3GPP TSG-RAN WG2 Meeting #109bis-e R2-200xyzw

**Electronic, 20 April – 30 April 2020**

Agenda Item:

Source: Session chair (CMCC)

Title: Report from breakout session

Document for: Approval

Recording of voice or video at meetings is not used in 3GPP. This applies also to this e-Meeting. At this e-Meeting, no specific actions are taken to prevent the recording of web conferences. Companies that have concerns related to recordings, if any, may express those by email in the main meeting organizational thread [AT109e][000]

**Organizational:**

1. LSs – contact companies should flag LSs that need presenting. Otherwise we will directly note them
2. Running CRs will be endorsed to be used as baseline and moved to email discussion. Further agreements will be captured on that baseline CR.
3. Only Email discussions and summary discussions will be treated during e-meetings (indicated clearly in the meeting notes in 6.12.6)
4. All organization emails and notes will be shared over the following email discussion throughout the two meeting weeks:
* [AT109e][800][SON/MDT] Organizational Hu

Scope:

* + - Share plans for the meetings and list of ongoing email discussions for the sessions related to SON/MDT
		- Share meetings notes and agreements for review and endorsement

## 6.12 SON/MDT support for NR

(NR\_SON\_MDT-Core; leading WG: RAN3; REL-16; started: Jun 19; target; Jun 20; WID: [RP-191](file:///C%3A%5CData%5C3GPP%5CTSGR%5CTSGR_84%5Cdocs%5CRP-191594.zip)776; SR: RP-200489). Documents in this agenda item will be handled in a break out session

Time budget: 1 TU

Tdoc Limitation: 3 tdocs

R2-2003324 Draft reply LS on the status update of the SON support for NR works Intel Corporation LS out Rel-16 NR\_SON\_MDT-Core To:SA5 Cc:RAN3

### 6.12.1 General

Including LSs, work plan, rapporteur inputs, running TS

R2-2002521 Reply LS on QoS monitoring for URLLC (R3-201372; contact: Intel) RAN3 LS in Rel-16 NR\_SON\_MDT To:SA5, SA2 Cc:RAN2, SA1, CT4

R2-2002524 LS on removal of Management Based MDT Allowed IE for NR (R3-201437; contact: Qualcomm) RAN3 LS in Rel-16 NR\_SON\_MDT To:RAN2, SA5

R2-2002544 Reply to LS to SA5 on trace related configurations for NR MDT (S5-201424; contact: Ericsson) SA5 LS in Rel-17 To:RAN2

R2-2002545 LS on the status update of the SON support for NR works (S5-201525; contact: Intel) SA2 LS in Rel-16 To:RAN2, RAN3

R2-2002896 Running CR to 38.306 for NR\_SON\_MDT vivo, CMCC draftCR Rel-16 38.306 16.0.0 NR\_SON\_MDT-Core

R2-2003487 draft TS 38.314 CMCC draft TS Rel-16 38.314 0.1.0 NR\_SON\_MDT-Core

R2-2003488 UE Feature List for Rel-16 SON/MDT WI CMCC discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.2 MDT

The procedure, signaling and corresponding measurement quantities for MDT. Only Open issues and Corrections

R2-2002555 Clarification of MDT Initiation in NR and NG-RAN Qualcomm Incorporated, Nokia CR Rel-16 37.320 16.0.0 0078 - F NR\_SON\_MDT-Core

R2-2002606 Remaining Issues of UE Location Information Qualcomm Incorporated discussion Rel-16

R2-2002731 [C201 C203 C204] Discussion on Location Related Measurement Collection in MDT CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2002732 [C201 C203 C204] Corrections on Location Related Measurement Collection in MDT CATT draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2002733 [C253 C256 C257] Discussion for CEF Report CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2002747 [C253 C256 C257] Corrections for CEF Report CATT draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2002826 Remaining issues for NR MDT: [S461] [S462] [S463] [S464] [S465] [S466] [S467] [S468] [S469] [S470] [S471] [S474] Samsung discussion NR\_SON\_MDT-Core

R2-2002925 CR to 37320 on MDT configuration ZTE Corporation, Sanechips CR Rel-16 37.320 16.0.0 0080 - F NR\_SON\_MDT-Core Withdrawn

R2-2003074 Open issues associated of MDT Ericsson discussion

R2-2003076 [E002] On mobilityState reporting Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003084 [E010] On stopping T330 upon going to idle Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003085 [E012] On logging TAC in CEF report Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003086 [E014] On WLAN, Bluetooth and sensor information transfer from LoggedMeasurementConfgiuration to VarLogMeasConfig Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003087 [E018] On procedural text correction for any cell selection state exiting in outOfCoverage event driven logged MDT Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003088 [E021] On any-cell selection state related logging in logged MDT Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003091 [E026] On creation of MeasQuantityResultsLogged-r16 Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003093 [E041] On changing serving cell CGI to optional in logged MDT report Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003104 CR to 37.320 on MDT initiation ZTE Corporation, Sanechips CR Rel-16 37.320 16.0.0 0081 - F NR\_SON\_MDT-Core

R2-2003117 [C255] Reporting Logged MDT Result in SRB2 without DRB Establishment CATT draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003118 [C265] Corrections on Recording the UE History Information CATT draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003120 Introduction of TAC Information in CEF Report CATT draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003121 Miscellaneous corrections for 37.320 CATT draftCR Rel-16 37.320 16.0.0 F NR\_SON\_MDT-Core

