**3GPP TSG-SA3 Meeting #98e *draft\_S3-200385r2***

**e-meeting, 2 – 6 March 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **33.501** | **CR** | **0767** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  |
| *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 | **x** | ME | **x** | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:***  | Referencing Annex for use of authentication methods  |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Interdigital |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | Vertical\_LAN\_SEC |  | ***Date:*** | 6.03.2020 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-16 |
|  | *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 canbe 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | The referencing to Annex I for NPN has not been consequently applied in clause 6.  |
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| ***Summary of change:*** | Modification of editor’s note to provide clear guidance for normative reference and example. |
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| ***Consequences if not approved:*** | Misleading specification. |
|  |  |
| ***Clauses affected:*** | 6.1.1.1 |
|  |  |
|  | **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:*** |  |

\*\*\*\*\*\*\*\* START OF CHANGES

#### 6.1.1.1 General

The purpose of the primary authentication and key agreement procedures is to enable mutual authentication between the UE and the network and provide keying material that can be used between the UE and the serving network in subsequent security procedures. The keying material generated by the primary authentication and key agreement procedure results in an anchor key called the KSEAF provided by the AUSF of the home network to the SEAF of the serving network.

Keys for more than one security context can be derived from the KSEAF without the need of a new authentication run. A concrete example of this is that an authentication run over a 3GPP access network can also provide keys to establish security between the UE and a N3IWF used in untrusted non-3GPP access.

The anchor key KSEAF is derived from an intermediate key called the KAUSF. The KAUSF may be securely stored in the AUSF based on the home operator's policy on using such key.

NOTE A: For standalone non-public networks when an authentication method other than 5G AKA or EAP-AKA' is used, Annex I.2 applies.

NOTE 1: This feature is an optimization that might be useful, for example, when a UE registers to different serving networks for 3GPP-defined access and untrusted non-3GPP access (this is possible according to TS 23.501 [2]). The details of this feature are operator-specific and not in scope of this document.

NOTE 2: A subsequent authentication based on the KAUSF stored in the AUSF gives somewhat weaker guarantees than an authentication directly involving the ARPF and the USIM. It is rather comparable to fast re-authentication in EAP-AKA'.

NOTE 2a: Void.

UE and serving network shall support EAP-AKA' and 5G AKA authentication methods.

NOTE 2b: It is the home operator's decision which authentication method is selected.

The USIM shall reside on a UICC. The UICC may be removable or non-removable.

NOTE 3: For non-3GPP access networks USIM applies in case of terminal with 3GPP access capabilities.

If the terminal supports 3GPP access capabilities, the credentials used with EAP-AKA' and 5G AKA for non-3GPP access networks shall reside on the UICC.

NOTE 4: EAP-AKA' and 5G AKA are the only authentication methods that are supported in UE and serving network, hence only they are described in sub-clause 6.1.3 of the present document. For a private network using the 5G system as specified in [7] an example of how additional authentication methods can be used with the EAP framework is given in the informative Annex B.

NOTE 5: For non-public network (NPN) security the Annex I of the present document provides details.

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