**3GPP TSG-RAN WG2 Meeting #112 electronic R2-2xxxxxx**

**Online, November, 2020**

Agenda Item: 10.6

Source: Session chair (CMCC)

Title: Report from SON/MDT 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 [AT112e][000]

**Organizational:**

1. LSs – contact companies should flag LSs that need presenting. Otherwise we will directly note them
2. Only Email discussions and summary discussions will be treated during e-meetings (indicated clearly in the meeting notes)
3. All organization emails and notes will be shared over the following email discussion throughout the two meeting weeks:
* [AT112][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

## 8.13 SON MDT

(NR\_ENDC\_SON\_MDT\_enh-Core; leading WG: RAN3; REL-17; WID: RP-201281)

Time budget: 1 TU

Tdoc Limitation: 6 tdocs

Email max expectation: 6 threads

### 8.13.1 Organizational

R2-2008763 Reply LS on limitation of Propagation of immediate MDT configuration in case of Xn inter-RAT HO (S5-204474; contact: Ericsson) SA5 LS in Rel-17 To:RAN3, RAN2, CT4

- ZTE: Based on previous RAN2 online discussion, we have confimed there is no technical issue to support this in RAN2  and we will fix it in stage 2 if SA5 approves  this feature. Since in the LS SA5 has given possitive feedback that they will support propagation of immediate MDT configuration in case of Xn inter-RAT HO, we suggest to capture it as a formal agreement in  chairman's notes and then we can address this agreement in stage 2 CR.

=> Waiting RAN3 progress.

R2-2008723 LS to RAN2 on RACH report for SgNB (R3-205662; contact: CATT) RAN3 LS in Rel-17 NR\_ENDC\_SON\_MDT\_enh To:RAN2

- CATT: From technology perspective, the RACH data collection for SN is already supported in R16 (at least for SN synchronization RACH purpose), so what RAN2 need to do is to clarify the signaling for RACH report delivery. The issue is quite clear in RAN2, so we can try to make progress in this meeting. Thank you!

=> Noted

R2-2008725 LS on Successful Handover Report (R3-205759; contact: Samsung) RAN3 LS in Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core To:RAN2

- Samsung: Since RAN3 has agreed to introduce successful HO reporting, we assume that RAN2 also needs to discuss our way-forward to support successful HO reporting, e.g. RAN2 may make an agreement in high-level in this meeting.

=> RAN2 will at least introduce related functions to support normal successful HO reporting accordingly.

R2-2008731 LS to RAN2 on RACH report for 2-step RACH (R3-205797; contact: CATT) RAN3 LS in Rel-17 NR\_ENDC\_SON\_MDT\_enh To:RAN2

=> Noted without presentation

R2-2008842 [draft] Reply LS on UE RACH report for SgNBs CATT LS out Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core To:RAN3

R2-2008843 [draft] Reply LS on RACH report for 2-step RACH CATT LS out Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core To:RAN3

### 8.13.2 SON

#### 8.13.2.1 Handover related SON aspects

Including conditional handover and DAPS

R2-2010995 Summary of AI 8.13.2.1 - Handover related SON aspects Ericsson Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

Agreements:

The following time information is as part of the UE RLF report:

 Time between the first CHO execution and the corresponding CHO command received at UE at least in the CHO failure case.

FFS: The following time information is as part of the UE report:

c. The time elapsed since receiving the CHO configuration until the immediate HO reception or execution.

d. Timeline relationship between two consecutive RLF reports for cases of successful or unsuccessful CHO after unsuccessful CHO or handover failure

e. Time between the UE receiving the CHO command and RLF

f. UE reports the time elapsed since CHO execution until connection failure

g. In case of multiple failures case, UE includes the time elapsed since CHO execution until connection failure (TimeConnFailure) and time elapsed since the last radio link or handover failure (TimeSinceFailure) in each RLF-Report

h. The time between CHO execution and successful reestablishment to a third cell after CHO failure towards the candidate target cell selected at CHO execution

i. The time elapsed since CHO configuration until the immediate HO reception or execution

=> Baseline scenarios and email discussion will continue to refine the scenarios (Ericsson):

 In case of successive CHO related failures, the UE stores and reports both RLF related information in the RLF report. The successive failure referred above, includes at least the following scenarios.

 a. A UE that has CHO configuration, declares RLF in the source cell and fails to perform successful reestablishment to one of the candidate CHO target as configured.

 b. A UE that has CHO configuration, fails to execute the CHO towards the target cell upon fulfilling the condition as configured and then fails to perform successful reestablishment to one of the other candidate CHO target cell as configured.

 c. A UE that has CHO configuration, fails to execute the normal HO towards the target cell as configured and then fails to perform successful reestablishment to one of the other candidate CHO target cell as configured.

 FFS: Further clarification on the successful reestablishment.

 RAN3 conclusions on this should be taken into account.