R2-2003158 Resolving MDT stage 2 open issues Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003159 Miscellaneous corrections Nokia (Rapporteur) CR Rel-16 37.320 16.0.0 0082 - F NR\_SON\_MDT

R2-2003160 N011, N012, N013, N014 on PLMN Id association with cell Id Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003161 N015 on referencing TS23.122 Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003499 Removal of Management Based MDT Allowed IE for NR MDT CMCC discussion Rel-16 NR\_SON\_MDT-Core

R2-2003500 CR for Removal of Management Based MDT Allowed IE for NR MDT CMCC CR Rel-16 37.320 16.0.0 0083 - F NR\_SON\_MDT-Core

R2-2003574 Minor issues on MDT Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.3 L2 measurements

Definition of L2 measurements in TS 38.314.

No new measureemnts will be introduced to TS38.314 this meeting. Only Open issues and Corrections

R2-2002751 Discussion on metric of number of active UEs in RRC connected NTT DOCOMO INC. discussion

R2-2002897 Remaining issues on L2 measurement vivo discussion

R2-2002898 CR37320 for M5 ~ M7 vivo CR Rel-16 37.320 16.0.0 0079 - B NR\_SON\_MDT-Core

R2-2003073 Open issues of L2 measurements Ericsson discussion

R2-2003165 Correction of DL packet delay Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003486 Summary of AI 6.12.3 L2 measurements CMCC (Summary Rapporteur) discussion Rel-16 NR\_SON\_MDT-Core Late

R2-2003489 Miscellaneous corrections for draft TS 38.314 CMCC discussion Rel-16 NR\_SON\_MDT-Core

R2-2003575 Minor issues on L2M Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.4 SON

UE reporting necessary to enhance the network configuration for MRO, MLB and RACH optimization

Only Open issues and Corrections

R2-2002562 Corrections to RA Report\_S480\_S481\_S482\_S483\_S484\_S485 Samsung Electronics Co., Ltd discussion Rel-16 NR\_SON\_MDT-Core

R2-2002720 Remaining Aspects on UE History Information Mediatek Inc. discussion

R2-2002760 Discussion on terminology of handover failure in rel-16 SON MDT NTT DOCOMO INC. discussion

R2-2002761 Discussion on UE capability for location reporting in SCG failure NTT DOCOMO INC. discussion

R2-2002827 Remaining issues for NR SON: [S472] [S473] [S475] [S476] [S477] [S478] [S479] Samsung discussion NR\_SON\_MDT-Core

R2-2002923 [Z152] Correction to RACH report and RLF report ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2002924 Enhancement on RLF report for MRO ZTE Corporation, Sanechips discussion Rel-16 NR\_SON\_MDT-Core

R2-2003075 Open issues associated to SON functions Ericsson discussion

R2-2003077 [E007] On including TAC information for re-establishment cell in RLF report Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003080 [E009] On LTE previousPCell inclusion in NR RLFReport Ericsson draftCR Rel-16 38.331 16.0.0 B NR\_SON\_MDT-Core

R2-2003081 [E009] On NR previousPCell inclusion in LTE RLFReport Ericsson draftCR Rel-16 36.331 16.0.0 B NR\_SON\_MDT-Core

R2-2003082 [E009] On UE capabilities for inter-RAT MRO related RLF reporting Ericsson draftCR Rel-16 36.306 16.0.0 B NR\_SON\_MDT-Core

R2-2003083 [E009][E026] On UE capabilities for cross RAT RLF reporting and inter-RAT MRO related RLF reporting Ericsson draftCR Rel-16 38.306 16.0.0 B NR\_SON\_MDT-Core

R2-2003089 [E023] On including beamFailureRecoveryFailure in SCG failure information messages Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003090 [E023] On including beamFailureRecoveryFailure in SCGFailureInformationNR message Ericsson draftCR Rel-16 36.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003092 [E028] On SON-MDT related UE capabilities addition Ericsson draftCR Rel-16 38.331 16.0.0 F NR\_SON\_MDT-Core

R2-2003119 Consideration on Adding the Re-connection Attempt Cell Identity CATT, CMCC discussion

R2-2003162 N016 on missing RA-report availability indicator Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003163 N017 RA-report also for failed RA procedures Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003164 N018 Actions upon successful completion of random-access procedure Nokia, Nokia Shanghai Bell discussion Rel-16 NR\_SON\_MDT

R2-2003576 Minor issues on SON Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

### 6.12.5 Others

### 6.12.6 Treatment Plan for this eMeeting

**Note: all the documents not listed in 6.12.6 will not be treated in this emeeting.**

### 6.12.6.1 Documents for Webinar slot1

R2-2003797 Summary on ASN1 RIL for MDT and SON Huawei

Agreements:

1 All the Category-A proposals listed in the Excel (MDT RILs \_Ph1v59 \_v1 \_ER \_ZTE \_CATT \_HW2.xlsx) will be agreed after 48 hours re-check and no concern raised.

