3GPP TSG-RAN WG3 #116-e [R3-223726](http://www.3gpp.org/ftp/tsg_ran/WG3_Iu/TSGR3_116/Docs/R3-223726.zip)

Online, 9 – 19 May 2022

Agenda Item: 9.3.9

Source: Apple (moderator)

Title: Summary of Offline Discussion on User Consent (CB#7)

Document for: Approval

# Introduction

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| **CB: # 7\_UserConsent**  **- To reuse the existing user consent for m-based MDT also for UE location acquisition in RLF, SCG failure and CEF reporting cases? Apple, Huawei, BT, Orange**  **- LS reply to other groups**  (Apple - moderator)  Summary of offline disc [R3-223726](C:\\Downloads\\Inbox\\R3-223726.zip) |

Note: the text “- RAN3 has agreed to enable the optional inclusion of the Management Based MDT PLMN List IE in the NG: UE CONTEXT MODIFICATION REQUEST message? E///” has been removed as it belongs to a different CB.

# For the Chairman’s Notes

Propose to capture the following:

**User consent for MDT signaled over NG and Xn also applies to the location information in RLF/CEF. Details on how to capture this agreement in the specifications are FFS.**

**Report the status to SA3 with additional technical questions for clarification (see R3-223870).**

# Discussion

## General

The moderator observes that all the papers submitted to this topic are aligned on the main intention to re-purpose the existing user consent for MDT signaling to be also applicable to user location reporting in RLF/CEF reports. Therefore, what remains to be discussed is the technical differences between the CRs submitted.

Furthermore, considering the timeframe, it is important to leave time to polish the CRs themselves, therefore the moderator proposes to conduct this discussion in two phases:

1. Collect feedback on technical differences between the CRs submitted
2. Polish the CRs

With this in mind, please provide your feedback to the questions asked below (for the first phase) till the end of Wednesday.

## Phase 1

### Question 0

Question 0: Is there any RAN3 specification changes needed?

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| --- | --- | --- |
| Company | Answer | Notes |
| CMCC | No | A lot of discussions happen in the past RAN2/RAN3 and RAN plenary. There is still no agreement to make specifications changes. No consensus was reached on a way forward and the summary in RP-220900 was noted. |
| Vodafone | No | In our view the existing signaling should be re-used, so, we think there should not be any ASN1 changes, but there might be a need for Stage 2 changes… |
| Ericsson |  | We do not foresee any Stage 3 changes on tabulars and ASN.1. We could at best envisage changes in the procedure descriptions for the sake of repurposing of the MDT User consent. We believe that the changes anyhow need to be validated by SA5 and SA3, so no official agreements can be taken at this point in time in RAN3.  We need anyhow to clarify what “user Location Information” is. Namely, the user location information in question should be specified to be “detailed UE geographical location information (i.e. LocationInfo-r16 in TS38.331)”. Failure to clearly spell out such detail may lead to misinterpretation of what user consent should apply to. |
| Qualcomm | Yes | Procedural descriptions need to change to indicate the MDT user consent also applies to user consent for location information. |
| Nokia | No | We believe that the discussed RAN3 specification change is not needed and also would not be aligned with the current framework for user consent specification.  User consent is per today required in the RAN for m-based MDT activation. For signalling based MDT, the CN shall not initiate MDT towards a particular user unless it is allowed (TS 37.320, with further details in TS 32.422). The RAN will not be able to send any MDT information (including RLF/CEF reports) to external entity (i.e. the TCE) if the UE is not selected for MDT, regardless of whether the information is coarse location information like cell id or detailed location information like the information contained in the RRC locationInfo-r16 IE.  Also, within the RAN, the UE is only identified using temporary identifiers within the RAN, so any coarse or detailed location information available in the RAN but not sent to external entities (TCE) can’t be used to localize any UE or user. So based on this we fail to see the need to specify any limitation of information acquisition from the UE as proposed in e.g. NGAP CRs (3149, 3213) submitted to this meeting.  However if any further need for user consent specification is identified, it would not be obvious to us that network interface stage 3 specification like NGAP is the appropriate place for such description which concerns the Uu interface. We should take into account that user consent specification is primarily done by SA5 in TS 32.422 and also by RAN2 in TS 37.320. |
| Intel | Yes or No | Unless we are not mistaken, the message from SA3's reply LS (R3-211464) is that, in some regulations, user consent is required for collection of location information from UEs within RAN (even when the collected location info is not sent to external entities), and for such regulatory cases, RAN should provide a possibility for an operator to handle user consent for collection of location information from UEs.  For that, the submitted papers are proposing to re-use the MDT user consent signalling over NW interfaces (i.e. no a separate user consent signalling dedicated for collection of location information). Though the user consent for m-based MDT and the collection of location information could be correlated, this way forward at least allows a possibility for an operator to collect and handle user consent for location info that SA3 has requested.  Then the question is where would be the best place to capture "the possibility for an operator to handle user consent for collection location information from UEs, based on the existing MDT user consent signalling". If captured in stage-3, then only updates on procedural descriptions (as proposed here) would be necessary. If captured in stage-2 (probably TS 37.320?), then no RAN3 specifications change would be needed. We don't have a strong view on where to capture, as long as it is clear for everybody. |
| Huawei |  | First of all, we fully agree that the “user location information” should be more accurate if it is to be specified in the spec. LocationInfo-r16 in TS38.331 is a good reference.  We also agree that any changes on tabular and asn.1 should be avoid. |
| Samsung |  | We share the view from Nokia and CMCC. If the change is needed, probably only stage 2 change is enough. |
| CATT |  | Similar view with others that RAN3 stage 3 update is not needed. |
| ZTE |  | We prefer to not impact RAN3 specification and RAN3 alone can not decided the user consent can reused for location purpose. |
| Apple | Yes |  |

