share similar views as Qualcomm and ZTE. |
| Apple | Option 2 | Option 1 is not appropriate because UEs not supporting logged MDT will not report available location in CEF reports, which is not the intended behavior .  We support option2. As Qualcomm said, the location report and MDT do not need to be tangled together. Logically, they should be covered by two different user consents, and configured separately with two different NW configurations. |
| CATT | Option#2 | We think all the record content in IDLE/INACTIVE for MDT should not introduce additional measurement action for UE. It is a principle at least for LTE. Therefore the logged RRM measurement result and the BT/WLAN/Sensor result could only be recorded and reported **if available**. The location report and MDT should not be tangled together, and the BT/WLAN name list in the logged MDT configuration could only be used to choose which result could be recorded if the result is already available. |
| Nokia, Nokia Shanghai Bell | Option#1 and Option #2 combined | Logged Measurmeent configuration survives state transionsions. However, storing other Access Stratum configuration received in RRC CONNECTED (in this case linked to location information for real-time reporting) through RRC IDLE has not been discussed nor agreed. Thus, linking AS-context with reporting after RRC IDLE (CEF reporting) isn’t right concept.  The proposed NOTE is changing UE behaviour on transitioning to IDLE (UE is required to store AS config, different than Logged Measurement Configuraton). Since the NOTE isn’t normative UE behaviour, obtaining location information should be left to UE implementation based on “**if avialble**” in the procedural text (as in LTE).  CEF (as well as RLF reporting) has been supported without any prio-configuration from the NW. Thus, we think that actually linking to any config (neither obtainLocation from RRC\_CONNECTED, nor from Logged MDT configuration) shouldn’t be required. |
| Samsung | Optoin 2 | Could we introduce a note with some recommendation that UE may/should consider to provide if previously configured in otherConfig/LoggedMeasurementConfiguration? |

**Rapportuer summary**:

Companies supporting option-1: Ericsson (1)

Companies supporting option-2: Qualcomm, ZTE, Huawei, Apple, CATT, Samsung (6)

Companies supporting option-1+option-2: Nokia (1)

As pointed out by Nokia in their reply, it seems like the UE behaviour compared to LTE is being changed with the proposed NOTE in option-2. With the option-1 there will be new requirement for the UE to keep the configurations received in the otherConfig even when the UE goes to Idle which is not the UE behaviour in the state of the art in LTE or NR. Therefore, rapporteur proposes to discuss this further.

1. RAN2 to discuss handling of the WLAN/BT/sesnor information in the CEF report.
2. **Change#2 of R2-2101425**:

Upon transitioning from Inactive state to connected state, the UE releases any any of the ‘need M’ configurations that it had received in the otherConfig when the UE was previously in RRC connected mode.

However, the UE does not release the configurations related to WLAN configurations, Bluetooth configurations and sensor configurations recevied in the previous serving cell via otherConfig.

* The procedural text is clarified that the UE shall release the WLAN, BT and Sensor configuration received via the otherConfig from the UE Inactive AS context upon transitioning from RRC Inactive to RRC connected.

1. **Change#3 of R2-2101425**:

The need codes for WLAN, Bluetooth and Sensor configurations in the loggedMeasurementConfiguration is ‘Need M’ which mandates the UE to maintain these configurations if a subsequent loggedMeasurementConfiguration does not include the WLAN, Bluettoh and sensor configurations.

The procedural text assocaited to the reception of new loggedMeasuementConfiguration informs that the UE discards the logged measuement configuraiton.

In proponent’s understanding, the procedural text and the need codes of ASN.1 are in contradiction to each other.

Further, the new RAN node that is configuring the UE with new logged MDT configuration is not aware of the previous logged MDT configuration and therefore, it cannot perform delta configuration.

* The SetupRelease structure is mainly useful in delta configuration and because of that the need code ‘Need M’ was used for SetupRelease. However, this is not applicable for any configuration provided in loggedMeasurementConfiguration as delta configuration is not applicable here. Thus the need code for all the loggedMeasurementConfiguration is changed to ‘Need S’.

