**3GPP TSG-SA3 Meeting #106-e *draft S3-220236-r1***

**e-meeting, 14 - 25 February 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **33.512** | **CR** | **0022** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  |
| *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 origination of the Rel17 SCAS test cases in AMF |
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| ***Source to WG:*** | Huawei, HiSilicon |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | eSCAS\_5G |  | ***Date:*** | 2022-1-27 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *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:*** | Curentlly, new test cases related with R16 features (such as CIoT, etc) were introduced in the TS 33.512 (R17). However, whether these new test cases should be tested depending on the supported features of the AMF. Hence, it is suggested to add a Note to clarify which feature is required for these new and specific test cases. Similarly, this kind of Note was already added in the UDM SCAS.  |
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| ***Summary of change:*** | 1. Adding **Pre-Condition** to the TC\_AMF\_REEST\_CP\_CIOT test case:

-AMFCapability:Ability to support the CIoT senario.1. Adding **Pre-Condition** to the TC\_VALIDTATION\_SNSSAI\_IN\_PDU\_REQUEST test case:

-AMFCapability:Ability to support Network Slice Specific Authentication and Authorization scenario. |
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| ***Consequences if not approved:*** | It is not clear whether these new test cases should be tested if the related feature is not clarified. |
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| ***Clauses affected:*** | 4.2.2.7, 4.2.2.8 |
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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 1st CHANGE \*\*\*\*\*\*\*\*\*\*

4.2.2.7 RRCRestablishment in Control Plane CIoT 5GS Optimization

*Requirement Name:* RRCRestablishment in Control Plane CIoT 5GS Optimization

*Requirement Reference:* TS 38.413 [9], clause 8.3.8.2

*Requirement Description:* *"*Upon receiving the RAN CP RELOCATION INDICATION message, the AMF shall authenticate the request using the NAS-level security information received in the UL CP Security Information IE and if the authentication is successful initiate the Connection Establishment Indication procedure including NAS-level security information in the DL CP Security Information IE.

In case the AMF cannot authenticate the UE's request, the CONNECTION ESTABLISHMENT INDICATION message does not contain security information, and the NG-RAN node shall fail the RRC Re-establishment.

In case of authentication failure, the NG-RAN node and the AMF should locally release the allocated NG resources, if any." as specified in TS 38.413 [9], clause 8.3.8.2.

*Threat References:* TR 33.926 [5], clause K.2.9.1 –Failed Verification of UE Identity during RRC Reestablishment Procedure for CP CIoT 5GS Optimization.

***Test Case****:*

**Test Name:** TC\_AMF\_REEST\_CP\_CIOT

**Purpose:** Toverify that the verification of RRC Reestablishment is applied correctly.

**Pre-Condition:**

Test environment with UE and ng-eNB, which may be simulated. The UE is using Control Plane CIoT 5GS Optimization.

-AMF

Capability:

Ability to support the CIoT senario.

**Execution Steps:**

A. Test Case 1

1) The UE sends the RRC Connection Reestablishment Request message to the ng-eNB.

2) The ng-eNB sends RAN CP RELOCATION INDICATION message to the AMF.

B. Test Case 2

1) The UE sends the RRC Connection Reestablishment Request message to the ng-eNB.

2) The ng-eNB sends RAN CP RELOCATION INDICATION message to the AMF. The ng-eNB modifies UL NAS MAC in UL CP Security Information

**Expected Results:**

For test case 1, the AMF sends CONNECTION ESTABLISHMENT INDICATION to the ng-eNB, and DL CP Security Information is included.

For test case 2, the AMF sends CONNECTION ESTABLISHMENT INDICATION to the ng-eNB, and DL CP Security Information is not included.

**Expected format of evidence:**

Evidence suitable for the interface, e.g., Screenshot containing the operational results.

\*\*\*\*\*\*\*\*\*\* END OF 1st CHANGE \*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\* START OF 2nd CHANGE \*\*\*\*\*\*\*\*\*\*

4.2.2.8 Security in PDU session establishment procedure

4.2.2.8.1 Validation of S-NSSAIs in PDU session establishment request

*Requirement Name*: validation of S-NSSAIs in PDU session establishment request

*Requirement Reference:* TS 24.501 [5], clause 5.4.5.2.5

*Requirement Description*:"

*13) if the Request type IE is set to "initial request" and the S-NSSAI IE contains an S-NSSAI that is not allowed by the network, then the AMF shall send back to the UE the 5GSM message which was not forwarded as specified in subclause 5.4.5.3.1 case e) or case f);*" as specified in TS 24.501 [5], clause 5.4.5.2.5.

*Threat References*: TR 33.926 [6], clause K.2.X, Incorrect Validation of S-NSSAIs

*Test Case*:

**Test Name:** TC\_VALIDTATION\_SNSSAI\_IN\_PDU\_REQUEST

**Purpose:**

Verify that S-NSSAIs which are not within Allowed NSSAI list are not accepted by the AMF under test in PDU session establishment procedure.

**Pre-Conditions:**

Test environment with UE, UDM, SMF and NSSAAF, which may be simulated.

The tester configures UDM with an S-NSSAI that require Network Slice-Specific Authentication and Authorizationin in UE’s subscription information.

-AMF

Capability:

Ability to support Network Slice Specific Authentication and Authorization scenario.

**Execution Steps**

A. Test Case 1

1) The UE sends the S-NSSAI that require NSSAA to the AMF under test using registration request message.

2) After receiving the NSSAA request from the AMF, the NSSAAF sends EAP success to AMF.

3) The UE sends PDU session establishment request to the AMF with the S-NSSAI.

B. Test Case 2

1) The UE sends the S-NSSAI that require NSSAA to the AMF under test using registration request message.

2) After receiving the NSSAA request from the AMF, the NSSAAF sends EAP failure to AMF.

3) The UE sends PDU session establishment request to the AMF with the S-NSSAI.

**Expected Results:**

For test case 1, the AMF continues the PDU session establishment procedure by sending a Nsmf\_PDUSession\_CreateSMContext Request to the SMF.

For test case 2, the AMF aborts the PDU session establishment procedure by sending back the 5GSM message to the UE.

**Expected format of evidence**

Evidence suitable for the interface, e.g., Screenshot containing the operational results.

\*\*\*\*\*\*\*\*\*\* END OF 2nd CHANGE \*\*\*\*\*\*\*\*\*\*