3GPP TSG-RAN WG2#113-e DocNumber

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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| --- | --- |
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| Qualcomm | rkum@qti.qualcomm.com |
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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?**

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| --- | --- | --- |
| **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  |  |
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**Rapportuer summary**: To be added later

## 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?**

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| --- | --- | --- |
| **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.  |
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**Rapportuer summary**: To be added later

## 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?**

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| **Company Name** | **Yes/No** | **Comments, if any** |
| Ericsson | Yes | Proponent. |
| Qualcomm | Yes |  |
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**Rapportuer summary**: To be added later

## 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?**

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|  **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.  |
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**Rapportuer summary**: To be added later

1. **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 |  |
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**Rapportuer summary**: To be added later

## 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.

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| *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?**

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|  **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. |  |
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**Rapportuer summary**: To be added later

## 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?**

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|  **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); |
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**Rapportuer summary**: To be added later

## 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?**

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|  **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.  |
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**Rapportuer summary**: To be added later

## 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?**

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|  **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.  |
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**Rapportuer summary**: To be added later

## 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?**

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|  **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; |
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**Rapportuer summary**: To be added later

# 3 Conclusion

To be added later