Agreements:

 The following cells’ related cell and beam measurements are included in the RLF report associated to CHO failure:

 a. Source cell of the CHO. FFS the detail on cell ID. Try our best to reuse the existing information.

 b. The target cell towards which the CHO was executed, if CHO related condition was satisfied. FFS the detail on cell ID. Try our best to reuse the existing information.

c. The cell in which the re-establishment is performed after the CHO failure or source RLF. Try our best to reuse the existing information. FFS on the related measurements.

FFS: Candidate target cells as configured in the CHO configuration.

Agreements:

 RLF-report shall contain information to differentiate an ordinary HO failure from the CHO failure and CHO recovery failure. FFS: implicit indication vs explicit indication.

Agreements:

 In case of successive failures associated to DAPS, the UE stores and reports both failure related information(FFS the details of the information). The successive failure referred above, includes the following scenarios:

 UE declares RLF on the source cell while performing the DAPS towards the target cell and declares HOF towards the target cell.

FFS: For the case of failed DAPS handover to the target cell but successful fallback to source, no further information is needed in the legacy FailureInformation message.

Agreements:

 At least the following cells’ related cell and beam measurements are included in the UE report associated to DAPS failure (try to reuse existing information):

 a. Source cell of the DAPS

 b. Target cell of the DAPS

* [AT112-e][803][NR/R17 SON/MDT]  information needed in UE report for CHO cases (Ericsson)

Scope:

1.Clarify and refine the following scenarios :

 In case of successive CHO related failures, the UE stores and reports both RLF related information in the RLF report. The successive failure referred above, includes at least the following scenarios.

 a. A UE that has CHO configuration, declares RLF in the source cell and fails to perform successful reestablishment to one of the candidate CHO target as configured.

 b. A UE that has CHO configuration, fails to execute the CHO towards the target cell upon fulfilling the condition as configured and then fails to perform successful reestablishment to one of the other candidate CHO target cell as configured.

 c. A UE that has CHO configuration, fails to execute the normal HO towards the target cell as configured and then fails to perform successful reestablishment to one of the other candidate CHO target cell as configured.

 FFS: Further clarification on the successful reestablishment.

2.Collect companies’ views whether or not the following information is needed in UE report for CHI cases. And figure out if there is a large consensus at least for some of those timers.

* Timeline relationship between two consecutive RLF reports for cases of successful or unsuccessful CHO after unsuccessful CHO or handover failure
* Time between the UE receiving the CHO command and RLF
* UE reports the time elapsed since CHO execution until connection failure
* In case of multiple failures case, UE includes the time elapsed since CHO execution until connection failure (TimeConnFailure) and time elapsed since the last radio link or handover failure (TimeSinceFailure) in each RLF-Report
* The time between CHO execution and successful reestablishment to a third cell after CHO failure towards the candidate target cell selected at CHO execution
* The time elapsed since CHO configuration until the immediate HO reception or execution
* The related cell and beam measurements of candidate target cells as configured in the CHO configuration

Note: The related conclusions in RAN3 should be taken into account.

Intended outcome: Report

Deadline:  23:00, Thursday, 2020-11-12

R2-2010896 [Offline-803][NR/R17 SON/MDT] Information needed in UE report for CHO cases (Ericsson)

Focused scenarios:

In case of successive CHO related failures, the UE stores and reports both RLF related information in the RLF report. The successive failure referred above, includes at least the following scenarios.

 a. A UE that has CHO configuration declares RLF in the source cell. The UE selects for connection re-establishment a configured candidate CHO target cell. The UE fails to re-establish to the selected CHO candidate cell.

 b. A UE that has CHO configuration executes the CHO towards the target cell upon fulfilling the configured condition and experiences a HO failure. The UE selects for connection re-establishment a configured candidate CHO target cell. The UE fails to re-establish to the selected CHO candidate cell.

 c. A UE that has CHO configuration executes the normal HO towards the target cell and experiences a HO failure. The UE selects for connection re-establishment a configured candidate CHO target cell. The UE fails to re-establish to the selected CHO candidate cell using CHO procedure.

Note: other scenarios still can be discussed.

 FFS: Further clarification on the successful reestablishment.

=> Regarding the CHO-related timers, Option D, E, F will not be included in the RLF report and other options will continue discussion through email mail after this meeting.

