**3GPP TSG-SA3 Meeting #123 draft-S3-252697-r1**

**Goteborg, Sweden, 25 – 28 August** 2025

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **33.512** | **CR** | **0046** | **rev** | **-** | **Current version:** | **19.0.0** |  |
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| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <http://www.3gpp.org/Change-Requests>.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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| ***Title:***  | Clarification on expected results for synchronization failure handling |
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| ***Source to WG:*** | China Telecom, CAICT |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | SCAS\_5GA |  | ***Date:*** | 2025-8-25 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-19 |
|  | *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:*** | The expected result for test A is :*For Test A, the SEAF/AMF may initiate new authentication towards the UE*. "May" expresses that something is possible but not certain. It causes uncertainty in the expected result. |
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| ***Summary of change:*** | Remove "may" from the expected result for test A. |
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| ***Consequences if not approved:*** | There is uncertainty in the expected result for test A. |
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| ***Clauses affected:*** | 4.2.2.1.1 |
|  |  |
|  | **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:*** |  |

\* \* \* First Change \* \* \* \*

##### 4.2.2.1.1 Synchronization failure handling

*Requirement Name*: Synchronization failure handling

*Requirement Reference:* TS 33.501 [2], clause 6.1.3.3.2

*Requirement Description*: As specified in TS 33.501 [2] clause 6.1.3.3.2, upon receiving an authentication failure message *with synchronisation failure* (AUTS) from the UE, the SEAF sends an Nausf\_UEAuthentication\_Authenticate Request message with a *synchronisation failure indication* to the AUSF and the AUSF sends an Nudm\_UEAuthentication\_Get Request message to the UDM/ARPF, together with the following parameters:

*- RAND* sent to the UE in the preceding Authentication Request, and

*- AUTS* received by the SEAF in the response from the UE to that request, as described in clause 6.1.3.2.0 and 6.1.3.3.1 of TS 33.501 [2].

An SEAF will not react to unsolicited "synchronisation failure indication" messages from the UE.

The SEAF does not send new authentication requests to the UE before having received the response to its Nausf\_UEAuthentication\_Authenticate Request message with a "*synchronisation failure indication*" from the AUSF (or before it is timed out)..

*Threat References*: TR 33.926 [6], clause K.2.2.1, Resynchronization

*Test Case*:

**Test Name:** TC\_SYNC\_FAIL\_SEAF\_AMF

**Purpose:**

Verify that synchronization failure is correctly handled by the SEAF/AMF.

**Pre-Conditions:**

- Test environment with UE and AUSF. The UE and the AUSF may be simulated.

- AMF network product is connected in emulated/real network environment.

**Execution Steps**

Test A:

1) The tester configures the UE to send an authentication failure message to the SEAF/AMF with *synchronisation failure* (AUTS), after receiving the NAS authentication request message as part of a registration procedure.

2) The SEAF/AMF sends a Nausf\_UEAuthentication\_Authenticate Request message with a "*synchronisation failure indication*" to the AUSF.

3) The AUSF sends a Nausf\_UEAuthentication\_Authenticate Response message to the SEAF/AMF immediately after receiving the request from the SEAF/AMF, to make sure the SEAF/AMF will receive the response before timeout.

NOTE: The timeout timer in Test A is the NAS timer T3520.

Test B:

1) The tester configures the UE to send an authentication failure message to the SEAF/AMF with *synchronisation failure* (AUTS), after receiving the NAS authentication request message as part of a registration procedure.

2) The SEAF/AMF sends a Nausf\_UEAuthentication\_Authenticate Request message with a "*synchronisation failure indication*" to the AUSF.

3) The tester configures the AUSF in a way, that it does not send a Nausf\_UEAuthentication\_Authenticate Response message to the SEAF/AMF before timeout.

Test C:

1) The tester triggers a UE to perform a Registration Procedure.

2) While the UE is registered, the tester sends an unsolicited "synchronisation failure indication" message to the SEAF/AMF.

**Expected Results:**

Test A and Test B: Before receiving Nausf\_UEAuthentication\_Authenticate Response message from the AUSF and before the timer for receiving Nausf\_UEAuthentication\_Authenticate Response message runs out,

- For Test A, the SEAF/AMF initiates new authentication towards the UE.

- For Test B, the SEAF/AMF does not send any new authentication request to the UE.

Test C: The SEAF/AMF does not process the unsolicited "synchronisation failure indication" messages.

**Expected format of evidence:**

Evidence suitable for the interface, e.g., Screenshot, packet capture or application logs containing the operational results.

\* \* \* End of Changes \* \* \* \*