**3GPP TSG-SA3 Meeting #116 *draft\_S3-242216-r5***

Jeju, South Korea, 20th - 24th May 2024

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **33.501** | **CR** | **2015** | **rev** | **-** | **Current version:** | **18.5.0** |  |
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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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Corrections to NSWO with CH AAA |
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| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | eNPN\_Ph2 |  | ***Date:*** | 2024-05-13 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | In SA3#113 it was agreed to add a new procedure for “NSWO support in SNPN using CH with AAA server via 5GC” in 33.501 appendix I.10.5.1.2. In these procedures it was decided to use SUPI instead of SUCI in order to align with the other NSWO procedure towards CH AAA in I.10.5.1.1.In the case of anonymous SUPI being used, it is not possible for the UDM to verify that the UE exists until the authentication towards CH AAA has been performed and the UE SUPI has been retrieved. This is reflected in the existing steps 14-16 (referring to Annex I.2.2.2.2) which entails running the Nudm\_UEAU\_ResultConfirmationRequest towards the UDM after a successful NSWO authentication.For NSWO authentication no KAUSF derived as a result of a successful authentication (see Annex S.3.2). Hence the UDM must not store the AUSF instance which reported the successful authentication. Doing so will lead to the UDM pointing to the wrong AUSF for finding the latest KAUSF. This is reflected by the procedures for NSWO in PLMN in Annex S.3.2: "The AUSF/UDM shall not perform the linking increased home control to subsequent procedures (as stated in present document clause 6.1.4)"In the case of NSWO in SNPN when using anonymous SUPI, the UDM needs to verify that the UE indeed has a subscription as already specified by sending the Nudm\_UEAU\_ResultConfirmationRequest, but the UDM must not update the perform the linking increased home control to subsequent procedures (as stated in clause 6.1.4). To indicate this towards the UDM, the NSWO indicator is sent.  |
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| ***Summary of change:*** | Replacing Figure (original figure could not be edited).Making steps 6-8 mandatory instead of optional in Figure. Those steps are optional in referred procedures steps due to onboarding which is not relevant here.Updating steps 14-16 in Figure to send NSWO indicator in Nudm\_UEAuthentication\_ResultConfirmation in step 14.   |
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| ***Consequences if not approved:*** | NSWO procedures may impact authentication status in UDM.  |
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| ***Clauses affected:*** | Annex I.10.5.1.2 |
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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:*** |  |

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

#### I.10.5.1.2 NSWO support in SNPN using CH with AAA server via 5GC



Figure I.10.5.1.2-1 - Procedure for NSWO authentication using CH with AAA server via 5GC

1-5. Same as steps 1-5 of clause S.3.2, except that SUCI is replaced with SUPI. If the EAP method supports privacy and the UE is configured to use anonymous SUPI, the UE sends an anonymous SUPI.

6. Same as steps 3 of clause I.2.2.2, except that SUCI is replaced with SUPI and NSWO\_indicator is also sent to the UDM by the AUSF.

7-13. Same as steps 4-10 of clause I.2.2.2.2.

14-16. Same as steps 11-13 of clause I.2.2.2.2 except that the AUSF shall include the NSWO indicator in step 14. Based on the NSWO indicator received in step 14, the UDM shall not perform the linking increased home control to subsequent procedures (as stated in present document clause 6.1.4) since there is no subsequent procedures after NSWO procedure.

Remaining steps are performed as described in steps 16-18d of clause S.3.2.

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