R2-2008844 Discussion on CHO and DAPS Mobility Enhancement CATT discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2008999 CHO support for MDT/SON Intel Corporation discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh

R2-2009017 Consideration on handover related SON OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009396 SON aspects of DAPS HO and Fast MCG Recovery Optimizations QUALCOMM Incorporated discussion Rel-17

R2-2009424 SON for MRO Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009632 Discussion on RLF report in CHO and DAPS case SHARP Corporation discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh, NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009682 Discussion on SON enhancements for Successful HO vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009683 Discussion on SON enhancements for DAPS HO vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009853 MRO Enhancement for Inter-RAT handover Lenovo, Motorola Mobility discussion Rel-17

R2-2009854 SON Enhancements for CHO Lenovo, Motorola Mobility discussion Rel-17

R2-2009855 MRO Enhancement for DAPS Handover Lenovo, Motorola Mobility discussion Rel-17

R2-2010146 CHO and DAPS-related SON aspects Ericsson discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010174 Discussion on handover related SON aspects Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010321 Handover related SON aspects ZTE Corporation, Sanechips discussion Rel-17

R2-2010361 SON Enhancements related to HO Samsung discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010394 SON Enhancement for CHO and DAPS CMCC discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010509 Disucssion on rel-17 radio link failure report NTT DOCOMO, INC. discussion

#### 8.13.2.2 2-step RA related SON aspects

R2-2011007 Summary of AI 8.13.2.2 - 2-step RA related SON aspects OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

Agreements:

Confirm that the information included in Rel-16 RA report which also applied to 2-step RA at least contains:

 Cell ID of the cell in which the RA is performed

 RA purpose

 Frequency information of the BWP where RA is performed

 Frequency information of RA resources

 Number of preambles sent on an SSB

 Beam index

 Contention detection per RA attempt

 Beam quality indication. FFS on the details.

Agreements:

At least following RACH frequency related information should be included in RACH report for optimization of 2-step RACH:

 msgA-FrequencyStart-r17

 msgA-FrequencyStartCFRA-r17

 msgA-SubcarrierSpacing-r17

 msgA-SubcarrierSpacingCFRA-r17

 msgA-FDM-r17

 msgA-FDMCFRA-r17

R2-2008845 Discussion on RACH Report for 2-step RACH CATT discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009019 Discussion on 2-step RACH reporting for SON OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009061 Discussion on 2-step RA aspects of SON China Telecom Corporation Ltd. discussion

R2-2009399 RA-report enhancements for 2-step RACH QUALCOMM Incorporated discussion Rel-17

R2-2009425 2-step RACH reporting Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core R2-2007516

R2-2009631 Discussion on RA information for 2-step RA SHARP Corporation discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009684 Discussion on SON enhancements for 2-step RACH vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010147 2-Step RA information reported by the UE for SON purposes Ericsson discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010175 Discussion on 2 step RA related SON aspects Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010322 Enhance UE reporting for 2stepRA ZTE Corporation, Sanechips discussion Rel-17

R2-2010362 SON Enhancements related to 2-step RA Samsung discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010395 SON Enhancement for 2-step RA CMCC discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

#### 8.13.2.3 Other WID related SON features

Including RAN3 input features, successful handover report, MRO for SN change failure, RACH optimization enhancements, UL-DL coverage mismatch,…

Topics will be treated next meeting:

 RACH optimization enhancements other than 2-step RACH-specific enhancements

 successful handover report

 Mobility history information enhancements

 UL/DL coverage imbalanced

 Other documents with at least 4 companies co-source

* [AT112-e][801][NR/R17 SON/MDT] Other WID related SON features (Ericsson)

 Scope: Based on Summary of AI 8.13.2.3- Other WID related SON features (R2-2010996), to figure out all the additional SON features raised in the documents and collect companies’ interest on each feature. No need to do technical discussion through this email and just show your interest on the topics

 Intended outcome: Report

 Deadline:  00:01 am, Friday, 2020-11-06

R2-2010892 Report of email discussion of other WID related SON features Ericsson discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

=> RAN2 to investigate RACH optimization enhancements other than 2-step RACH-specific enhancements.

=> RAN2 to investigate successful handover report.

=> RAN2 to investigate Mobility history information enhancements.

=> RAN2 to investigate UL/DL coverage imbalanced.

R2-2010996 Summary of AI 8.13.2.3- Other WID related SON features Ericsson discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2008918 UE RACH Report for SN CATT discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009018 Consideration on successful handover report and UE history information in EN-DC OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009397 Successful Handover Report QUALCOMM Incorporated discussion Rel-17

R2-2009400 Enhancements to Mobility History Information QUALCOMM Incorporated discussion Rel-17

R2-2009426 Refined UL Coverage Outage Detection Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core R2-2007516

R2-2009685 Discussion on RACH report for SgNB vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009850 MRO Enhancement for fast MCG link recovery Lenovo, Motorola Mobility discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010148 Other WID related SON features Ericsson discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010176 Discussion on other SON aspects Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010323 Considerations on RAN3 concerned issues ZTE Corporation, Sanechips discussion Rel-17

R2-2010400 Enhancements related to successful HO report & MCGFailureInformation Samsung discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010459 Discussion on successful handover report NTT DOCOMO, INC. discussion

R2-2010508 Discussion on collection of UE history information in EN-DC NTT DOCOMO, INC. discussion Late

R2-2010526 Discussion on conditional PSCell addition/change failure report NTT DOCOMO, INC. discussion Late

