**3GPP TSG-SA3 Meeting #99e *S3-201192***

**e-meeting, 11 – 15 May 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **33.501** | **CR** | **DRAFT** | **rev** | **-** | **Current version:** | **16.2.0** |  |
|  |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | Clarification on step 8 in 7B.3 |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** |  5WWC |  | ***Date:*** | 2020-05-11 |
|  |  |  |  |  |
| ***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 current description of step 8 in 7B.3 Authentication for FN-RG is not clear enough. Because authentication profile is not a correct description. |
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| ***Summary of change:*** | Clarify the meaning of the sentence |
|  |  |
| ***Consequences if not approved:*** | The description is not clear |
|  |  |
| ***Clauses affected:*** |  |
|  |  |
|  | **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 change \*\*\*\*\*\*\*

## 7B.3 Authentication for FN-RG

The FN-RG connects to 5GC via W-5GAN, which has the W-AGF function that provides connectivity to the 5GC via N2 and N3 reference points. Since the FN-RG is a non-wireless entity defined by BBF or CableLabs, it doesn’t support N1. The W-AGF provides N1 connectivity on behalf of the FN-RG. The authentication method is executed between the FN-RG and AUSF as shown in Figure 7B.c.

The W-AGF may authenticate the FN-RG; this is controlled by local policies.

It is assumed that there is a trust relationship between the wireline operator that manages the W-5GAN and the PLMN operator managing the 5GC. The AMF trusts the W-5GAN based on mutual authentication executed when security is established on the interface between the two using NDS/IP or DTLS.



Figure7B.c FN-RG authentication procedure

1. A layer-2 (L2) connection is established between the FN-RG and the FAGF function in the W-AGF.

2. The FN-RG is authenticated by the W-AGF. Authentication method used for FN-RG is defined by BBF or CableLabs and out of scope of 3GPP.

3-4. The W-AGF shall perform initial registration on behalf of the FN-RG. The W-AGF shall generate a Registration Request message and send it to the AMF over N2. The Registration Request message contains the SUCI of the FN-RG. The N2 message contains an indication that the W-AGF has authenticated the FN-RG.

5. The AMF shall select an AUSF based on the received SUCI. The AMF shall send a Nausf\_UEAuthentication\_Authenticate Request message to the AUSF. It contains the SUCI of the FN-RG. It also contains the authenticated indication generated by the W-AGF.

6. The AUSF shall send a Nudm\_UEAuthentication\_Get Request to the UDM. It contains the SUCI of the FN-RG and the authenticated indication.

7. The UDM shall invoke the SIDF and maps the SUCI to the SUPI.

8. The UDM decides, based on the subscription profile of the SUPI and the authenticated indication that authentication has been completed by the W-5GAN, that authentication by the home network is not required for the FN-RG.

9. The UDM shall send a Nudm\_UEAuthentication\_Get Response to the AUSF. It contains the SUPI of the FN-RG and an indication that authentication by the home network is not required.

10. After checking the indication set by the UDM, The AUSF shall not perform authentication and shall send a Nausf\_UEAuthentication\_Authenticate Response to the AMF. It contains the SUPI of the FN-RG and the indication that authentication by the home network is not required set by the UDM.

This response from AUSF indicates that authentication is not required, and no KSEAF is included.

11. After checking the indication to make sure that the authentication by the home network is not required, the AMF shall estabilish the NAS security between AMF and W-AGF with NULL encryption and NULL integrity protection.

12. The AMF shall send Registration Accept message to the W-AGF. This message contains 5G-GUTI and other parameters.

13. The W-AGF shall send a Registration Complete message back to the AMF. The W-AGF shall store the 5G-GUTI for use in later NAS procedures.

\*\*\*\*\*\*\* End of change \*\*\*\*\*\*\*