**3GPP TSG-SA3 Meeting #116 *S3-242326***

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

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **33.511** | **CR** | **DraftCR** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  |
| *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 |  |

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| ***Title:***  | Expired certificate checking at gNB  |
|  |  |
| ***Source to WG:*** | Huawei; HiSilicon |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** | SCAS\_5G\_Maint |  | ***Date:*** | 2024-05-20 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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:*** | Addition of a new testcase related to the threat of certificate expiry checking intorduced in a parallel contribution S3-242328 to the gNB network product class in TR 33.926. |
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| ***Summary of change:*** | Addition of a new testcase for certificate expiry checking by gNB. |
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| ***Consequences if not approved:*** | Incomplete SCAS coverage of the certificate enrolment functionality. |
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| ***Clauses affected:*** | 4.2.2.1.x(new) |
|  |  |
|  | **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:*** |  |

\*\*\*\*\*\*\*\*\*\*\*\*\* 1st of Change\*\*\*\*\*\*\*\*\*\*\*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 33.501: "Security architecture and procedures for 5G system".

[3] 3GPP TS 33.117: "Catalogue of general security assurance requirements".

[4] Void

[5] 3GPP TR 33.926: "Security Assurance Specification (SCAS) threats and critical assets in 3GPP network product classes".

[6] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".

[7] 3GPP TS 23.501: "System Architecture for 5G System (5GS)".

[8] 3GPP TS 38.300: "NR and NG-RAN Overall Description".

[9] 3GPP TS 33.523: "5G Security Assurance Specification (SCAS); split gNB product classes".

[x] 3GPP TS 33.310: "Network Domain Security (NDS); Authentication Framework (AF)".

\*\*\*\*\*\*\*\*\*\*\*\*\* End of 1st Change\*\*\*\*\*\*\*\*\*\*\*\*\*

 \*\*\*\*\*\*\*\*\*\*\*\*\* 2nd of Change\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 4.2.2.1.x Certificate expiry checking

*Requirement Name:* Expired Certificate checking at base station

*Requirement Reference:* In accordance with industry best practice

*Requirement Description*:

The gNB has the capability to check whether certificates are about to expire and to act accordingly.

Editor’s Note: operator certificate or vendor certificate is FFS.

*Threat References*: TBD

*Test case*:

**Test Name:** TC\_EXPIR\_CERT\_CHCK

**Purpose:**

Verify that the gNB can check certificate expiry.

**Procedure and execution steps:**

**Pre-Conditions:**

- If the gNB under test does not support handling certificates as defined in TS 33.310[x], this test does not apply.

- The gNB network product is connected in emulated/real network environments.

- A CA may be emulated, if needed.

- The gNB is configured the necessary information to connect with the CA server, if needed.

- The necessary documentation describing the expiration time, how the gNB do the expiry checking and how to handle the when the operator certificate is about to be expired.

**Execution Steps**

1. The tester configure the gNB with certificates.

2. Configure the UTC timer of gNB to the time when the operator certificate is about to be expired.

3. The tester checks that the gNB reacts accordingly for example by raising an alarm or requesting a new certificate from the CA.

**Expected Results:**

- The gNB raises an alarm that the certificate is about to be expired.

**Expected format of evidence:**

The logs and the communication flow in a .pcap file.

\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change\*\*\*\*\*\*\*\*\*\*\*\*\*