2 Other proposals and the concerned cat-A proposals will be discussed and try to make agreements through email discussion

* [109bis-e][888] ASN1 RIL for SONMDT (Huawei)

Scope: Continue the discussion based on R2-2003797

 Intended outcome: Summary with the following sets which should be identified (R2-2004002)

 §  Set of proposals with full consensus, if any (agreeable over email)

 §  Set of proposals with almost full consensus to discuss in the follow up conference call

 §  Set of open issues and proposals to postpone to next meeting or email discussion after the meeting

 Deadline: 28/04/2019 22:00 UTC

R2-2003798 Summary on MDT Huwei

**=> The changes in R2-2002555 and R2-2003104 are agreed. The rapporteur will provide a merged 37.320 CR to address all the changes agreed in this meeting. (CMCC, Nokia)**

**Agreements:**

 **1**: Remove Editor’s note and FFS within: “For the serving cell downlink pilot strength measurements logging configuration is FFS.

**2**: Remove FFS within Section 5.1.2.3.

**3**: Remove Editor’s notes ‘Definition applicability to NR needs checking with SA5’ and Trace relevant parameters in NR need SA5 confirmation.

**4**: Based on the revised agreement, remove the Editor’s note in 5.4.2.

**5:** Use gNB and NR for NR specific RAN actions.

**6:** Use IDLE/INACTIVE/CONNECTED state (instead of mode)

**7:** Use NR Cell Global Identifier for NR specific cell id reference.

**8:** Radio Link Failure report section is cleaned up to reflect RLFreport contents can be used for MRO purposes as proposed in R2-2003159.

**9:** Accessibility measurements section is cleaned up to reflect CEFreport contents can be used for RACH Optimization purposes as proposed in R2-2003159.

=> All the above agreements will be merged into the rapporteur CR.

**Agreements:**

**1 Do not stop T330 upon going to RRC idle.**

**2 Include the procedural text related to transferring bt-NameList, wlan-NameList and sensor-NameList from LoggedMeasurementConfiguration to the VarLogMeasConfig.**

**3 Modify the procedural text to indicate that the transfer of reportType from LoggedMeasurementConfiguration to the VarLogMeasConfig instead of VarLogMeasReport.**

**4 Modify the procedural text to indicate that the UE shall perform the outOfCoverage related event driven logged MDT measurement logging if the reportType is set to eventTriggered, and eventType is set to outOfCoverage.**

**5 Modify the procedural text to indicate that the UE shall enter L1 event based logging when reportType is set to eventTriggered and eventType is set to eventL1.**

**6 Align the locationInfo contents included in the logged MDT report with that of immediate MDT.**

**7 Remove the extended RSRQ related procedural text in logged MDT.**

**8 Remove PCI from MeasResultServingCell-r16 to reduce the size of logged MDT report.**

Agreements:

1 Include PLMNIdentity of the failedCell in the VarConnEstFailReport.

2 Use CGI-Info-LoggingDetailed-r16 instead of CGI-Info-Logging-r16 to encode measResultFailedCell-r16 in ConnEstFailReport-r16. Merge two IEs into one.

3 Remove OPTIONAL tag for perRAInfoList-r16 field in ConnEstFailReport-r16.

4 Modify the procedural text to indicate that the UE shall use loggingInterval from LoggedPeriodicalReportConfig instead of LoggedEventTriggerConfig.

5 Modify the procedural text to indicate that the UE shall include the serving cell related information upon leaving the any cell selection state when the OOC event based logged MDT is configured to the UE.

6 Make servCellIdentity-r16 OPTIONAL in LogMeasInfo-r16.

7 Remove OPTIONAL for resultsSSB-Cell, best-ssb-Results and numberOfGoodSSB.

8 Remove OPTIONAL tag for cellResults-r16 and rsIndexResults-r16.

9 Remove physCellId-r16 for CEF report.

**Proposal 10 mobilityState field in included only when the serving cell broadcasts speedStateReselectionPars in SIB2.**

**Proposal 9 Create a new IE MeasQuantityResultsLogged-r16 for capturing the measurement quantities included in the logged MDT.**

Plan to arrange this email discussion:

* [109bis-e][801] Open issues on MDT (Huawei)

Scope: Continue the discussion on MDT open issues based on R2-2003798. Focus on the following proposals coloured in red.

 Intended outcome: Summary with the following sets which should be identified (R2-2004003)

 §  Set of proposals with full consensus, if any (agreeable over email)

 §  Set of proposals with almost full consensus to discuss in the follow up conference call

 §  Set of open issues and proposals to postpone to next meeting

 Deadline: 28/04/2019 22:00 UTC

Proposal 1: For location information in SCGFailureInformationEUTRA/ SCGFailureInformationNR, UE includes available WLAN measurement results, Bluetooth measurement results, and Sensors measurement results only from MN configured wlanNameList /btNameList/SensorNameList.

Proposal 2: If MN does not configure wlanNameList /btNameList/SensorNameList of immediate MDT, location information related to WLAN measurement, Bluetooth measurements, and Sensors measurement respectively of SCGFailureInformationEUTRA/ SCGFailureInformationNR are not included in the report.

Proposal 8 Modify the procedural text to indicate that the UE shall log anyCellSelectionDetected flag indication and the last serving cell related measurements upon entering any cell selection state only when the UE is configured with periodical logged MDT.

**Proposal 12: In order to ensure the management based logged MDT do not overwrite the signalling based logged MDT:**

* **Include the logged MDT type (i.e. the management based MDT or the signalling based MDT) in the logged MDT configuration**
* **Include the logged MDT type in the RRCConnectionComplete/RRCResumeComplete/ RRCReconfigurationComplete/RRCRestablishmentCompelete** **(P1, [29], Huawei)**

**Proposal 13**: To revise the agreement for signalling based MDT from:

”When the UE resumes the RRC connection in one new NG-RAN, the last serving NG-RAN can propagate the logged MDT configuration to the new NG-RAN.”