**Question-5: Are the changes (change#2 and change#3) in R2-2101425 agreeable?**

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| --- | --- | --- |
| **Company Name** | **Agreeable changes (Both, Change#2, Change#3, None)** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | Both | Proponent. |
| Qualcomm | Oppose both, based on our previous arguments |  |
| ZTE | Maybe change#3 with modification | For change#2, per our comments in Question-4, UE needs to store the configuration for CEF report.  We share some sympathy on Change#3. For areaConfiguration and plmn-identityList, we think need R is correct. As for BT/WLAN/Sensor configuration, we are fine to using need S instead of need M, but when using need s we need to specify the detailed behavior in the field description, which seems to be missing from current CR. Therefore we proposed the following update:  ***LoggedMeasurementConfiguration message***  -- ASN1START  -- TAG-LOGGEDMEASUREMENTCONFIGURATION-START  LoggedMeasurementConfiguration-r16 ::= SEQUENCE {  criticalExtensions CHOICE {  loggedMeasurementConfiguration-r16 LoggedMeasurementConfiguration-r16-IEs,  criticalExtensionsFuture SEQUENCE {}  }  }  LoggedMeasurementConfiguration-r16-IEs ::= SEQUENCE {  traceReference-r16 TraceReference-r16,  traceRecordingSessionRef-r16 OCTET STRING (SIZE (2)),  tce-Id-r16 OCTET STRING (SIZE (1)),  absoluteTimeInfo-r16 AbsoluteTimeInfo-r16,  areaConfiguration-r16 AreaConfiguration-r16 OPTIONAL, --Need R  plmn-IdentityList-r16 PLMN-IdentityList2-r16 OPTIONAL, --Need R  bt-NameList-r16 SetupRelease {BT-NameList-r16} OPTIONAL, --Need S  wlan-NameList-r16 SetupRelease {WLAN-NameList-r16} OPTIONAL, --Need S  sensor-NameList-r16 SetupRelease {Sensor-NameList-r16} OPTIONAL, --Need S  loggingDuration-r16 LoggingDuration-r16,  reportType CHOICE {  periodical LoggedPeriodicalReportConfig-r16,  eventTriggered LoggedEventTriggerConfig-r16,  ...  },  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  }  LoggedPeriodicalReportConfig-r16 ::= SEQUENCE {  loggingInterval-r16 LoggingInterval-r16,  ...  }  LoggedEventTriggerConfig-r16 ::= SEQUENCE {  eventType-r16 EventType-r16,  loggingInterval-r16 LoggingInterval-r16,  ...  }  EventType-r16 ::= CHOICE {  outOfCoverage NULL,  eventL1 SEQUENCE {  l1-Threshold MeasTriggerQuantity,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger  },  ...  }  -- TAG-LOGGEDMEASUREMENTCONFIGURATION-STOP  -- ASN1STOP   | ***LoggedMeasurementConfiguration* field descriptions** | | --- | | ***absoluteTimeInfo***  Indicates the absolute time in the current cell. | | ***areaConfiguration***  Used to restrict the area in which the UE performs measurement logging to cells broadcasting either one of the included cell identities or one of the included tracking area codes/ frequencies. | | ***eventType***  The value outOfCoverage indicates the UE to perform logging of measurements when the UE enters any cell selection state, and the value eventL1 indicates the UE to perform logging of measurements when the triggering condition (similar as event A2 as specified in 5.5.4.3) as configured in the event is met for the camping cell in camped normally state. | | ***plmn-IdentityList***  Indicates a set of PLMNs defining when the UE performs measurement logging as well as the associated status indication and information retrieval i.e. the UE performs these actions when the RPLMN is part of this set of PLMNs. | | ***tce-Id***  Parameter Trace Collection Entity Id: See TS 32.422 [52]. | | ***traceRecordingSessionRef***  Parameter Trace Recording Session Reference: See TS 32.422 [52]. | | ***reportType***  Parameter configures the type of MDT configuration, specifically Periodic MDT conifguraiton or Event Triggerd MDT configuration. | | ***bt-NameList***  *bt-NameList* is used to indicate the names of the Bluetooth beacon for which the UE is configured to measure. If the field is absent, UE shall release the existing value stored. | | ***wlan-NameList***  *wlan-NameList* is used to indicate the names of the WLAN AP for which the UE is configured to measure. If the field is absent, UE shall release the existing value stored. | | ***sensor-NameList***  *sensor-NameList* is used to indicate the names of the sensors for which the UE is configured to measure. If the field is absent, UE shall release the existing value stored. | |
| Huawei | None | For change#2, the UE will not include the location information in Resume failure report if the UE release the the WLAN, BT, and sensor configuration.  For change#3, we think it is not necessary. The UE will perform according the procedure text. |
| Apple | None | See our comment in the last question. |
| CATT | None | See our comment in Q4. |
| Nokia, Nokia Shanghai Bell | Both to clarify before agreeing | WLAN and BT release upon Resuming RRC connection would be aligned with obtainLocation – however, tis depends on the conclusion on the Option 1 and Option 2 above.  On the ASN.1 Need codes – we wonder if delta configuration can apply to Loged Measurement Configuration? This is more generic issue to clarify |
| Samsung | None |  |