R2-2010608 Discussion on rel-17 Radio Link Failure Report for CG failure aspects NTT DOCOMO INC. discussion Rel-17

### 8.13.3 MDT

R2-2009263 On the need for enhancements to the MDT framework Fraunhofer HHI, Fraunhofer IIS discussion Rel-17

R2-2010220 Summary on 8.13.3 MDT Huawei discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core Late

#### 8.13.3.1 Immediate MDT enhancements

including M5/M6/M7 in all bearer type scenarios, immediate MDT for MR-DC

R2-2011011 Summary on 8.13.3.1 Immediate MDT enhancements Huawei discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core Late

* [AT112-e][804][NR/R17 SON/MDT]  MDT enhancement (Huawei)

Scope:

1. The following proposals should be discussed and concluded:

Discuss the proposal 1 and 2 of M6 in R2-2011011.

 Proposal: NR MDT support IDC mechanism according to LTE baseline, including:

 - upon detection of IDC, the UE suppress logging and tag MDT report with InDeviceCoexDetected flag.

- UE resumes the measurement logging when the IDC problem is resolved

 Intended outcome: Report

 Proposal 1: For EN-DC, choose one of the three directions:

 - LTE and NR logged MDT configurations are independent, and UE performs logging based on the logged MDT configuration of the same RAT it camps.

 - In EN-DC where UE cannot camp on NR cells, UE logs the NR measurements based on network configurations.

 - No need to introduce SN configuration for logged MDT. R17 MRDC enh covers SN configuration fo early measurements on non-camping frequencies.

 2. Based on R2-2011012, to figure out all the logged MDT enhancements raised in the documents and collect companies’ interest on each. No need to do technical discussion through and just show your interest on the topics.

Intended outcome: Report

Deadline:  23:00, Thursday, 2020-11-12

R2-2010897 Report of [AT112-e][804][NR/R17 SON/MDT] MDT enhancements (Huawei)

Agreements:

1 NR MDT support IDC mechanism, including:

 - upon detection of IDC, the UE suppress logging and tag MDT report with InDeviceCoexDetected flag.

 - UE resumes the measurement logging when the IDC problem is resolved

=> RAN2 to investigate logging early measurements.

=> RAN2 to investigate MDT and On-demand SI.

=> Other topics are still open to be pursued.

R2-2010698 Summary on 8.13.3.1 Immediate MDT enhancements Huawei discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core Late

R2-2008846 Immediate MDT Enhancements for M6 CATT discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009020 Enhancement of Immediate MDT in MR-DC OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009395 On the configuration and accuracy of M5, M6, and M7 measurements in split-bearer QUALCOMM Incorporated discussion Rel-17

R2-2009427 Immediate MDT enhancements Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009687 Discussion on immediate MDT enhancements vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010034 On Immediate MDT Enhancements Ericsson discussion

R2-2010177 Discussion on immediate MDT enhancements Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010324 Immediate MDT enhancements ZTE Corporation, Sanechips discussion Rel-17

#### 8.13.3.2 Logged MDT enhancements

R2-2011012 Summary on 8.13.3.2 Logged MDT enhancements Huawei discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010699 Summary on 8.13.3.2 Logged MDT enhancements Huawei discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core revised to R2-2011012

R2-2008847 Logged MDT in DC Scenario CATT discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009016 Consideration of logged MDT enhancements OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009391 Logged measurement Enhancements QUALCOMM Incorporated discussion Rel-17

R2-2009434 Enhancements for Logged MDT and RLFreporting Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009686 Discussion on logged MDT enhancements vivo discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010035 On logged MDT related enhancements Ericsson discussion

R2-2010178 Discussion on logged MDT enhancements Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010325 Logged MDT enhancements ZTE Corporation, Sanechips discussion Rel-17

R2-2010396 MDT enhancement for on-demand SI CMCC discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010401 MDT Enhancements Samsung discussion NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010462 Discussion on erroneous connection release Xiaomi communications discussion

### 8.13.4 L2 Measurements

R2-2010985 Summary on 8.13.4 L2 Measurements vivo

=> left to email discussion after the meeting

R2-2009021 L2 measurement for split bearers OPPO discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2009435 Need for L2 measurements enhancements Nokia, Nokia Shanghai Bell discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010045 On additional layer-2 measurements Ericsson discussion

R2-2010179 Discussion on L2M Huawei, HiSilicon discussion Rel-17 NR\_ENDC\_SON\_MDT\_enh-Core

R2-2010326 Consideration on L2 measurement enhancement ZTE Corporation, Sanechips discussion Rel-17

## 6.10 SON MDT support for NR

(NR\_SON\_MDT-Core; leading WG: RAN3; REL-16; started: Jun 19; Completed June 20; WID: RP-191776; SR RP-200773). Documents in this agenda item will be handled in a break out session