To:

 ”When the UE resumes the RRC connection in one new NG-RAN, the new NG-RAN can configure the MDT configuration for the UE, only if the signalling based logged MDT was received by the NG-RAN. It is not required to propagate the logged MDT configuration.”

R2-2003800 Summary of AI 6.12.4 SON Ericsson

Agreements:

1 For CSI-RS based RA attempt contentionDetected-r16 and dlRSRPAboveThreshold-r16 are not included in PerRAInfoList-r16.

2 RA report and RLF report shall be able to include more than one RA resource configuration.

3 If Msg1 SCS for contention free BFR is configured, Msg1 SCS for both contention based and contention free PRACH transmission occasions are reported in RA report.

4 Clarify the following in field description of dlRSRPAboveThreshold

 a. This field is used to indicate if SS-RSRP of selected SSB is above or below the rsrp-ThresholdSSB.

 b. For random access procedure initiated for beam failure recovery, rsrp-ThresholdSSB in beamFailureRecoveryConfig in UL BWP configuration of UL BWP selected for random access procedure is used to set parameter dlRSRPAboveThreshold. Otherwise, rsrp-ThresholdSSB in rach-ConfigCommon in UL BWP configuration of UL BWP selected for random access procedure is used to set parameter dlRSRPAboveThreshold.

5 Remove OPTIONAL for connectionFailureType in RLF report.

6 Remove OPTIONAL for failedPCellID in RLF report.

7 Clarify in the procedural text that the UE sets the rlf-Report in the UEInformationResponse message to the value of rlf-Report in VarRLF-Report of TS 36.331.

Plan to arrange this email discussion:

* [109bis-e][802] Open issues on SON (Ericsson)

Scope: Continue the discussion on SON open issues based on R2-2003800. Focus on the following proposals coloured in red.

 Intended outcome: Summary with the following sets which should be identified (R2-2004004)

 §  Set of proposals with full consensus, if any (agreeable over email)

 §  Set of proposals with almost full consensus to discuss in the follow up conference call

 §  Set of open issues and proposals to postpone to next meeting

 Deadline: 28/04/2019 22:00 UTC

Proposal 5 Upon successful RA completion, the list of current EPLMNs replace the existing contents of plmn-IdentityList.

Proposal 6 If the RPLMN is not included in plmn-IdentityList stored in VarRA-Report, the plmn-IdentityList should be set to include the new list of EPLMNs stored by the UE (i.e. includes the RPLMN), after clearing the existing information included in VarRA-Report.

Cat-b-Proposal 1 RAN2 to agree on one of the following proposals:

a. Currently captured RAReport contents are applicable only for 4-step random access procedure.

b. RAN2 to confirm the understanding that for R16 RA report, 2-step RA related information will still be recorded without differentiating the RA type, and no further enhancement on PUSCH related information will be used.

Cat-b-Proposal 1 RAN2 to agree on one of the following proposals:

Cat-b-Proposal 2 (Provided option-b is selected for the previous question) The maximum RA resource configuration can be included in one RA report entry/RLF report is 3 in case 2-step RA is supported.

Cat-b-Proposal 3 (Provided option-b is selected for the previous question) Change Msg1-FDM, Msg1-FrequencyStart and Msg1-SubcarrierSpacing to prach-FDM, prach-FrequencyStart, and prach-SubcarrierSpacing to make the terminologies in RA report more general for both 4-step/2-step RACH

Cat-b-Proposal 4 For SSB based RA attempt based on contention free random access resources contentionDetected-r16 and dlRSRPAboveThreshold-r16 are not included in PerRAInfoList-r16.

Cat-b-Proposal 5 RAN2 to agree on the following method to encode more than one RA resource configuration (refer [17] for ASN.1 changes):

a. Each RA resource configuration used can be included in the RA report with one identifier, e.g. ra-Resource-Index , and UE only needs to set the ra-Resource-Index for each successive RA attempt within the same beam

Cat-b-Proposal 6 RAN2 to discuss whether an explicit indicator is required to indicate whether each SSB-based RA attempt is contention based or contention free or this information can be implicitly derived from other report contents.

Cat-b-Proposal 7 RAN2 to clarify to set the RA-Related Information in RA-Report and RLF-Report, in order to avoid repeatedly indicating the parameters across RA-Report and RLF-Report.

Cat-b-Proposal 8 Support availability indicator for stand-alone RA-report.

Cat-b-Proposal 9 Support availability indicator (e.g. ra-ReportAvailable) in RRCSetupComplete, RRCResumeComplete, RRCreestablishmentComplete and RRCReconfigurationComplete messages.

Cat-b-Proposal 10 Agree RRC changes to fix the issue described in Observation 2 as in the attached Annex of [22].

Cat-b-Proposal 11 Clarify that the WLAN, Bluetooth, Sensor configuration received in the otherConfig is used for deriving the respective WLAN, Bluetooth and sensor measurements to be included in any subsequent measurement report and any subsequent RLF report.

Cat-b-Proposal 12 Include the possibility to have an LTE cell as the previousPCellId in the RLF-Report in NR RRC specification.

Cat-b-Proposal 13 The support of inter-RAT MRO report associated RLF reporting in LTE to NR handover scenario is an optional feature without UE capability bit.

Cat-b-Proposal 14 TAC is included in previous EUTRA PCell.