**Rapportuer summary**:

Both changes requried: Ericsson

Needs clarification: Nokia

Change#3 with modification: ZTE

No changes required: Qualcomm, Huawei, Apple, CATT, Samsung

Most companies () believe that the changes are not required. However, as indicated by Nokia, this proposal is dependent on the previous proposal to some extent. Further, in email discussion [202] it has been agreed that the UE shall release the WLAN and Bluetooth configurations upon coming back from inactive to connected. Further, it was recommended as the outcome to inform the NR email discussion abotu the outcome. The following is the outcome of that email discussion.

**Proposal 1**: Merge the CRs in [R2-2101411](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101411.zip) and [R2-2101413](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_113-e/Docs/R2-2101413.zip) to RRC rapporteur CRs (as part of discussion [203]). Inform the decision to NR R16 SON/MDT session so they can determine whether there NR should align with LTE.

As all the above information indicates that there is a need for further discussion, the rapporteur proposes to postpone the changes until we discuss the handling of WLAN, Bluetooth and sensor configurations.

1. Postpone the discussions until Proposal-4 is converged.

## 3.5 Second change of R2-2101943 related

R2-2101943 Clarification on location configuration in MDT ZTE Corporation, Sanechips discussion Rel-16

**Summary of the contribution:**

The contribution has the following proposal and the TP.

Proposal 2: To update the field description of otherConfig in RRCReconfiguration message, to allow inclusion of location related configuration when configuring to SCG, and agreed on the TP provided in Annex 2.

|  |
| --- |
| *RRCReconfiguration-IEs* field descriptions |
| ***otherConfig***  Contains configuration related to other configurations. When configured for the SCG, only fields *drx-PreferenceConfig, maxBW-PreferenceConfig, maxCC-PreferenceConfig, maxMIMO-LayerPreferenceConfig* ~~and~~ *minSchedulingOffsetPreferenceConfig, btNameList, wlanNameList, sensorNameList~~-r16~~, and obtainCommonLocation~~-r16~~* can be included. |

**Question-6: Do you agree with the changes to the field description?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | Yes | This change seems to be required to ensure that the UE can be configured with relevant configurations via SN. |
| Qualcomm | Yes, with changes, believe -r16 for sensorNameList and obtainCommonLocation are not needed. “and” should be pushed to appropriate place. |  |
| ZTE | Yes | Proponent. Thanks Qualcomm for the wording improvement, it looks fine. |
| Huawei, HiSilicon | Yes | Qualcomm’s proposed changes are also ok. |
| Apple | Yes |  |
| CATT | Yes |  |
| Nokia, Nokia Shanghai Bell | Yes |  |
| Samsung | No |  |

**Rapportuer summary**:

Supporting companies: Ericsson, Qualcomm, Huawei, Apple, CATT, Nokia.(6)

Not supporting companies: Samsung (1)

Based on the answers, the issue brought up in R2-2101943 can be progressed in phase-2.

1. Second change of R2-2101943 is included in phase-2.

## 3.6 R2-2101419 (only issue 2) related

R2-2101419 On open issues of RA report, MHI and logged MDT Ericsson CR Rel-16 38.331 16.3.1 2409 - F NR\_SON\_MDT-Core

**Summary of the change:**

UE reports about the Random access attempt after successfully performing 4 step random-access procedure. Thus, the UE only logs RA-Report if Number of PLMN entries is less than maxPLMN or if it is equal to maxPLMN and the list of EPLMN is subset or equal to the plmn-IdentityList. Moreover, it only checks if the RPLMN is part of plmn-IdentityList only if the above mentioned conditions satisfy.

However, UE behaviour in below scenario is not included in current procedural text.

If the number of PLMN entries in plmn-IdentityList stored in VarRA-Report is equal to maxPLMN and the list of EPLMNs is not a subset of or equal to the plmn-IdentityList stored in VarRA-Report but RPLMN is already in the plmn-IdentityList. Then, RA-Report should contain information regarding the random access given number of RA-Report stored in RA-ReportList is less than maxRAReport.