Limit: 4-5 email threads

### 6.10.1 General and stage-2 corrections

Including incoming LSs, TS 37.320 corrections

R2-2010398 Summary for 6.10.1 General and stage-2 corrections CMCC

* [AT112-e][802][NR/R16 SON/MDT] stage-2 correction (CMCC, Nokia)

Scope: Merge all the CRs in 6.10.1 General and stage-2 corrections into one big CR. Then discuss the necessity and correctness of each change in the big CR

 Intended outcome: Agreeable 37.320 CR

 Deadline: 11:11 am, 2020-11-11

R2-2010895 Merged Corrections CMCC, Nokia CR Rel-16 37.320 16.2.0 0098 - F NR\_SON\_MDT-Core

=> CR is agreed (through email discussion)

R2-2009419 User consent principles Nokia, Nokia Shanghai Bell, Ericsson discussion Rel-16 NR\_SON\_MDT-Core

Observation 1: User consent procedures are transparent to RRC.

Observation 2: According to TS32.422, user consent is strictly required for Logged MDT and Immediate MDT. The user consent determines user selection by RAN node.

Observation 3: According to TS32.422, user consent has not been required for RLFreport and CEFreport.

Observation 4: The RLF reports and CEF reports are collected without any prior-configuration from the gNB.

Observation 5: RAN2 goal was to reuse LTE framework for user consent in NR.

Observation 6: A need for new conditions for handling user consent should be identified jointly by relevant working groups.

Proposal: Clarify the intention of RAN2 discussions and send LS to SA5 as proposed in [7].

=> Noted

=> Clarify the intention of RAN2 discussions and send LS to SA5 based on R2-2009420 (Nokia draft the LS, email discussion#806). Including the following:

 1. had no intention to modify the framework for user consent

 2. misleadingly categorized the new LTE report: SCG Failure report type together with RLFreport/CEFreport, while it concerns LTE data collection and NR data collection

* [AT112-e][806][NR/R16 SON/MDT] Clarify the intention of RAN2 discussions and send LS to SA5 (Nokia)

Scope:

Clarify the intention of RAN2 discussions and send LS to SA5 based on R2-2009420 Including the following:

 1. had no intention to modify the framework for user consent

 2. misleadingly categorized the new LTE report: SCG Failure report type together with RLFreport/CEFreport, while it concerns LTE data collection and NR data collection

 Intended outcome: Approved LS

 Deadline: 11:11 am, 2020-11-11

R2-2010894 Reply LS on the user consent for trace reporting Nokia, Nokia Shanghai Bell LS out Rel-16 NR\_SON\_MDT-Core To:SA5, RAN3, SA3

=> Approved

R2-2009420 Draft reply LS on the user consent for trace reporting Nokia, Nokia Shanghai Bell LS out Rel-16 NR\_SON\_MDT-Core To:SA5, RAN3, SA3

=> Noted

R2-2008764 LS Reply on QoS Monitoring for URLLC (S5-204537; contact: Intel) SA5 LS in Rel-16 To:RAN3, SA2 Cc:RAN2

R2-2008765 Reply LS on the user consent for trace reporting (S5-204542; contact: Huawei) SA5 LS in Rel-16 TEI16 To:RAN2, RAN3, SA3

R2-2009679 Corrections to TS 37.320 vivo CR Rel-16 37.320 16.2.0 0091 - F NR\_SON\_MDT-Core

R2-2010039 Editorial Corrections Ericsson, Nokia , CMCC CR Rel-16 37.320 16.2.0 0092 - F NR\_SON\_MDT-Core

R2-2010040 On end of measurement collection period related to WLAN and BT measurements Ericsson CR Rel-16 37.320 16.2.0 0093 - F NR\_SON\_MDT-Core

R2-2010398 Summary for AI 6.10.1 on General and stage-2 corrections CMCC discussion Rel-17 NR\_SON\_MDT-Core Late

R2-2010408 Clarification on Area Checking Samsung CR Rel-16 37.320 16.2.0 0095 - F NR\_SON\_MDT-Core

R2-2010611 On time stamp inclusion for event triggered logged MDT Ericsson CR Rel-16 37.320 16.2.0 0096 - F NR\_SON\_MDT-Core

R2-2010614 On Time To Trigger (TTT) configuration associated to L1 event in logged MDT Ericsson CR Rel-16 37.320 16.2.0 0097 - F NR\_SON\_MDT-Core

### 6.10.2 TS 38.314 corrections

R2-2010363 Summary for AI 6.10.2 on TS 38.314 corrections CMCC

Agreements:

1: For start time of D2.1, change to "the point time when the UL MAC SDU i is scheduled in MAC layer as per the scheduling grant provided".

2: For end time of D2.1, change to "the point time when the MAC SDU i is successfully sent to RLC".

