**3GPP TSG-WG SA2 Meeting #164S2-240xxxx**

**Maastricht, NL, 19th Aug – 23rd Aug, 2024 (revision of S2-240xxxx)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.304** | **CR** | **XXXX** | **rev** | **X** | **Current version:** | 19.0.0 |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** | ProSe Multihop Capability Authenticaiton and Authorization | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Telecom | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G ProSe\_Ph3 | | | | |  | ***Date:*** | | | 2024-08-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TR 23.700-03 has conclusion that service authorization and policy/parameter provisioning procedures will be described in the normative phase. Therefore, TS 23.304 shall be updated according to the conclusion of TR 23.700-03. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add ProSe multi hop capability to 5G ProSe Capability description. 2. Update the Policy/Parameter provisioning of maximum number of hops for 5G ProSe UE-to-Network Relay and Remote UE. 3. Add ProSe multi hop authorization related information to NGAP message send to NG-RAN | | | | | | | | |
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| ***Consequences if not approved:*** | | Multihop relay feature will not be supported. | | | | | | | | |
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| ***Clauses affected:*** | | 6.6.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

### 6.6.2 Registration procedure

The Registration procedure for UE is performed as defined in TS 23.502 [5] clause 4.2.2.2 with the following additions:

- The UE includes the 5G ProSe Capability as part of the "5GMM capability" in the Registration Request message. The AMF stores the 5G ProSe Capability for 5G ProSe operation.

- The 5G ProSe Capability indicates whether the UE supports one or more of the following ProSe capabilities:

- 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;

- 5G ProSe Layer-3 Remote UE;

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

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

- 5G ProSe Layer-2 End UE;

- 5G ProSe Layer-3 End UE;

- 5G ProSe multi hop Layer-2 UE-to-Network Relay;

- 5G ProSe multi hop Layer-3 UE-to-Network Relay;

- 5G ProSe multi hop Layer-2 Remote UE;

- 5G ProSe multi hop Layer-3 Remote UE;

- 5G ProSe multi hop Layer-3 UE-to-UE Relay; and

- 5G ProSe multi hop Layer-3 End UE.

- The AMF obtains the 5G ProSe subscription data as part of the user subscription data from UDM during UE Registration procedure using Nudm\_SDM service as defined in clause 4.2.2.2.2 of TS 23.502 [5].

- The AMF determines whether the UE is authorised to use 5G ProSe services (including multi hop services) based on UE's 5G ProSe Capability and the ProSe Service Authorisation included in the subscription data received from UDM as specified in clause 5.7. ProSe NR UE-PC5-AMBR and maximum number of hops are also provided to the AMF as part of the subscription data for 5G ProSe services. The AMF stores the authorized 5G ProSe Capability.

- The AMF sends the authorized 5G ProSe Capability for 5G ProSe operation to PCF. Based on the received 5G ProSe Capability from the AMF, the PCF provides the PC5 QoS parameters for 5G ProSe to AMF. The AMF stores such information as part of the UE context.

- If the UE is authorised to use 5G ProSe services, then the AMF shall include in a NGAP message sent to NG-RAN:

- "5G ProSe authorised" information, including one or more of the following:

- whether the UE is authorized to use 5G ProSe Direct Discovery;

- whether the UE is authorized to use 5G ProSe Direct Communication;

- whether the UE is authorized to act as a 5G ProSe Layer-2 UE-to-Network Relay;

- whether the UE is authorized to act as a 5G ProSe Layer-3 UE-to-Network Relay;

- whether the UE is authorized to act as a 5G ProSe Layer-2 Remote UE;

- whether the UE is authorized to use multi-path communication via direct Uu path and via 5G ProSe Layer-2 UE-to-Network Relay as a 5G ProSe Layer-2 Remote UE;

- whether the UE is authorized to act as a 5G ProSe Layer-2 UE-to-UE Relay;

- whether the UE is authorized to act as a 5G ProSe Layer-2 End UE.

- whether the UE is authorized to act as a 5G ProSe multi hop Layer-2 UE-to-Network Relay;

- whether the UE is authorized to act as a 5G ProSe multi hop Layer-3 UE-to-Network Relay;

- whether the UE is authorized to act as a 5G ProSe multi hop Layer-2 Remote UE;

- whether the UE is authorized to act as a 5G ProSe multi hop Layer-2 End UE.

NOTE: The authorization for "5G ProSe Direct discovery" and "5G ProSe Direct communication" can be used for 5G ProSe Layer-3 UE-to-UE Relay and 5G ProSe Layer-3 End UE.

- ProSe NR UE-PC5-AMBR, used by NG-RAN for the resource management of UE's PC5 transmission for 5G ProSe services in network scheduled mode.

- the PC5 QoS parameters for 5G ProSe used by the NG-RAN for the resource management of UE's PC5 transmission for ProSe services in network scheduled mode.

- If the UE is authorised to use 5G ProSe services, then the AMF should not initiate the release of the signalling connection after the completion of the Registration procedure. The release of the signalling connection relies on the decision of NG-RAN, as specified in TS 23.502 [5].

\* \* \* \* End of changes \* \* \* \*