**3GPP TSG-RAN WG3 #114 bis R3-221081R3-215701**

E-meeting, 16th-27th, Jan, 2022

Agenda Item: 23.2

Source: CMCC (moderator)

Title: Summary of offline discussion on Authorization for SL relay

Document for: Discussion

# Introduction

This contribution provides the summary of the following email discussion,

**CB: # SLRelay1\_Authorization**

**- Whether authorization information is needed for L3 remote UE? Draft LS to RAN2 and other groups, if agreeable.**

**- 5G ProSe authorized IEs are included as individual IEs under a parent IE or as a bitmap?**

**- Reusing existing IEs or defining dedicated IEs for ProSe NR UE-PC5-AMBR and PC5 QoS parameters?**

**- Stage3 details for the above issues over NG, Xn, F1 interface**

**- Capture agreements and open issues, provide CRs/TPs, if agreeable**

(CMCC - moderator)

Summary of offline disc [R3-221081](file:///C:\Users\cmcc\Documents\WeChat%20Files\wxid_4s5z34xevd1w21\FileStorage\File\2022-01\Inbox\R3-221081.zip)

This CB will be organized in two phases,

Phase I: Try to achieve some agreements on the remaining authorization issues

Phase II: Work on the BL CRs/TPs and potential reply LS to RAN2 and SA2

Please provide your views by **23:59 UTC Wednesday, January 19th**, so that they may be taken into account during the online session.

# For the Chairman’s Notes

Propose to capture the following: [TBD]

# Discussion

Authorization for relay UE and remote UE for L2 and L3 UE to network relay has been discussed in last RAN3 meeting. The following agreements had been achieved and some open issues had been left for this meeting:

Define a new IE to indicate whether UE is authorized to use 5G ProSe services. The type of authorization information includes at least one or more items as below:

- 5G ProSe Direct Discovery

- 5G ProSe Direct Communication

- 5G ProSe Layer-2 UE-to-Network Relay

- 5G ProSe Layer-3 UE-to-Network Relay

- 5G ProSe Layer-2 Remote UE

Include 5G ProSe authorized information in the listed NGAP messages.

1. INITIAL CONTEXT SETUP REQUEST
2. UE CONTEXT MODIFICATION REQUEST
3. HANDOVER REQUEST
4. PATH SWITCH REQUEST ACKNOWLEDGE

Include 5G ProSe authorized information in the listed XnAP messages.

1. HANDOVER REQUEST
2. RETRIEVE UE CONTEXT RESPONSE

Support SL relay in split architecture in R17.

Include 5G ProSe authorized information in the listed F1AP messages.

1. UE CONTEXT SETUP REQUEST
2. UE CONTEXT MODIFICATION REQUEST

## Issue 1-L3 remote UE Authorized

Authorization information for L3 remote UE issue had been raised in LS from RAN2 [1]. From RAN2’s perspective, whether authorization information for L3 remote UE is needed for NG-RAN can be decided by RAN3. Companies share their view in contributions [2] [8] [11] [12] [13] [15] [19] for that issue. Some companies think it is not needed to include L3 remote UE authorization. As mentioned in their papers, such similar question has been discussed in LTE D2D relay, the L3 remote UE could be provided with discovery configuration via dedicated signaling, but eNB does not need to perform authorization for the remote UE. However, there are still opposite views.

Here we discuss about whether L3 remote UE authorization is needed. Companies are encouraged to show their views on it.

**Question 1: Do companies agree the authorization of L3 remote UE by NG-RAN is necessary for NR SL relay?**

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| Company | Comment |
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**Question 2: If answer for Q1 is yes, do companies agree include it in the listed NGAP, XnAP and F1AP?**

**NGAP:**

**INITIAL CONTEXT SETUP REQUEST**

**UE CONTEXT MODIFICATION REQUEST**

**HANDOVER REQUEST**

**PATH SWITCH REQUEST ACKNOWLEDGE**

**XnAP:**

**HANDOVER REQUEST**

**RETRIEVE UE CONTEXT RESPONSE**

**F1AP:**

**UE CONTEXT SETUP REQUEST**

**UE CONTEXT MODIFICATION REQUEST**

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| Company | Comment |
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## Issue 2- IE structure of 5G ProSe authorized IEs

In last RAN3 meeting, it was agreed to define a new IE to indicate whether UE is authorized to use 5G ProSe services. The type of authorization information includes at least one or more authorization IEs.