3: Correct the end time for D1 as “The point in time when the UL MAC PDU i including the first part of PDCP SDU k is scheduled for transmission”

4: Agree the TP provided in section 2.3 in R2-2010363

=> Introduce new measurements of PRB Usage for Massive MIMO in TS 38.314. And email discussion to produce the corresponding agreed the CR. (CMCC, #876).

* [AT112-e][876][NR/R16 SON/MDT] new measurements of PRB Usage for Massive MIMO (CMCC)

Scope:

Introduce new measurements of PRB Usage for Massive MIMO in TS 38.314. And email discussion to produce the corresponding agreed the CR.

 Intended outcome: Agreeable CR and this CR will be merged into the big 38.314 CR.

 Deadline: 11:13 am, 2020-11-13

R2-2011267 Introduction of PRB Usage for MIMO CMCC CRRel-16 38.314 16.1.0 0011 - F NR\_SON\_MDT-Core

=> The changes in this CR are agreed and will be merged into the big 38.314 CR.

=> There will be an email discussion after this session for reviewing 38.314. all the miscellaneous corrections mentioned in R2-2010363 will be addressed. (CMCC, one week email discussion after the meeting), also include to address all the agreements from this meeting.

* [AT112-e][NR/R16 SON/MDT] Merged 38.314 CR (CMCC)

Scope:

all the miscellaneous corrections mentioned in R2-2010363 will be addressed. (CMCC, one week email discussion after the meeting), also include to address all the agreements from this meeting

 Intended outcome: Agreed CR.

 Deadline: one week after the meeting

R2-2008919 Corrections for L2 Measurement CATT CR Rel-16 38.314 16.1.0 0004 - F NR\_SON\_MDT-Core

R2-2009681 Miscellaneous corrections to TS 38.314 vivo CR Rel-16 38.314 16.1.0 0005 - F NR\_SON\_MDT-Core

R2-2010038 On clarification related to delay measurements in split RAN architecture Ericsson CR Rel-16 38.314 16.1.0 0006 - F NR\_SON\_MDT-Core

R2-2010041 Miscellaneous corrections Ericsson, CMCC CR Rel-16 38.314 16.1.0 0007 - F NR\_SON\_MDT-Core

R2-2010042 On the usage of #ActiveUEs in inter node messages Ericsson CR Rel-16 38.314 16.1.0 0008 - F NR\_SON\_MDT-Core

R2-2010191 Discussion on average Uu delay measurement for L2M Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2010192 Discussion on D1 measurement for L2M Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2010193 Correction on TS 38.314 on latency measurements Huawei, HiSilicon CR Rel-16 38.314 16.1.0 0009 - F NR\_SON\_MDT-Core Withdrawn

R2-2010363 Summary for AI 6.10.2 on TS 38.314 corrections CMCC discussion Rel-16 NR\_SON\_MDT-Core Late

R2-2010610 On EUTRA related L2 measurements for EN-DC Ericsson discussion

R2-2010612 On the clarification of end time of UL PDCP Packet Average Delay Ericsson CR Rel-16 38.314 16.1.0 0010 - F NR\_SON\_MDT-Core

R2-2010656 Introduction of MIMO layer based PRB usage measurement CMCC discussion Rel-16 NR\_SON\_MDT-Core Late

R2-2010663 Introduction of MIMO layer based PRB usage measurement CMCC CR Rel-16 38.314 16.1.0 0011 - B NR\_SON\_MDT-Core Late

### 6.10.3 RRC corrections

R2-2011010 Summary on 6.10.3 RRC Corrections Huawei

=> Address all the cat A proposals in an email discussion (#888, Huawei).

R2-2010603 Clarification on location configuration in logged MDT ZTE Corporation, Sanechips discussion Rel-16

=> RAN2 clarify the BT-NameList/WLAN-NameList / Sensor-NameList configuration received in OtherConfig will not be applied to subsequent logged MDT report. Check whether CR is needed or not in #888.

R2-2010089 Ambiguity on retrieval of WLAN and BT location info for Logged MDT Samsung Telecommunications discussion Rel-16 NR\_SON\_MDT-Core

=> RAN2 clarify the following UE behaviors regarding retrieval of WLAN and BT location info for Logged MDT are valid/ allowed in LTE and NR:

 When compiling a UEInformationResponse message, for each logged MDT entry included in the message, the UE shall include the WLAN and BT location information it has available (stored in VarLogMeasReport). Changes will be discussed in #888.

* [AT112-e][888][NR/R16 SON/MDT] Merged SON/MDT 38.331 CR(Huawei)

Scope:

1. Address all the cat A proposals in an email discussion in R2-2011010.

2. RAN2 clarify the BT-NameList/WLAN-NameList / Sensor-NameList configuration received in OtherConfig will not be applied to subsequent logged MDT report. Check whether CR is needed or not in #888

3. RAN2 clarify the following UE behaviors regarding retrieval of WLAN and BT location info for Logged MDT are valid/ allowed in LTE and NR:

 When compiling a UEInformationResponse message, for each logged MDT entry included in the message, the UE shall include the WLAN and BT location information it has available (stored in VarLogMeasReport). Changes will be discussed in #888

 Intended outcome: Agreed CR.

