**3GPP TSG-CT WG1 Meeting #137-eC1-22xxxx**

**E-Meeting, 18th – 26th August 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.554** | **CR** | **0153** | **rev** | **1** | **Current version:** | **17.1.0** |  |
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| *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 |  | Core Network |  |

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| ***Title:*** | The criteria for selecting 5G ProSe layer-3 UE-to-network relay with N3IWF support | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, vivo | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_ProSe | | | | |  | ***Date:*** | | | 2022-07-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Stage-2 TS 23.304 clause 6.5.4 states the following:  *If configured in the ProSe Policy, the 5G ProSe Remote UE may attempt the discovery of a Relay Service Code corresponding to a 5G ProSe Layer-3 UE-to-Network Relay with N3IWF support in the discovery procedure,* ***when the non-3GPP access type is preferred in the selected RSD****. The 5G ProSe Remote UE may attempt the discovery of a Relay Service Code corresponding to a 5G ProSe Layer-2 UE-to-Network Relay in the discovery procedure, when the 3GPP access type is preferred in the selected RSD.*  *- If the 5G ProSe Remote UE has an indirect connection via a 5G ProSe Layer-2 UE-to-Network Relay connection available, it will be treated as the "3GPP" access type. If the 5G ProSe Remote UE has an indirect connection via a 5G ProSe Layer-3 UE-to-Network Relay with N3IWF support available,* ***it will be treated as the "non-3GPP" access type****. The URSP handling as defined in TS 23.503 [9] applies.*  Hence even if the Route Selection Descriptor in the received URSP rules is **not** set to "5G ProSe layer-3 UE-to-network relay offload indication type" and instead is set to "preferred access type = non-3GPP access", the Remote UE is allowed to use 5G ProSe layer-3 UE-to-network relay with N3IWF support.  This shall be clarified in stage-3 as well, in order to make it clear when the Remote UE decides to select 5G ProSe layer-3 UE-to-network relay with N3IWF support, and for not excluding this option when non-3GPP access is set in the received URSP rules. | | | | | | | | |
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| ***Summary of change:*** | | Clarifying that, the Remote UE may select 5G ProSe layer-3 UE-to-network relay with N3IWF support when the non-3GPP access is preferred in the received URSP rules. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unclarity what is the decision criteria that makes the UE select the 5G ProSe layer-3 UE-to-network relay with N3IWF support, and possibility to mistakenly ignore the option of "5G ProSe layer-3 UE-to-network relay with N3IWF support" when the non-3GPP access type is set in the Route Selection Descriptor in the received URSP rules. | | | | | | | | |
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| ***Clauses affected:*** | | 8.2.7.1 | | | | | | | | |
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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 \*\*\*\*\*

#### 8.2.7.1 General

As specified in clause 5.4.1.2 of 3GPP TS 23.304 [2], the 5G ProSe layer-3 UE-to-network relay with N3IWF support shall provide the 5G ProSe layer-3 remote UE with the connection which can access to the N3IWF. In this way, the 5G ProSe layer-3 remote UE is able to select the N3IWF and access to the 5GC via the N3IWF.

The layer-3 ProSe UE-to-network relay UE is provisioned with the UE policies for 5G ProSe layer-3 UE-to-network relay including the relay service code which corresponds to use N3IWF access for the relayed traffic as defined in 3GPP TS 24.555 [17].

For UE-to-network relay discovery with model A, the UE-to-network relay UE includes the relay service code in the PROSE PC5 DISCOVERY message for UE-to-network relay discovery announcement as specified in clause 8.2.1.2. For UE-to-network relay discovery with model B, the 5G ProSe layer-3 remote UE includes the relay service code which corresponds to use N3IWF access for the relayed traffic in the PROSE PC5 DISCOVERY message for UE-to-network relay discovery solicitation as specified in clause 8.2.1.3. The relay service code in the PROSE PC5 DISCOVERY message for UE-to-network relay discovery response shall match the relay service code received from the 5G ProSe layer-3 remote UE.

NOTE: The UE is allowed to use the 5G ProSe layer-3 UE-to-network relay with N3IWF support if the UE is authorized to be a 5G ProSe layer-3 remote UE as specified in clause 5.2.5 and the non-3GPP access type is preferred in the selected route selection descriptor in the URSP rule as defined in 3GPP TS 24.526 [5].

If the 5G ProSe layer-3 remote UE intends to access 5GC via N3IWF, the 5G ProSe layer-3 remote UE:

a) selects the relay service code which corresponds to use N3IWF access for the relayed traffic in the received PROSE PC5 DISCOVERY message; and

b) sends the PROSE DIRECT LINK ESTABLISHMENT REQUEST message including the selected relay service code in a) to the 5G ProSe layer-3 UE-to-network relay UE.

The 5G ProSe layer-3 UE-to-network relay UE establishes the PDU session with corresponding parameters for the requested relay service code as specified in clause 8.2.7.2.

The 5G ProSe layer-3 remote UE performs the N3IWF selection as specified in 8.2.7.3 once the IP address/prefix allocation is completed.

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