**3GPP TSG-SA3 Meeting #106-e *draft\_S3-220160-r1***

**e-meeting, 14 - 25 February 2022** *revision of S3-22xxxx*

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.847** | **CR** | **0003** | **rev** | **1** | **Current version:** | **17.0.1** |  |
|  | | | | | | | | |
| *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 | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Conclusion for Secondary Authentication support with L3 U2N Relay | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | LG Electronics, InterDigital | | | | | | | | | |
| ***Source to TSG:*** | S3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5G\_ProSe\_Sec | | | | |  | ***Date:*** | | | 2022-02-07 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | Missing conclusion on support for Secondary Authentication for L3 UE-to-Network Relay | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. It is proposed to support Secondary Authentication of the Remote UE via L3 UE-to-Network Relay as it may be required by a DN.  2. It is proposed to select solutions #13/#25 and #34 for the support for Secondary Authentication respectively without and with N3IWF support. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Undefined security procedure and security risk (unauthorized access to DN) for Remote UE that attempts to connect via L3 U2N Relay without N3IWF for access to a DN subject to Secondary Authentication | | | | | | | | |
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| ***Clauses affected:*** | | 7.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\*\*\* BEGIN OF CHANGES \*\*\*

## 7.4 Key issue #4: Authorization in the UE-to-Network relay scenario

The solutions for U2N Relay authorization and security can be classified as user-plane (UP) or controlled-plane (CP) based solutions. The UP based solutions use a UP connection to a PKMF while CP based solutions use the primary authentication for PC5 keys establishment.

The following text is taken as conclusions for the UE-to-Network Relay solution:

- For the control plane solution:

- Baseline solution for Authorization for Remote UE/Relay is based on primary authentication (CP based approach, e.g., sol#1, #10, #15, #30) and using PCF based service authorization and provisioning as defined in [16] TS 23.304 clause 5.1.4.

- Performing primary authentication during PC5 link establishment is supported (e.g. Sol#1, Sol#10, Sol#30).

NOTE 1: The detailed procedure to enable authorization for Remote UE/Relay will be determined accordingly during normative phase. Additional support for Remote UE using its 5G-GUTI in DCR will be determined during normative phase. There is no need for the relay AMF to assign/maintain/refresh 5G-GUTI of Remote UE.

- For the user-plane solution, based on the conclusions in KI #3, it is concluded that the user-plane solutions including Solution #18, Solution #21 and Solution #29 are selected as the basis of normative work.

- For the optional support of Secondary Authentication it is concluded that both solutions without and with N3IWF are supported for L3 U2N relay. Solution #13 / Solution #25 (without N3IWF) and Solution #34 (with N3IWF) are selected as the basis of normative work.

NOTE 2: The detailed procedure to enable Secondary Authentication for Remote UE without N3IWF will be determined during normative phase with coordination with SA2.

Note 3: Final conclusion for NSSAA is not addressed in the present document.

\*\*\* END OF CHANGES \*\*\*