 Deadline: 23:59 pm, 2020-11-13

R2-2011263 Report of [AT112-e][888][NR/R16 SON/MDT] Merged SON/MDT 38.331 Huawei

=> Noted

R2-2011264 RRC corrections on NR SON and MDT Huawei, HiSilicon, Ericsson, Samsung CR Rel-16 38.331 16.2.0 2293 - F NR\_SON\_MDT-Core revison of

=> Agreed.

R2-2010891 Changes related to RAReport and logged MDT report contents BC change Ericsson CR Rel-16 38.331 16.2.0 2262 - C NR\_SON\_MDT-Core revison of R2-2010619

=> continue the discussion through email (The target is to produce the agreeable BC CR, Ericsson #899).

* [AT112-e][899][NR/R16 SON/MDT] Changes related to RAReport and logged MDT report contents BC change (Ericsson )

Scope: discussion through email on R2-2010891

 Intended outcome: Agreeable CR and the CR should be merged to the big CR from email discussion 888.

 Deadline: 23:59 pm, 2020-11-12

R2-2010194 Discussion on user consent Huawei, HiSilicon discussion Rel-16 NR\_SON\_MDT-Core

R2-2008839 Clarification for CEF Report CATT discussion Rel-16 NR\_SON\_MDT-Core

R2-2008840 Corrections for CEF Report CATT CR Rel-16 38.331 16.2.0 2019 - F NR\_SON\_MDT-Core

R2-2008841 Correction on RLF Report for Re-connection CATT CR Rel-16 38.331 16.2.0 2020 - F NR\_SON\_MDT-Core

R2-2008928 Correction on RLF Report Content Handover from NR to LTE Failure MediaTek Inc. CR Rel-16 38.331 16.2.0 2024 - F NR\_SON\_MDT, NR\_SON\_MDT-Core, e\_5GMDT, NR\_SON\_MDT-UEConTest

R2-2009421 Clarification on UE logging procedure for event-based triger Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.2.0 2143 - F NR\_SON\_MDT-Core Withdrawn

R2-2009521 Correction on RLF Report Apple CR Rel-16 38.331 16.2.0 2086 - F NR\_SON\_MDT-Core

R2-2009522 Correction on RLF Report Apple CR Rel-16 36.331 16.2.1 4465 - F NR\_SON\_MDT-Core

R2-2009677 Correction to TS 36.331 on logged MDT configuration vivo CR Rel-16 36.331 16.2.1 4475 - F NR\_SON\_MDT-Core

R2-2009678 Correction to TS 38.331 on logged MDT configuration vivo CR Rel-16 38.331 16.2.0 2103 - F NR\_SON\_MDT-Core

R2-2009680 Miscellaneous corrections to TS 38.331 on SON and MDT vivo CR Rel-16 38.331 16.2.0 2104 - F NR\_SON\_MDT-Core

R2-2009882 Correction to MDT Google Inc. CR Rel-16 38.331 16.2.0 2141 - F NR\_SON\_MDT-Core

R2-2010036 On miscellaneous corrections Ericsson CR Rel-16 38.331 16.2.0 2168 - F NR\_SON\_MDT-Core

R2-2010037 On overriding prevention of signalling based MDT with management based MDT Ericsson discussion

R2-2010043 On ra-purpose field description Ericsson CR Rel-16 38.331 16.2.0 2169 - F NR\_SON\_MDT-Core

R2-2010044 Configuration of WLAN BT and Sensor for CEF reporting Ericsson CR Rel-16 38.331 16.2.0 2170 - F NR\_SON\_MDT-Core

R2-2010082 Logged MDT support for non-SIB4 frequencies (early measurments) Samsung Telecommunications discussion NR\_SON\_MDT-Core

R2-2010083 Clarification on logged MDT for non-SIB4 frequencies Samsung Telecommunications CR Rel-16 38.331 16.2.0 1805 1 F NR\_SON\_MDT-Core R2-2007225

R2-2010195 Correction on user consent for TS 38.331 Huawei, HiSilicon CR Rel-16 38.331 16.2.0 2186 - F NR\_SON\_MDT-Core

R2-2010196 Correction on user consent for TS 36.331 Huawei, HiSilicon CR Rel-16 36.331 16.2.1 4499 - F NR\_SON\_MDT-Core

R2-2010197 Correction on user consent for TS 37.320 Huawei, HiSilicon CR Rel-16 37.320 16.2.0 0094 - F NR\_SON\_MDT-Core

R2-2010198 Draft reply LS on user consent Huawei LS out Rel-16 NR\_SON\_MDT-Core To:SA5 Cc:RAN3, SA3

R2-2010199 Correction on the release of obtainCommonLocation Huawei, HiSilicon CR Rel-16 38.331 16.2.0 2187 - F NR\_SON\_MDT-Core