Moderator’s summary

Different companies interpreted this question differently: some were talking about any changes at all, some about ASN.1 changes, some about stage-3 changes and some about stage-2.

It is hard to draw any conclusions based on the answers provided.

### Question 1

In R3-223147 it is proposed “*to modify the NG-AP TS 38.413 and the Xn-AP TS 38.423 specifications (and potentially also the S1-AP TS 36.413 and the X2-AP TS 36.423) to repurpose the MDT user consent signaling to be applicable to location information in RLF/CEF as well*.” while the proposal in R3-223212 is “*to reuse the existing user consent for m-based MDT also for UE location acquisition in RLF, SCG failure and CEF reporting cases*”.

**Question 1: Which additional features (RLF report, CEF report, CSG failure report, other) the existing user consent for MDT signaling should be applicable to?**

|  |  |  |
| --- | --- | --- |
| Company | Answer | Notes |
| Apple | RLF report, CEF report, and CSG failure report | User consent should be applicable to all these features where the network may request precise user location. |
| Vodafone | RLF report, CEF report | Actually, SA3 mentioned only 2 features in their LS. This work should be driven by SA3 requirements in our view, especially if we like to extend the framework to be applicable for other features. |
| Ericsson | RLF report, CEF report |  |
| BT | RLF report, CEF report, SCG failure report | As per RAN2 response in R2-2006372 |
| Qualcomm | All | Every UE report where location information is sent needs user consent. |
| Nokia |  | MDT measurements are specified in TS 37.320, and these include RLF reports and CEF reports. CSG failure report is to our knowledge not included in TS 37.320 (but maybe under discussion?). However, as explained under Q0, sending information to external entity (TCE) is only possible if the UE is selected for MDT, which requires user consent.  Obviously, the RAN will by nature always be aware of at least coarse location information for an RRC-connected UE (or could be finer location information in beam-based deployments), and can also derive even finer location estimations based on radio measurements without acquisition of GNSS location information. It is not technically feasible to condition this RAN knowledge by any kind of user consent, except considering that by switching on the UE or by entering RRC-connected mode the user gives some kind of consent. The user consent covered in 3GPP specifications therefore relates to reporting from the RAN to external entity (TCE) which enables tracing of the user. |
| Intel | RLF report, CEF report, SCG failure report | We could start with RLF report, CEF report, SCG failure report that was mentioned in LS exchanges between SA3 and RAN2, but think it could be applicable for collection of any UE report where location information is sent. |
| Huawei | RLF report, CEF report | We are fine to just follow the scope of SA3 LS. |
| Samsung |  |  |
| ZTE | RLF report, CEF report, SCG failure report |  |

Moderator’s summary

The majority of companies that did provide answer to this question (8/9) prefer to support user location in RLF and CEF reports with the existing MDT signaling.

### Question 2

All the CRs propose to amend the definition of the “MDT PLMN List” IE to apply to the new features. The differences are only in the procedural text. In R3-223213 it is proposed to modify the procedural text for Handover Request, whereas R3-223149 propose to modify: Initial Context Setup Modification Request, UE Context Modification Request, Handover Request, and Path Switch Request Acknowledge.

A note from the moderator: it appears that all the procedures in which user consent may be signaled should have appropriate clarifications, i.e. not just the Handover Request.

