**3GPP TSG-SA3 Meeting #103e *S3-211807-r1***

**e-meeting, 17 - 28 May 2021** Revision of S3-21xxxx

**Source: Qualcomm Incorporated**

**Title: Add an evaluation for solution #10**

**Document for: Approval**

**Agenda Item: 5.9**

# 1 Decision/action requested

***This contribution proposes an update to add evaluation.***

# 2 References

[1] TR 33.847 v0.5.0

# 3 Rationale

This contribution proposes to add an evaluation of solution #10 based on the architectural impacts on the core network components.

# 4 Detailed proposal

**\*\*\*\*\* START OF CHANGES \*\*\*\*\***

### 6.10.3 Evaluation

This solution requires a new relayed primary authentication procedure (aka "network controlled authorization" based on TR 23.252 sol#47) to enable Remote UE to perform primary authentication with the AUSF of Remote UE via the AMF of Relay UE.

The Remote UE needs to performs a primary authentication when it establishes a connection with a relay UE and if the Remote UE provides its SUCI. The Remote UE does not need to perform a primary authentication when it provides its 5G-GUTI or if it reconnects with the relay using an already established PC5 root key.

The AMF needs to store Remote UE information (Remote UE id, PC5 link root key) in the Relay UE context.

If Option 2 is used (i.e., Remote UE sends 5G-GUTI, Remote UE context is transferred to the the Relay's AMF), the Relay's AMF should be able to process Remote UE’s registration update and 5G-GUTI reallocation.

If Option 1 is used (i,e,, Remote UE sends 5G-GUTI, Remote UE context is not transferred), the solution does not impact existing NAS procedures between Remote UE and its serving AMF.

Option 1 seems preferrable as it does not impact the existing NAS procedures between Remote UE and its serving AMF.

**\*\*\*\*\* END OF CHANGES \*\*\*\*\***