🡪 Clasue added in section 5.7.10.4 to include the aforementioned scenario.

2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is less than *maxPLMN*; or

2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is equal to *maxPLMN* and the list of EPLMNs is subset of or equal to the *plmn-IdentityList* stored in *VarRA-Report*; or

2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is equal to *maxPLMN* and the RPLMN is included in *plmn-IdentityList* stored in *VarRA-*Report:

**Question-7: Do you agree with the changes proposed in the CR?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | Yes | Proponent.  During the online discussion, it was mentioned that the proposed changes are already captured by the previous sentence of the procedural text. However, the proposed change is for the scenario when the number of PLMN entries in plmn-IdentityList stored in VarRA-Report is equal to maxPLMN and the list of EPLMNs is not a subset of or equal to the plmn-IdentityList stored in VarRA-Report but RPLMN is already in the plmn-IdentityList.  In our understanding, if the RPLMN is part of the plmn-IdentityList, then there is no harm in storing the RA report. |
| Qualcomm | No | From the procedural description of RA-report, I believe the proposed modification is not required:  3> append the following contents associated to the successfully completed random-access procedure as a new entry in the *VarRA-Report*:  4> if the list of EPLMNs has been stored by the UE:  5> if the RPLMN is included in *plmn-IdentityList* stored in *VarRA-Report*:  6> set the *plmn-IdentityList* to include the list of EPLMNs stored by the UE (i.e. includes the RPLMN) without exceeding the limit of *maxPLMN*;  5> else:  6> clear the information included in *VarRA-Report*;  6> set the *plmn-IdentityList* to the list of EPLMNs stored by the UE (i.e. includes the RPLMN); |
| ZTE | Maybe | The original intention to introduce the following highlighted restrictions for RA report storage is to avoid PLMN-identities stored to exceed maxPLMN since UE will continue to append the EPLMNs stored. “5.7.10.4 Actions upon successful completion of random-access procedure Upon successfully performing 4 step random access procedure, the UE shall:  1> if the number of *RA-Report* entries stored in the *ra-ReportList* in *VarRA-Report* is less than *maxRAReport*:  2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is less than *maxPLMN*; or  2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is equal to *maxPLMN* and the list of EPLMNs is subset of or equal to the *plmn-IdentityList* stored in *VarRA-Report*:  3> append the following contents associated to the successfully completed random-access procedure as a new entry in the *VarRA-Report*:”  We understand the intention of this CR is to allow UE to store the RA report when there are spaces in VarRA-Report and RPLMN is included regardless if there are rooms available to append new PLMNs or not, which technically disable the restrictions highlighted above.  If it is agreeable for majorities, we are fine to have this new condition, but in this case we’d like to make the following changes to delete the useless restrictions:  2> if the RPLMN is included in *plmn-IdentityList* stored in *VarRA-*Report:  3> append the following contents associated to the successfully completed random-access procedure as a new entry in the VarRA-Report: |
| Huawei, HiSilicon | No | Share Qualcomm’s views. |
| Apple | No | With this new change, the existing second 2> gets invalidated, meaning UE does not need to check anything when the PLMN entries is equal to maxPLMN.  We tried to understand the concerned scenario, and eventually our understanding is this targets to the case where the PLMN entries reach to the maxPLMN, then UE needs to check if the RPLMN (and also the EPLMNs of this RPLMN) are contained already.  Then, our suggestion is:  2> if the number of PLMN entries in *plmn-IdentityList* stored in *VarRA-Report* is equal to *maxPLMN* and the list of EPLMNs (including RPLMN) is subset of or equal to the *plmn-IdentityList* stored in *VarRA-Report*: |
| CATT | Maybe | We agree with the intention, and slightly prefer ZTE’s change. |
| Nokia, Nokia Shanghai Bell | Makes sense | We agree with the intention |
| Samsung | Yes | This change seems reasonable, e.g.  When RPLMN only (in the case of full maxPLMN) belongs to the plmn-IdentityList, UE will not log the corresponding RA report. It’s not original intention.  We can further clarify this case. |

**Rapportuer summary**:

Supporting companies: Ericsson, Nokia, Samsung (3)

Not supporting companies: Qualcomm, Huawei, Apple (3)

May be: ZTE, CATT (2)

Based on the answers, there is no consensus to proceed this in phase-2.