Regarding the IE structure of 5G ProSe authorized IEs, two options on the table,

* Option 1: each item of authorization information is included as individual IEs under a parent IE;
* Option 2: the new 5G ProSe authorized IE is defined in a bit string and each bit represents an authorized service related to 5G ProSe.

Based on the reference papers, majority companies support Option 1.

The moderator proposes to follow the majority views.

**Question 3: Do companies agree to follow the majority view that including authorization IEs as individual IEs under a parent IE?**

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## Issue 3- ProSe NR UE-PC5-AMBR and PC5 QoS parameters

In last RAN3 meeting, ProSe NR UE-PC5-AMBR and PC5 QoS parameters for ProSe are supported for SL relay. In Rel-16, the NR UE Sidelink Aggregate Maximum Bit Rate and PC5 QoS Parameters were introduced to support V2X services. In contribution [12], it suggested both of them can be reused for Rel-17 ProSe and clarify the NR UE Sidelink Aggregate Maximum Bit Rate and PC5 QoS Parameters are also applicable to 5G ProSe. Contribution [13] indicated that V2X services and 5G ProSe services are two completely different services. It is possible to set different PC5 QoS parameters in the future.

Here we discuss about whether R16 NR UE Sidelink Aggregate Maximum Bit Rate and PC5 QoS Parameters can be reused for ProSe. Companies are encouraged to show their views on it.

**Question 2: Do companies agree that R16 NR UE Sidelink Aggregate Maximum Bit Rate and PC5 QoS Parameters can be reused for ProSe?**

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| Company | Comment |
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# Conclusion, Recommendations [if needed]

[TBD]

# References

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| --- | --- | --- |
| [1] | [R3-220137](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220137.zip) | Reply LS on discovery and relay (re)selection (RAN2) |
| [2] | [R3-220238](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220238.zip) | Discussion on Authorisation for 5G ProSe Layer-3 Remote UE (CATT) |
| [3] | [R3-220239](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220239.zip) | Reply LS for authorisation information for 5G ProSe Layer-3 Remote UE (CATT) |
| [4] | [R3-220240](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220240.zip) | Support of NR ProSe Authorized for F1AP (CATT) |
| [5] | [R3-220241](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220241.zip) | Support of NR ProSe Authorized for XnAP (CATT) |
| [6] | [R3-220322](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220322.zip) | Introduction of ProSe authorization information (Huawei) |
| [7] | [R3-220323](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220323.zip) | (TP for SLrelay BLCR for 38.413, 38.423) Introduction of ProSe authorization information (Huawei) |
| [8] | [R3-220324](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220324.zip) | [draft] Reply LS on discovery and relay (re)selection (Huawei) |
| [9] | [R3-220340](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220340.zip) | Introduction of service authorization for SL Relay over NG (Ericsson) |
| [10] | [R3-220341](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220341.zip) | Introduction of service authorization for SL Relay over Xn (Ericsson) |
| [11] | [R3-220349](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220349.zip) | Authorization for Relay and Remote UE (Ericsson) |
| [12] | [R3-220374](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220374.zip) | Discussion on NR ProSe authorization (ZTE) |
| [13] | [R3-220395](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220395.zip) | Discussion on UE authorization for SL Relay (China Telecommunication) |
| [14] | [R3-220457](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220457.zip) | Support of NR ProSe Authorized for NGAP (CATT) |
| [15] | [R3-220829](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220829.zip) | Discussion on Relay and Remote UE authorization (Nokia, Nokia Shanghai Bell) |
| [16] | [R3-220830](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220830.zip) | (NGAP CR) support for NR Sidelink Relay (Nokia, Nokia Shanghai Bell) |
| [17] | [R3-220831](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220831.zip) | (XnAP CR) support for NR Sidelink Relay (Nokia, Nokia Shanghai Bell) |
| [18] | [R3-220832](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220832.zip) | (F1AP CR) support for NR Sidelink Relay (Nokia, Nokia Shanghai Bell) |
| [19] | [R3-220864](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220864.zip) | Consideration on authorization for SL relay (CMCC) |
| [20] | [R3-220865](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220865.zip) | Support of 5G ProSe Authorization for NG-AP (CMCC) |
| [21] | [R3-220866](file:///D:\会议硬盘\TSGR3_114bis-e\Docs\R3-220866.zip) | Support of 5G ProSe Authorization for Xn-AP (CMCC) |