Cat-b-Proposal 15 Include the possibility to have an NR cell as the previousPCellId in the RLF-Report in LTE RRC specification.

Cat-b-Proposal 16 The support of inter-RAT MRO report associated RLF reporting in NR to LTE handover scenario is an optional feature without UE capability bit.

Cat-b-Proposal 17 TAC is included in previous NR-PCell.

Cat-b-Proposal 18 Introduce separate indicators to indicate whether the RLF report being reported by the UE is the NR RLF report or the LTE RLF report.

Cat-b-Proposal 19 Use CGI-Info-LoggingDetailed-r16 instead of CGI-Info-Logging-r16 to encode reestablishmentCellId-r16 in rlfReport-r16.

Cat-b-Proposal 20 Include lbtFailure as an option in rlfCause in RLF report.

Cat-b-Proposal 21 Include lbtFailure as a failureType in SCGFailureInfomationNR in LTE RRC specification.

Cat-b-Proposal 22 RAN2 to agree on one of the following:

a. Create a new section titled ‘RLF cause determination for MCG RLF’ under section 5.3.10 and include procedural text related to how the UE shall populate the rlf-Cause field in RLFReport.

b. Refer to section 5.7.3b.3 for rlf-cause classification and add missing rlf causes in the procedural text.

Cat-b-Proposal 23 RAN2 to agree the one of the solutions:

a. Solution1: Replace the terminology of “handover failure” with “Reconfiguration with sync failure” in rel-16 38.331 spec.

b. Solution2: Add a NOTE to clarify that in this release, “handover failure” indicates T304 expiry (reconfiguration with sync failure of MCG).

Cat-b-Proposal 24 Add “Re-connection attempt cell CGI” of E-UTRAN cell to the NR RLF Report.

Cat-b-Proposal 25 Include the TAC of re-connection attempt E-UTRAN cell.

Cat-b-Proposal 26 Add “Re-connection attempt cell CGI” of NR cell to the NR RLF Report.

Cat-b-Proposal 27 Add “reconnectionTimeSinceFailure” besides NR/E-UTRAN attempt cell ID to the NR RLF Report.

Cat-b-Proposal 28 Allow also logging of unsuccessful RA procedures in the NR UE RA Report.

Cat-b-Proposal 29 Add raPurpose to RLF Report.

Cat-b-Proposal 30 Include beamFailureRecoveryFailure as a failureType in SCGFailureInformation (NR RRC spec) and SCGFailureInformationNR (LTE RRC spec) messages.

Cat-b-Proposal 31 RAN2 to discuss the configurability of including LocationInfo in SCGFailureInformation to avoid the interoperability issue.

Cat-b-Proposal 32 It is necessary to introduce UE capability signaling of reporting LocationInfo in SCGFailureInformation.

Cat-b-Proposal 33 For rel-16 MR-DC, NR standalone support UE, mandatory support of location reporting function in SCG failure report with UE capability signaling.

Cat-b-Proposal 34 RAN2 to agree the detailed location information in SCG failure report should be commonLocationInfo, wlan-LocationInfo and bt-LocationInfo and sensor-LocationInfo, if available.

Cat-b-Proposal 35 Upon entering NR while using E-UTRA, the UE includes the E-UTRA cell information and the time spent in the E-UTRA cell in variable VarMobilityHistoryReport.

Cat-b-Proposal 36 Upon entering NR while using previously out of service, the UE includes the time spent out of service in variable VarMobilityHistoryReport.

Cat-b-Proposal 37 It is proposed RAN2 to send a LS to RAN3 about the following:

a. During RRC re-establishment, current standard cannot let the target gNB get the MHI

b. One possible solution is to add the history information in the RETRIEVE UE CONTEXT RESPONSE message

R2-2003486 Summary of AI 6.12.3 L2 measurements CMCC

Plan to arrange this email discussion:

* [109bis-e][803] Open issues on L2M (CMCC)

Scope: Continue the discussion on L2M open issues based on R2-2003486

 Intended outcome: Summary with the following sets which should be identified (R2-2004005)

 §  Set of proposals with full consensus, if any (agreeable over email)

 §  Set of proposals with almost full consensus to discuss in the follow up conference call

 §  Set of open issues and proposals to postpone to next meeting

 Deadline: 28/04/2019 22:00 UTC

### 6.12.6.2 Documents for Webinar slot2

R2-2004001 Proposals for approval CMCC

R2-2004003 Open issues on MDT Huawei

=> the following agreements are achieved through email discussion. (R2-2004003, R2-2004001)

Agreements:

**1: mobilityState field in included only when the serving cell broadcasts speedStateReselectionPars in SIB2.**

**2: For capturing the measurement quantities included in the logged MDT, re-use the existing IE MeasQuantityResults and if required, add a text in the field description of the IE MeasQuantityResults, e.g. sinr is not included when it is used for MDT.**

**3: Change the wording from**

**“When the UE resumes the RRC connection in one new NG-RAN, the last serving NG-RAN can propagate the logged MDT configuration to the new NG-RAN.”**

**To:**

 **”When the UE resumes the RRC connection in one new NG-RAN, the new NG-RAN can configure the MDT configuration for the UE, only if the signalling based logged MDT was received by the new NG-RAN from the previous NG-RAN or AMF. It is not required to propagate the management based logged MDT configuration.”**

**Companies are invited to show opinion on the above agreements. Only add your company name into the table if and only you don’t agree with the proposals.**

R2-2004004 Open issues on SON Ericsson

Cat-a-Proposal 1 Currently captured RAReport contents are applicable only for 4-step random access procedure.