1. Issue 2 of R2-2101419 is not pursued in phase-2.

## 3.7 R2-2101690 related

R2-2101690 Discussion on location issues for MDT and SON Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

=> continue the discussion in 808. If no consensus achieved, the CR will not be pursued in R16.

**Summary of the contribution:**

The contribution provides detailed analysis of which configuration is used by the UE for the location information included in various SCGFailureInformation messages in LTE and in NR.

Proposal 1 For NR-DC, the otherConfig in the SN RRCReconfiguration can include the IE obtainCommonLocation, BT-NameList, WLAN-NameList, Sensor-NameList.

Proposal 2 For NE-DC, it is proposed to apply location info configuration (i.e. locationInfo, WLAN measurement, Bluetooth measurement, Sensor measurement) from the MN RRC reconfiguration to SCGFailureInformationEUTRA.

Proposal 3 For NE-DC, it is proposed to apply location info configuration (i.e. locationInfo, WLAN measurement, Bluetooth measurement) from the SN RRC reconfiguration to measResultSCG-FailureMRDC.

Proposal 4 For (NG)EN-DC, it is proposed to apply location info configuration (i.e. locationInfo, WLAN measurement, Bluetooth measurement) from the MN RRC reconfiguration to SCGFailureInformationNR.

Proposal 5 For NE-DC, it is proposed to apply location info configuration (i.e. locationInfo, WLAN measurement, Bluetooth measurement, Sensor measurement) from the SN RRC reconfiguration to MeasResultSCG-Failure.

**Question-8: Do you agree with the proposals in the contribution?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No (All, P1, P2, P3, P4, P5)** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | All | We believe there is a need to clarify which configuration is used for which field included by the UE as part of various SCG failure information messages. There could be two different WLAN and BT configurations, one from MN and the other from SN. In such a scenario, it is important that the ‘correct’ measurements are included in ‘correct’ fields.  The lack of clarity in this topic was one of the reasons why there were several proposals in the past to remove one of the locationInfo in these SCG failure information messages. Therefore, we support the changes proposed in this contribution so that the same confusion do not arise in the future. |
| Qualcomm | No | I believe the which configuration should be used for where for location reporting is quite clear without the proposals. I believe the previous proposals were to argue the need for two locations reporting to save UE memory and reduce the size of the RRC message instead of lack of clarity. |
| ZTE | All | Share the same view as Ericsson and Huawei. |
| NTTDOCOMO | All | This location information reported in SCGFailureInformation/MeasResultSCG-Failure is important for network to identiy the location where the SCG failure occur. Support Huawei and Ericsson. |
| Huawei, HiSilicon | All | Even if there are lots of proposals in our paper, the intention of them is clear, i.e. make the location reporting work for MR-DC cases. In addition, the ASN.1 has defined these location Ies due to Rel-16 SON and MDT features.  If the proposals are not pursued, even if we have location reporting definition in ASN.1, the UE may never use it due to lack of procedural text (or it is unclear for UE implemenation), so the location reporting may be useless for MR-DC cases actually. |
| Apple | No | I think the current text is clear among the companies The previous attmpets to remove locationInfo in related SCG failure messages have already been resolved during the prior discussions. No need of extra work. |
| CATT | All |  |
| Nokia, Nokia Shanghai Bell | Makes sense | We agree with the intention – double reporting of the location information should be avoided |
| Samsung | No | It could be feasible, but we have no agreement on it, i.e. it’s too late for Rel-16. |

**Rapportuer summary**:

Supporting companies: Ericsson, ZTE, Docomo, Huawei, CATT, Nokia (6)

Not supporting companies: Qualcomm, Apple, Samsung (3)

Based on the answers, there is no consensus but a large majority of the comapnies support the changes. Of the companies that does not want to include this change, based on the comments, it seems like there is a misunderstanding about the proposals and the intentions. The rapporteur’s understanding of the reason for the changes proposed is to clarify which configuration is used for the reporting of location information in which IE. Based on this, the rappporteur proposes to further disucss this topic.

1. RAN2 to discuss the changes proposed in R2-2101690.

## 3.8 R2-2100448 related

R2-2100448 Misalignment of LTE and NR on neighbour cell measurements logging in any cell selection state Samsung Electronics Co., Ltd discussion Rel-16 NR\_SON\_MDT-Core

=> Try to align with LTE and continue the discussion in 808.

