**3GPP TSG-SA3 Meeting #99e *S3-201105***

**e-meeting, 11 – 15 May 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **33.512** | **CR** | 0006 | **rev** |  | **Current version:** | **16.2.0** |  |
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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:***  | Clarification on the test case on synchronization failure handling |
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| ***Source to WG:*** | Huawei, Hisilicon |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | SCAS\_5G |  | ***Date:*** | 4/27/2020 |
|  |  |  |  |  |
| ***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 test case curently put in clause 4.2.2.1.1 on synchronization failure handling does not quite align with the referenced security requirement.The security requirement states that “the SEAF does not send new authetnication requests to the UE before having received the response to its Nausf\_UEAuthentication\_Authenticate Request message with a synchronization failre indication from the AUSF (or before timeout).According to the requirment, the correct SEAF/AMF handlings shall be:1. If the SEAF does not receives the response from the AUSF before timeout, the SEAF shall not send to the UE new authenticaition request
2. If the SEAF receives the response from the AUSF before timeout, the SEAF will send UE new authenticaition request.

The current test case in the spec covers the test of the first handling as described above, which is correct. The current test case also include the SEAF/AMF will send authentication request after timeout, which is incorrect. This contribution proposes to correct it. |
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| ***Summary of change:*** | Modify the test case to verity that:1. If the SEAF does not receives the response from the AUSF before timeout, the SEAF shall not send to the UE new authenticaition request
2. If the SEAF receives the response from the AUSF before timeout, the SEAF shall send UE new authenticaition request.
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| ***Consequences if not approved:*** | Unmatching test case with security requirement |
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| ***Clauses affected:*** | 4.2.2.1.1. |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 4.2.2 Security functional requirements on the AMF deriving from 3GPP specifications and related test cases

#### 4.2.2.1 Authentication and key agreement procedure

##### 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*: "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.

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)."

as specified in TS 33.501[2], clause 6.1.3.3.2.

*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 UE sends an authentication failure message to the SEAF/AMF with *synchronisation failure* (AUTS).

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.

Test B:

1) The UE sends an authentication failure message to the SEAF/AMF with *synchronisation failure* (AUTS).

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

3) The AUSF does not send a Nausf\_UEAuthentication\_Authenticate Response message to the SEAF/AMF before timeout.

**Expected Results:**

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

For Test A, the SEAF/AMF may initiate new authentication towards the UE.

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