Cat-a-Proposal 2 For SSB based RA attempt based on contention free random access resources contentionDetected-r16 and dlRSRPAboveThreshold-r16 are not included in PerRAInfoList-r16.

Cat-a-Proposal 3 Whether the CBRA or CFRA resource is used by the UE for each of the RA attempt is implicitly derived from RA report contents.

Cat-a-Proposal 4 If the RPLMN is not included in plmn-IdentityList stored in VarRA-Report, the plmn-IdentityList should be set to include the new list of EPLMNs stored by the UE (i.e. includes the RPLMN), after clearing the existing information included in VarRA-Report.

Cat-a-Proposal 5 RAN2 to clarify to set the RA-Related Information in RA-Report and RLF-Report, in order to avoid repeatedly indicating the parameters across RA-Report and RLF-Report.

Cat-a-Proposal 6 RAN2 confirms that no explicit availability indicator is included for stand-alone RA-report.

Cat-a-Proposal 7 RAN2 confirms that no explicit availability indicator is included (e.g. ra-ReportAvailable) in RRCSetupComplete, RRCResumeComplete, RRCreestablishmentComplete and RRCReconfigurationComplete messages for availability RA-report.

Cat-a-Proposal 8 RAN2 confirms the existing text in the RRC specification related to the conditions for resetting of VarRAReport contents after 48 hours.

Cat-a-Proposal 9 RAN2 confirms that the WLAN, Bluetooth, Sensor configuration received in the otherConfig is used for deriving the respective WLAN, Bluetooth and sensor measurements to be included in any subsequent measurement report and any subsequent RLF report.

Cat-a-Proposal 10 If the RAN2 needs to introduce inter-RAT MRO related NR RLF report in RRC specification based on the RAN3 LS, RAN2 agrees that the support of inter-RAT MRO report associated NR RLF reporting as an optional feature without UE capability bit.

Cat-a-Proposal 11 RAN2 agrees to postpone the discussion of details of inter-RAT related NR RLF report contents until the LS on the same topic is received from RAN3.

Cat-a-Proposal 12 If the RAN2 needs to introduce inter-RAT MRO related LTE RLF report in RRC specification based on the RAN3 LS, RAN2 agrees that the support of inter-RAT MRO report associated LTE RLF reporting as an optional feature without UE capability bit.

Cat-a-Proposal 13 RAN2 agrees to postpone the discussion of details of inter-RAT related LTE RLF report contents until the LS on the same topic is received from RAN3.

Cat-a-Proposal 14 No separate indicators are introduced to indicate whether the RLF report being reported by the UE is a NR RLF report or a LTE RLF report.

Cat-a-Proposal 15 Refer to section 5.7.3b.3 for rlf-cause classification and add missing rlf causes in the procedural text.

Cat-a-Proposal 16 Logging of unsuccessful RA procedures in the NR UE RA Report is not supported.

Cat-a-Proposal 17 Include beamFailureRecoveryFailure as a failureType in SCGFailureInformation (NR RRC spec) and SCGFailureInformationNR (LTE RRC spec) messages.

Cat-a-Proposal 18 Additional configurability of including LocationInfo in SCGFailureInformation is not supported.

Cat-a-Proposal 19 No new UE capability signaling is introduced for reporting of LocationInfo in SCGFailureInformation.

Cat-a-Proposal 20 No new UE capability signaling is introduced for reporting of LocationInfo in SCGFailureInformation associated to MR-DC.

Cat-a-Proposal 21 RAN2 agree that the detailed location information in SCG failure report should be commonLocationInfo, wlan-LocationInfo and bt-LocationInfo and sensor-LocationInfo, if available.

Cat-a-Proposal 22 Send a LS to RAN3 about the following.

a. During RRC re-establishment, current standard cannot let the target gNB get the MHI

b. One possible solution is to add the history information in the RETRIEVE UE CONTEXT RESPONSE message

Cat-b-Proposal 1 RAN2 to agree on one of the following method to encode more than one RA resource configuration (refer [17] for ASN.1 changes):

a. Each RA resource configuration used can be included in the RA report with one identifier, e.g. ra-Resource-Index , and UE only needs to set the ra-Resource-Index for each successive RA attempt within the same beam.

b. Add the missing CFRA and CBRA specific RA resources’ related parameters in the RA/RLF report

Cat-b-Proposal 2 RAN2 to agree on one of the following methods:

a. Upon successful RA completion, the list of current EPLMNs replaces the existing contents of plmn-IdentityList.

b. Keep the current procedural text as is wherein the UE appends the new EPLMNs to the existing contents of plmn-IdentityList.

Cat-b-Proposal 3 If option-b is agreed, then RAN2 to further discuss the UE behavior related to the scenario when the UE has a new RA procedure related RA report to be added to the existing list but appending the new EPLMN list to the existing contents of plmn-IdentityList exceeds the maximum limit.

Cat-b-Proposal 4 RAN2 waits for the input from RAN3 for introducing the inter-RAT MRO related contents in NR RLF report.

Cat-b-Proposal 5 RAN2 waits for the input from RAN3 for introducing the inter-RAT MRO related contents in LTE RLF report.