R2-2010200 Correction on Inter-RAT SON for 38.331 Huawei, HiSilicon CR Rel-16 38.331 16.2.0 2188 - F NR\_SON\_MDT-Core

R2-2010201 Correction on Inter-RAT SON for 36.331 Huawei, HiSilicon CR Rel-16 36.331 16.2.1 4500 - F NR\_SON\_MDT-Core

R2-2010221 Summary on 6.10.3 RRC corrections Huawei discussion Rel-16 NR\_SON\_MDT-Core Late

R2-2010327 Correction on timer T316 handling Samsung Electronics Co., Ltd CR Rel-16 36.331 16.2.1 4509 - F NR\_SON\_MDT-Core

R2-2010410 Miscellaneous Correction on MDT Samsung CR Rel-16 38.331 16.2.0 2216 - F NR\_SON\_MDT-Core

R2-2010581 Correction for clearing VarRLF-Report regarding T316 Quectel draftCR Rel-16 36.331 16.2.1 C NR\_SON\_MDT-Core

R2-2010582 Correction for clearing VarRLF-Report regarding T316 Quectel draftCR Rel-16 36.331 16.2.1 C NR\_SON\_MDT-Core Withdrawn

R2-2010590 Correction on RA report Samsung Electronics CR Rel-16 38.331 16.2.0 2252 - F NR\_SON\_MDT-Core

R2-2010591 Correction on RLF report Samsung Electronics CR Rel-16 38.331 16.2.0 2253 - F NR\_SON\_MDT-Core

R2-2010604 draftCR on location related configuration for logged MDT Alt1 ZTE Corporation, Sanechips draftCR Rel-16 38.331 16.2.0 F NR\_SON\_MDT-Core

R2-2010605 draftCR on location related configuration for logged MDT Alt2 ZTE Corporation, Sanechips draftCR Rel-16 38.331 16.2.0 F NR\_SON\_MDT-Core

R2-2010606 Correction to 38331 on RA report ZTE Corporation, Sanechips CR Rel-16 38.331 16.2.0 2255 - F NR\_SON\_MDT-Core

R2-2010607 Correction to 38331 on delay measurement ZTE Corporation, Sanechips CR Rel-16 38.331 16.2.0 2256 - F NR\_SON\_MDT-Core

R2-2010609 Changes related to RAReport and logged MDT report contents NBC change Ericsson CR Rel-16 38.331 16.2.0 2258 - C NR\_SON\_MDT-Core

R2-2010613 On mobility history information associated to Connected mode changes Ericsson CR Rel-16 38.331 16.2.0 2259 - F NR\_SON\_MDT-Core revised to R2-2010890

R2-2010615 An indication of reconfiguration with sync type in RLF report Ericsson CR Rel-16 38.331 16.2.0 2260 - F NR\_SON\_MDT-Core

R2-2010616 On the lack measResultServingCell availability in Any Cell Selection state Ericsson discussion

R2-2010617 On Neighbour cells measurements in logged MDT Ericsson discussion

R2-2010618 Resolving issues related to PLMN identity list in RAReport Ericsson CR Rel-16 38.331 16.2.0 2261 - F NR\_SON\_MDT-Core

R2-2010619 Changes related to RAReport and logged MDT report contents BC change Ericsson CR Rel-16 38.331 16.2.0 2262 - C NR\_SON\_MDT-Core revised to R2-2010891

R2-2010662 Correction on RLF Report for Re-connection CATT CR Rel-16 36.331 16.2.0 4529 - F NR\_SON\_MDT-Core

R2-2010890 Changes related to RAReport and logged MDT report contents NBC change Ericsson CR Rel-16 38.331 16.2.0 2258 - C NR\_SON\_MDT-Core

Email discussions after the meeting:

Short email discussions:

* [112-e][##][NR/R16 SON/MDT] TS38.314 (CMCC)

Scope: Capture all the agreements from this meeting and fix other miscellaneous corrections mentioned in R2-201036.

Intended outcome: Agreed CR

Deadline: one week

* [112-e][##][NR/R16 SON/MDT] 36.331 CRs checking (Samsung)

Scope: Checkign the CRs in R2-2011265 and R2-2011233

Intended outcome: Agreed CRs

Deadline: one week

Long email discussions:

* [112-e][##][NR/R16 SON/MDT] R17 L2M enhancement (vivo)

Scope: Based on R2-2010985, figure out the majority interest on the proposals and progress on the details if possible.

Intended outcome: Report to next meeting.

Deadline: Next meeting submission deadline

* [112-e][##][NR/R16 SON/MDT] R17 Information needed in UE report for CHO cases (Ericsson)

Scope: Based on agreed scenarios, figure out what information is needed in UE report and how to log and report these needed information. Based on R2-2010896.

Intended outcome: Report to next meeting.

Deadline: Next meeting submission deadline