**3GPP TSG-SA3 Meeting #116 *S3-242613-r3***

Jeju, South Korea, 20th - 24th May 2024 (revision of S3-241962)

**Source: Huawei, HiSilicon**

**Title: A&A of non-3GPP devices behind UE or 5G-RG** **based on secondary authentication**

**Document for: Approval**

**Agenda Item: 5.10**

# 1 Decision/action requested

***Approve the pCR to TR 33.700-32***

# 2 References

None

# 3 Rationale

This contribution proposes a solution to address the key issue #3 in TR 33.700-32.

# 4 Detailed proposal

pCR

\*\*\* Start of 1st CHANGE \*\*\*

## 6.Y Solution #Y: A&A of non-3GPP devices behind UE or 5G-RG based on secondary authentication

### 6.Y.1 Introduction

This solution addresses the key issue #3.

The solution reuses the secondary authentication procedure in TS 33.501 [x1] and adapts it to authenticate and authorize a non-3GPP device behind a UE or 5G-RG.

### 6.Y.1 Solution details

Assuming the non-3GPP device is identified as DN identifier (DID) behind a UE with a 3GPP subscription identified by the UE’s SUPI/GPSI to access services via the 5GS. Before authentication of the DID, the Primary authentication for the UE needs to be performed.

Editor’s note: The relation between DID and non-3GPP device identifier is FFS.

With reference to the figure 11.1.2-1 in TS 33.501 [x1], the DID authentication and authorization procedure is described as follows:

1-3. UE is registered to the network after Primary authentication and secuirty context is established as in TS 33.501 [x1].

4-7. The UE sends a PDU session establishment request to the netwrok as in TS 33.501 [x1].

8. The H-SMF initiates the secondary authentication procedure for the PDU session as in TS 33.501 [x1]

9-13. The EAP authentication starts and is completed after multiple rounds of messages exchages between the UE and the DN, as in TS 33.501 [x1].

14. After the successful completion of the authentication procedure, DN AAA server shall send EAP Success message to the H-SMF, along with GPSI and DID. The message may include any restriction information imposed to the DID, e.g. tiers of services/QoS, service duration etc.

Editor’s note: How the DN AAA server gets aware of the linked relation between GPSI of the UE and DID of the non-3GPP device is FFS.

15. This completes the authentication procedure at the SMF. The SMF may save the DN-specific ID and DNN (or DN's AAA server ID if available) in a list for successful authentication/authorization between UE and an SMF. Alternatively, the SMF may update the list in UDM. The UE (and the non-3GPP device) is identified by the GPSI and DID.

If the authorization is successful, PDU Session Establishment proceeds as described in TS 33.501 [x1].

16a-19 The UE-requested PDU Session Establishment authentication/authorization by a DN-AAA server proceeds further as described in TS 33.501 [x1].

### 6.y.3 Evaluation

Editor’s note: Without indication of Device ID from UE (steps 4-7 and 8), how the SMF determines to trigger the authentication is FFS

Editor’s note: How secondary authentication of the UE authenticates the non-3GPP device behind the UE is FFS.

Editor’s note: ffs to clarify DID.

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

\*\*\* Start of 2nd 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 TR 23.700-32: "Study on User Identities and Authentication Architecture"

[x1] 3GPP TS 33.501: "Security architecture and procedures for 5G system"

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[x] <doctype> <#>[ ([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

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