**3GPP TSG-SA3 Meeting #104-e draft\_*S3-212929-r1***

**e-meeting, 16 - 27 August 2021**

**Source:** **Samsung, Nokia, Nokia Shanghai Bell**

**Title:** **Evaluation for solution 1**

**Document for: Approval**

**Agenda Item:** **5.20**

# 1 Decision/action requested

***The contribution proposes to add evaluation to solution 1***

# 2 References

[1] TR 33.875 v020 Study on enhanced security aspects of the 5G Service Based Architecture (SBA)

# 3 Detailed proposal

It is suggested to approve the following changes to Solution #1: Verification of the entity sending the service response in indirect communication without delegated discovery.

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

### 6.1.3 Evaluation

This solution proposes an enhancement at the NF Service Producer to use the CCA as defined in TS 33.501. It provides an approach how an NF Service Consumer can authenticate NF Service Producer, from which NF Service Consumer received a service response, as intended NF for Service Response in indirect communication without delegated discovery.

This solution introduces Client credentials assertion of NF Service Producer which includes NFp Instance ID and signature using certificate of NFp. The NF Service Consumer can validate the CCA sent by the NF Service Producer and ensure that no rogue or malicious SCP or MitM has sent a service request to a malicious NF Service Producer.

In the case of Model D (i.e. delegated discovery at SCP), the solution assumes the SCP to be trusted, and in case the service request is sent to a malicious NF Service Producer errorneously, the SCP while sending the service response (along with the CCA of NF Service Producer) appends the NF Service Producer Instance where the request was sent to. Thus, the NF Service Consumer can verify if the response received is coming from a genuine and correct NF Service Producer or not.

This solution does not cover the case when SCP reselects another NF as NF Service Producer which is different from the targeted NF Service Producer by NF Service Consumer. Therefore, it is possible for NF Service Consumer to reject the received service response from a legitimate NF Service Producer and may induce service unavailability.

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