**Question 2: Do you agree that all the procedures (Initial Context Setup Modification Request, UE Context Modification Request, Handover Request, and Path Switch Request Acknowledge, other?) in which the user consent may be signaled should have appropriate clarifications of the new meaning of the IE?**

**If you believe that some procedures should be excluded, please explain why.**

|  |  |  |
| --- | --- | --- |
| Company | Answer | Notes |
| Apple | Initial Context Setup Modification Request, UE Context Modification Request, Handover Request, and Path Switch Request Acknowledge | Currently, the procedural text in all these reads “If the Management Based MDT PLMN List IE is contained in the XYZ message, the NG-RAN node shall, if supported, use it to allow subsequent selection of the UE for management based MDT defined in TS 32.422”.  Obviously, if the IE is now used for other purposes as well, it should be clearly stated in the procedural text for all the relevant procedures. |
| Vodafone |  | Agree, we need to check and update the text for corresponding procedures. |
| Ericsson |  | If the changes are finally agreed, then the Initial Context Setup, UE Context Modification, Handover Preparation, and Path Switch procedures descriptions should be modified.  However, before anything can be agreed we need to:   1. Spell out that the location information to which the MDT user consent would apply consists of detailed UE geographical location information (i.e. LocationInfo-r16 in TS38.331) 2. Send an LS to SA3 and SA5 asking for guidance about the principle to apply when re-purposing the MDT User Consent. |
| BT |  | Agree to update the procedure descriptions for the listed procedures. |
| Qualcomm |  | Same view as Apple. |
| Nokia |  | As discussed above there is no need to update the RAN3 specification. |
| Intel |  | If to be captured in stage-3, then all the procedures that carry the *Management Based MDT PLMN List* IE |
| Huawei |  | If agreed, all procedures should be involved. |
| Samsung |  | It is related to the conclusion of question 0. |
| ZTE |  | All mentioned message should be updated if the feature accept. |

Moderator’s summary

The majority of companies that did provide answer to this question (9/10) prefer to update all the relevant procedures, specifically: Initial Context Setup Modification Request, UE Context Modification Request, Handover Request, and Path Switch Request Acknowledge.

### Question 3

The issue has been initially raised in the context of the Rel-16 SON/MDT WI. SA3 in their LS clarified that there is no need to support this in Rel-15 and prior releases.

**Question 3: Which release(s) (Rel-16, Rel-17, etc) the changes should be applied to?**

|  |  |  |
| --- | --- | --- |
| Company | Answer | Notes |
| Apple | Rel-16, Rel-17 | We should follow the SA3 requirement, which was to support this since Rel-16. |
| Vodafone |  | If there are no signaling changes, R16 might be ok |
| Ericsson | Rel17 | This is not an essential correction because there are already means to configure the network to avoid user location reporting in RLF and CEF reports. Changes from Rel17 would be sufficient. |
| BT | Rel17 | We think R17 would be sufficient |
| Qualcomm | Rel-16, Rel-17 | Same view as Apple |
| Nokia |  | As discussed above there is no need to update the RAN3 specification. |
| Intel | Rel-16, Rel-17 | Same view as Apple |
| Huawei | Rel-17 | We think that starting from rel-17 is sufficient. |
| Samsung |  | It is related to question 0. But seems no need to change Rel-16 at least. |
| ZTE | Rel-17 | If acceptable, start from rel-17 is enough. |

Moderator’s summary:

Slight majority (7/10) prefer to support this starting from Rel-17 (i.e. no Rel-16 changes).

### Question 4

In R3-223215/R3-223216 it is proposed to adopt the changes also in TS 36.413/36.423.

**Question 4: Should the changes be applied to E-UTRAN (in addition to NG-RAN) as well?**

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| --- | --- | --- |
| Company | Answer | Notes |
| Apple | Both |  |
| Vodafone | Both |  |
| Ericsson | Prefer to affect only NG-RAN |  |
| BT | Both |  |
| Qualcomm | Both |  |
| Nokia | None of them | As discussed above there is no need to update the RAN3 specification. |
| Intel | Both (but no strong view) | Why not to E-UTRAN? We believe the key message from SA3 is to give an option for an operator to handle user consent for collection of location info.. |
| Huawei |  | Maybe its too early to discuss and decide before we make an agreement of the need of this. |

Moderator’s summary:

Half of the companies (5/10) prefer to do both NG-RAN and E-UTRAN. Therefore, it is hard to draw any conclusions from these replies.

### Question 5

Since this has been a long-standing issue, triggered by another WG, it is reasonable to notify all the relevant groups about our decisions.