**Summary of the contribution:**

The contribution proposes to align the procedural text related to neighbour cell measurements inclusion while the UE is in any cell selection state to the procedural text included in LTE.

Proposal: RAN2 to clarify whether it is intentional that NR UE does not log results of neighbour cell measurements in any cell selection state as in LTE. If not, RAN2 is requested to discuss if and in which release to introduce neighbour cell reporting in OOC.

**Question-9: Do you agree to align the procedural text, like LTE, neighbor cell measurement inclusion while the UE is in any cell selection state?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | Yes | It seems reasonable to align the procedural text with LTE i.e., include the neighbor cell measurements while being in any cell selection state. This was an implementation mistake in our opinion as this topic was never discussed in the past and the only agreement we have had was that we will use LTE as the baseline. |
| Qualcomm | No | The proposed scenario is captured under event-triggered logging. For example:  2> else if the *reportType* is set to *eventTriggered*, and *eventType* is set to *outOfCoverage*:  3> perform the logging at regular time intervals as defined by the *loggingInterval* in *VarLogMeasConfig* only when the UE is in any cell selection state;  3> perform the logging immediately upon transitioning from the any cell selection state to the camped normally state;  Therefore, the proposed change is unnecessary. |
| ZTE | Yes | We think it is reasonable to align the behavior, i.e., UE logs available neighboring cell measurements even when it is in any cell selection state. |
| Huawei, HiSilicon | Yes | Ok to align with LTE. |
| Apple | Yes | Could be aligned. |
| CATT | Yes | OK to align with LTE. |
| Nokia, Nokia Shanghai Bell | No | In our view that was a choice in NR to have:  1. Periodical reporting of the signal strength, including detection of out of coverage state, including neighbours measurements  2. Event based reporting for any cell selection  For the event based configuration to collect OOC, we think the intention was to detect OOC, but we do not recall agreement on logging neigbours at that state.  The same behaviour as in LTE concerns the option 1. – for that no correcton is needed.  But we are open to clarify |
| Samsung | Yes | Proponent  We have assumed there was a mistake. There is no reason that we have different thing from LTE. Furthermore, RAN2 has not discussed it at all (on this different behavior from LTE). |

**Rapportuer summary**:

Supporting companies: Ericsson, ZTE, Huawei, Apple, CATT, Samsung (6)

Not supporting companies: Qualcomm, Nokia (2)

Based on the answers, many companies suport this proposal and this is aligning the procedural text with LTE for periodic reporting configuration associated to logged MDT when the UE is in OOC. Please see that the neioghbor cell measurements are included while the UE is in any cell selection state as per LTE text (bullet level is 4> in LTE which is outside ’else’) whereas the UE does not in NR (bullet level is 4> in NR which is inside ’else’).

LTE procedural text:

4> if the UE is in *any cell selection* state (as specified in TS 36.304 [4]):

5> set *anyCellSelectionDetected* to indicate the detection of no suitable or no acceptable cell found;

5> set the *servCellIdentity* to indicate global cell identity of the last logged cell that the UE was camping on;

5> set the *measResultServCell* to include the quantities of the last logged cell the UE was camping on;

4> else:

5> set the *servCellIdentity* to indicate global cell identity of the cell the UE is camping on;

5> set the *measResultServCell* to include the quantities of the cell the UE is camping on;

4> if available, set the *measResultNeighCells*, in order of decreasing ranking-criterion as used for cell re-selection, to include neighbouring cell measurements that became available during the last logging interval for at most the following number of neighbouring cells: 6 intra-frequency and 3 inter-frequency neighbours per frequency as well as 3 inter-RAT neighbours, per frequency/ set of frequencies (GERAN) per RAT and according to the following:

5> for each neighbour cell included, include the optional fields that are available;

4> for the cells included according to the previous (i.e. covering previous and current serving cells as well as neighbouring EUTRA cells) include results according to the extended RSRQ if corresponding results are available according to the associated performance requirements defined in TS 36.133 [16];

4> for the cells included according to the previous (i.e. covering previous and current serving cells as well as neighbouring EUTRA cells) include RSRQ type if the result was based on measurements using a wider band or using all OFDM symbols;

NR procedural text:

3> if the UE is in any cell selection state (as specified in TS 38.304 [20]):

4> set *anyCellSelectionDetected* to indicate the detection of no suitable or no acceptable cell found;

4> set the *servCellIdentity* to indicate global cell identity of the last logged cell that the UE was camping on;