Cat-b-Proposal 6 RAN2 to discuss the inclusion of TAC of the reestablishmentCellID in RLF report.

Cat-b-Proposal 7 RAN2 to discuss how the UE sets the contents of rlfCause field in rel-16 RLF report when the UE declares RLF due to LBT failure.

Cat-b-Proposal 8 RAN2 to discuss how the UE sets the contents of failureType field in SCGFailureInfomationNR message when the UE declares RLF due to LBT failure.

Cat-b-Proposal 9 RAN2 to agree the one of the solutions.

a. Solution1: Replace the terminology of “handover failure” with “Reconfiguration with sync failure” in rel-16 38.331 spec.

b. Solution2: Add a NOTE to clarify that in this release, “handover failure” indicates T304 expiry (reconfiguration with sync failure of MCG).

Cat-b-Proposal 10 RAN2 to discuss the inclusion of “Re-connection attempt cell CGI” of E-UTRAN cell to the NR RLF Report.

Cat-b-Proposal 11 Provided “Re-connection attempt cell CGI” of E-UTRAN cell in included in the NR RLF Report, RAN2 to discuss the inclusion of TAC of the re-connection attempt cell.

Cat-b-Proposal 12 RAN2 to discuss the inclusion of “Re-connection attempt cell CGI” of NR cell to the NR RLF Report.

Cat-b-Proposal 13 Provided “Re-connection attempt cell CGI” of E-UTRA/NR cell in included in the NR RLF Report, RAN2 to discuss the inclusion of “reconnectionTimeSinceFailure” besides E-UTRAN/NR attempt cell ID to the NR RLF Report.

Cat-b-Proposal 14 Add raPurpose to RLF Report.

Cat-b-Proposal 15 Upon entering NR while using E-UTRA, the UE includes the E-UTRA cell information and the time spent in the E-UTRA cells in variable VarMobilityHistoryReport.

Cat-b-Proposal 16 Upon entering NR while using previously out of service, the UE includes the time spent out of service in variable VarMobilityHistoryReport.

R2-2004002 Summary on ASN1 RIL for MDT and SON Huawei

Suggest to agree all the Cat a and b proposals in the attached excel in R2-2004002.??????

**Agreeable proposals (Cat a):**

**1: Use *CommonLocation* to name all the fields of the detailed location info. (R2-2002731)**

**2: Change the value range of *numberOfConnFail* to INTEGER (1..8). (R2-2002733)**

**3: Remove the *physCellId-r16* in the *measResultFailedCell* of CEF report and in the *MeasResultServingCell* of logged MDT report. (R2-2002733)**

**4:**Cell, PLMNs, TAC identitiesdefinitions in*CGI-InfoEUTRALogging, CGI-Info-Logging* and *CGI-Info-LoggingDetailed* are aligned. **(R2-2003160)**

**5**: **cellIdentity-eutra-epc, cellIdentity-eutra-5GC** (inCGI-InfoEUTRALogging), **cellIdentity (**in CGI-Info-Logging and in CGI-Info-LoggingDetailed) are defined as follows:

Unambiguously identify a cell within the context of the PLMN. It belongs the first *PLMN-IdentityInfo* IE of *PLMN-IdentityInfoList* in *SIB1*. **(R2-2003160)**

**6**:**plmn-Identity** in *CGI-InfoEUTRALogging CGI-Info-Logging and CGI-Info-LoggingDetailed* is defined as follows:

Identifies the PLMN of the cell for the reported *cellIdentity*; the first PLMN entry of *plmn-IdentityList* (in SIB1) in the instance of *PLMN-IdentityInfoList* that contained the reported *cellIdentity*. **(R2-2003160)**

**7:trackingAreaCode**-eutra-epc, trackingAreaCode-eutra-5gc are defined as follows:

Indicates Tracking Area Code to which the cell indicated by *cellIdentity-eutra-epc, cellIdentity-eutra-5GC* belongs. **(R2-2003160)**

**8: The IE numberOfConnFail is re-set upon cell change. (R2-2002826)**

**9: When event-triggered logged MDT with eventL1 has been configured, the validity check is performed as in periodical logged MDT. (R2-2002826)**

**10: use setupRelease structure for BT/Sensor/WLAN location configurations.**

**Need more discussions (Cat b):**

**Proposal 1:RAN2 to discuss which of the option is more desirable from RAN2 perspective: (R2-2002731)**

**Option1: Remove the availability indicators for Bluetooth/WLAN measurements results from *RRCReestablishmentComplete*, *RRCReconfigurationComplete, RRCResumeComplete, RRCSetupComplete, UEInformationResponse*****message. If so, the same change should also be done for 36.331.**

**Option2: Add an extra availability indicator for Sensor measurements results in *RRCReestablishmentComplete*, *RRCReconfigurationComplete, RRCResumeComplete, RRCSetupComplete, UEInformationResponse*****message to align with Bluetooth/WLAN measurements results.**

**Option3：Nothing should be done for Bluetooth/WLAN/Sensor measurement results availability indicator feature.**

**Proposal4:** ***locationInfo* should be only included in *SCGFailureInformation*, e.g. *locationInfo* in *MeasResultSCG-Failure* should be removed. (R2-2002731)**

**Proposal 3: If UE records new CEF information in Variable which has different cell ID from the last CEF, reset the *numberOfConnFail* to 0 before recording. (R2-2002733)**