**Question 5: Which WGs (RAN2, SA2, SA3, SA5, CT4, others?) should be liaise about these decisions?**

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| --- | --- | --- |
| Company | Answer | Notes |
| Apple | At least SA3, RAN2, SA5 and CT4 |  |
| Vodafone | It should go to SA3, all other groups on cc, as I am not sure what their actions should be. |  |
| Ericsson | SA3 and SA5 need to be in the “To” list. RAN2 may be in Cc | We need to point out that RAN3 is discussing how to apply user consent to some information in the RLF/CEF reports. RAN3 is not the group of competence when it comes to identifying which information should be considered “sensitive” and therefore subject to user consent. Nevertheless, most companies in RAN3 and RAN agree that user location information is “sensitive” and therefore it should be under user consent.  RAN3 should therefore LS SA3 to   * Confirm that RAN3 believes that detailed user location information (such as LocationInfo-r16 in TS38.331) is sensitive and check if such assumption is correct and * To clarify once and for all whether there is any specific principle on the basis of which information that is subject to user consent can be identified.   It would be good to converge on answers to the question above to avoid speculating about what user consent should applies to in the future. |
| BT | At least SA3, RAN2, SA5 |  |
| Qualcomm | SA3, SA4, RAN2 |  |
| Nokia | In principle no LS (or reply LS) is needed | In principle no LS from RAN3 is needed because SA3 sent the original LS to RAN2. This is also normal because RAN2 is in charge of TS 37.320 that specifies user consent at functional level in the RAN. Therefore, so far RAN3 was not a leading WG on user consent but RAN3's role has been to implement the decisions taken in other groups. This role has of course represented effort and discussions in RAN3, but there is no reason to believe that other WGs await any decision on functional aspects of user consent which is not in the realm of RAN3.  If an LS is sent, we suggest to state that as per current specification all location information (including possibly coarse location information like cell ID) is considered sensitive information and therefore requires user consent before reporting from the RAN to external entity (TCE) in a way that can enable tracing the UE. Sensitive information within the RAN is protected by use of temporary IDs so that the UE can't be traced and the user not identified. Such LS might be sent e.g. to SA3 cc SA5, RAN2, but it is not obvious to us which action RAN3 would then request from SA3.  If any change from status quo is desired, e.g. to analyze whether from now on only GNSS information could be regarded as sensitive information, we suggest such proposal to be raised by company contribution to SA3. |
| Intel | At least SA3, RAN2, SA5 | The same view as BT. |
| Huawei |  | Not sure what the purpose of the LS is, considering that SA5, SA3 and RAN2 have already handled the previous LS and replied it.  But ok to double check with other groups if majority want to do so.  Better to attach the tentative CRs in the LS for other groups checking. |
| Samsung | At least SA3, SA5, RAN2 | No strong view on the LS. Seems they already discussed this topics. |
| ZTE | At least SA3, RAN2, SA5 |  |

Moderator’s summary:

It appears that the majority (8/10) support sending the LS, and even the two componies who are not supportive do not seem to have strong reservations against sending the LS. The majority seems to prefer to liaise the following groups: SA5, SA3, RAN2.

# Conclusion, Recommendations [if needed]

If needed

# References

|  |  |  |
| --- | --- | --- |
| [R3-223147](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223147.zip) | On user consent for RLF/CEF (Apple) | discussion |
| [R3-223148](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223148.zip) | [DRAFT] Reply LS on the user consent for trace reporting (Apple) | LS out To: SA3, CT4, RAN2, SA5 CC: SA2 |
| [R3-223149](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223149.zip) | Introduction of user consent for location information in RLF/CEF to 38.413 (Apple) | CR0781r, TS 38.413 v17.0.0, Rel-17, Cat. F |
| [R3-223150](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223150.zip) | Introduction of user consent for location information in RLF/CEF to 38.423 (Apple) | CR0781r, TS 38.423 v17.0.0, Rel-17, Cat. F |
| [R3-223212](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223212.zip) | Discussion on user consent for UE location information (Huawei, BT, Orange) | discussion |
| [R3-223213](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223213.zip) | Correction to user consent for UE location information (Huawei, BT, Orange) | CR0792r, TS 38.413 v17.0.0, Rel-17, Cat. F |
| [R3-223214](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223214.zip) | Correction to user consent for UE location information (Huawei, BT, Orange) | CR0789r, TS 38.423 v17.0.0, Rel-17, Cat. F |
| [R3-223215](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223215.zip) | Correction to user consent for UE location information (Huawei, BT, Orange) | CR1877r, TS 36.413 v17.0.0, Rel-17, Cat. F |
| [R3-223216](file:///D:\会议硬盘\TSGR3_116-e\Docs\R3-223216.zip) | Correction to user consent for UE location information (Huawei, BT, Orange) | CR1689r, TS 36.423 v17.0.0, Rel-17, Cat. F |