4> set the *measResultServingCell* to include the quantities of the last logged cell the UE was camping on;

3> else:

4> set the *servCellIdentity* to indicate global cell identity of the cell the UE is camping on;

4> set the *measResultServingCell* to include the quantities of the cell the UE is camping on;

4> if available, set the *measResultNeighCells*, in order of decreasing ranking-criterion as used for cell re-selection, to include neighbouring cell measurements that became available during the last logging interval for at most the following number of neighbouring cells: 6 intra-frequency and 3 inter-frequency neighbours per frequency as well as 3 inter-RAT neighbours, per frequency per RAT and according to the following:

5> for each neighbour cell included, include the optional fields that are available;

Based on this, the rapporteur proposes to progress the changes in phase-2.

1. R2-2100448 is pursued in phase-2.

## 3.9 R2-2100583 related

R2-2100583 Clarification on logged MDT for IRAT and non-SIB4 frequencies Samsung Telecommunications, Ericsson CR Rel-16 38.331 16.3.1 1805 2 F NR\_SON\_MDT-Core R2-2010083

=> The correction is needed and the details will be addressed by email discussion 808 (Ericsson)

**Summary of the contribution:**

It was agreed during online session that the changes in this CR is needed. However, companies wanted to check the procedural text for any further modifications.

**Question-10: Is there any further change required for the changes proposed in R2-2100583?**

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (if any changes are to be proposed, please include them here)** |
| Ericsson | May be (small clarification) | We believe all the changes are needed.  To further clarify the doubts raised during the online session, we could further add the following clarification.  5> include measurement results for any inter-RAT neighbouring frequencies that are included in SIB5; |
| Qualcomm |  | Change as the following to make it clear and avoid confusion:  4> if available, set the *measResultNeighCells*, in order of decreasing ranking-criterion as used for cell re-selection, to include measurements of neighbouring cells that became available during the last logging interval as the following:  5> if *interFreqTargetInfo* is included in *VarLogMeasConfig*:  6> include measurement results for at most 6 neighbouring cells on the serving frequency, and for at most 3 cells per NR neighbouring frequencies that are included in both *interFreqTargetInfo* and SIB4;  5> else:  6> include measurement results for at most 6 neighbouring cells on the serving frequency, and for at most 3 cells per NR neighbouring frequencies that are included in SIB4;  5> include measurement results for at most 3 neighbours per inter-RAT frequencies that are included in SIB5;  5> for each neighbour cell included, include the optional fields that are available; |
| ZTE | Maybe with clarification | We are fine with the clarification as proposed Ercisson or QC. |
| Huawei, HiSilicon |  | Ok with Qualcomm’s proposal. |
| Apple | Yes | We are fine with the clarification as proposed Ercisson or Qualcomm. |
| CATT | Yes | Ok with Ericsson’s proposal. |
| Nokia, Nokia Shanghai Bell | OK |  |
| Samsung | Yes | We are fine to limit to frequencies included in SIB5 as suggested by others. We are also fine with further editorial suggestions from QC (could avoid duplication of statements covering the aspect of 6 intraFreq’s with each at most 3 cell by separate bullet 5> while moving rest one level down) |

**Rapportuer summary**:

All the companies support the changes with some small changes which cna be checked and progressed in phase-2.

1. R2-2100583 is pursued in phase-2.

# 5 Conclusion

[Proposal 1 Change#2 is already captured in R2-2102273 and the rest of the changes are not pursued in phase-2.](#_Toc63152402)

[Proposal 2 RA report is extended in a NBC way.](#_Toc63152403)

[Proposal 3 Proposals in R2-2101421 are not pursued in phase-2.](#_Toc63152404)

[Proposal 4 RAN2 to discuss handling of the WLAN/BT/sesnor information in the CEF report.](#_Toc63152405)

[Proposal 5 Postpone the discussions until Proposal-4 is converged.](#_Toc63152406)

[Proposal 6 Second change of R2-2101943 is included in phase-2.](#_Toc63152407)

[Proposal 7 Issue 2 of R2-2101419 is not pursued in phase-2.](#_Toc63152408)

[Proposal 8 RAN2 to discuss the changes proposed in R2-2101690.](#_Toc63152409)

[Proposal 9 R2-2100448 is pursued in phase-2.](#_Toc63152410)

[Proposal 10 R2-2100583 is pursued in phase-2.](#_Toc63152411)