**Proposal 4: Remove the condition of “after RLF” in the field description of *numberOfConnFail*. (R2-2002733)**

**Proposal 1 Add the nonCriticalExtension and laterNonCriticalExtension fields to the LoggedMeasurementConfiguration message. (R2-2002826)**

**Proposal 5 Change the name and field descriptions of areaConfigForServing and areaConfigForNeighbour as to areaConfig and interFreqTargetList (R2-2002826)**

**Proposal 6 Change the interFreqTargetList to be a list of frequencies, with for each a cell list. (R2-2002826)**

**Proposal 10: After PLMN checking, the content included in VarConnEstFailReport should be clear for PLMN check. (R2-2002826)**

**Proposal 12: RAN2 clarifies how to determine whether a cell is part of the area Indicated by AreaConfiguration. (R2-2002826)**

**Proposal 13: Upon setup failure or resume failure, UE sets the plmn-Identity to RPLMN if available. (R2-2002826)**

R2-2004005 Open issues for AI 6.12.3 L2 measurements CMCC

(6/7)Proposal 1: Change word from ‘NR’ to ‘network’ for the sentence in draft TS 38.314 Chapter 1, i.e. change to “The present document contains the description and definition of the measurements performed by network or the UE”

(7/11)Proposal 2: Modify DL packet delay to the following texts:

4.1.1.2 Packet delay

Packet delay includes RAN part of delay and CN part of delay.

The RAN part of DL packet delay measurement comprises:

- D1 (DL delay in over-the-air interface), referring to Average delay DL air-interface in TS 28.552 [2] 5.1.1.1.1.

- D2 (DL delay on gNB-DU), referring to Average delay in RLC sublayer of gNB-DU in TS 28.552 [2] 5.1.3.3.3.

- D3 (DL delay on F1-U), referring to Average delay on F1-U in TS 28.552 [2] 5.1.3.3.2.

- D4 (DL delay in CU-UP), referring to Average delay DL in CU-UP in TS 28.552 [2] 5.1.3.3.1.

The DL packet delay measurements, i.e. D1 (the DL delay in over-the-air interface ), D2 (the DL delay in gNB-DU), D3 (the DL delay on F1-U) and D4 (the DL delay in CU-UP), should be measured per DRB per UE.

(11/11) Proposal 3: It is proposed to also introduce UE capability on UL delay measurement in LTE TS 36.306 and TS 36.331.

(12/12) Proposal 4: Clarify TS 38.314 that the delay measurements can be also used for QoS monitoring, and capture the corresponding TP in summary paper R2-2004005 into running TS 38.314.

(3/5)Proposal 5: For D2.1 definition: 1) Change “UL RLC SDU” to “MAC SDU”; 2) For tSched(i, drbid), add a clarification that i.e. when the network send a DCI with including the UL grant. And capture the corresponding TP in summary paper R2-2004005 into running TS 38.314.

(11/11)Proposal 6: For D2.4 definition:

- In the definition, change “the point a PDCP SDU is received to the PDCP SDU is sent to upper SAP” to “the point a PDCP PDU is received to the PDCP SDU is sent to upper SAP”

- For the definition of tReceiv(i, drbid), change “The point in time when the first part of PDCP SDU i is received” to “The point in time when the PDCP PDU including the PDCP SDU i is received”

(12/12)Proposal 7: The unit of mean number of active UEs is changed from integer to 0.1, in order to keep align with the equation.

(11/11) Proposal 8: Remove the PDCP protocol layer in Table 4.1.1.3.2-1 in 38.314 running for Max number of Active UEs in the DL per DRB per cell.

(9/9)Proposal 9: D1 measurement for MN terminated MCG bearer is configured by and reported to MN.

(9/9)Proposal 10: D1 measurement for SN terminated SCG bearer is configured by and reported to SN.

(7/10)Proposal 11: M5 ~ M7 do not apply to EN-DC SN terminated MCG/split bearers and MN terminated SCG/split bearers in Rel-16. And this should be captured as a note in TS 37.320 Chapter 5.4.1.1.

The following proposals are either supported by limited companies or objected by many companies, so they are suggested to be postponed:

(3/9)Postpone 1: Postpone to remove ‘per DRB’ from D2.1.

(7/12) Postpone 2: Postpone correction for D2.2 definition:

- In the definition, change “from the first part of an RLC PDU is received to the RLC SDU is sent to PDCP” to “from the first part of an RLC SDU is received to the RLC SDU is sent to PDCP”

- For the definition of tReceiv (i, drbid), change “The point in time when the first part of RLC PDU i is received.” to “The point in time when the first part of RLC SDU i is received.”

(5/12)Postpone 3: Postpone the metric of number of active UEs in RRC connected by CU (split gNB deployment scenario) in ANNEX.

How to handle Capability issue?

LS reply

One week email discussion to agree 37.320 CR???

R2-2002524 LS on removal of Management Based MDT Allowed IE for NR (R3-201437; contact: Qualcomm) RAN3 LS in Rel-16 NR\_SON\_MDT To:RAN2, SA5

R2-2002544 Reply to LS to SA5 on trace related configurations for NR MDT (S5-201424; contact: Ericsson) SA5 LS in Rel-17 To:RAN2

R2-2002545 LS on the status update of the SON support for NR works (S5-201525; contact: Intel) SA2 LS in Rel-16 To:RAN2, RAN3

### 6.12.6.6 Email discussion list

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Rapporteur  | Scope | Status |
|  |  |  |  |

Summary