**3GPP TSG-SA3 Meeting #108e *S3-221851***

**e-meeting, 22 - 26 August 2022**

**Source: Nokia, Nokia Shanghai Bell**

**Title: KI1 conclusion on NFp authentication in indirect communication**

**Document for: Approval**

**Agenda Item: 5.24**

# 1 Decision/action requested

*Proposal for KI#1 conclusion on NFp authentication in indirect communication.*

# 2 References

[1] 3GPP TR 33.875

# 3 Rationale

Even if not all subtle cases are covered, it appears as an improvement to also allow the optional inclusion of a token such as CCA for the producer side such that a NF Service Consumer would have the option to validate if the NF sending the response is the producer that NFc has selected by itself or if it is a producer of the same NF Set or NF Service Set as indicated in the OAuth token received from NRF.

Analysis and conclusion are proposed along these lines.

# 4 Detailed proposal

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

*\*\*\*\* in clause 7 Conclusions*

## 7.1 KI#1: Authentication of NRF and NF Service Producer in indirect communication

### 7.1.1 Analysis

The key issue addresses the scenario of an intermediary such as a standalone SCP to be compromised. In this case, the NF Service Consumer is not able to verify if the NRF response or the NF Service Producer response has been received by a legitimate entity.

2 solutions are presented to cover this key issue.

Both solutions are based on using the concept of CCA for the NF Service Producer or the SCP, i.e., similar to the CCA used for the NF Service Consumer as specified in 3GPP TS 33.501 [2]. Such a token is introduced in the related solutions #1 and #6 to allow a client to validate the sender of a response directly, even if an SCP is in between.

Solution 1 has a limited scope as provided in the respective evaluation part in clause 6.1.

Solution #6 superseeds solution #1, overcoming some of the limits of the solution in case of Model D, also addressing the scenario of reselection of the target NF.

Even if not all subtle cases are covered, it appears as an improvement to also allow the optional inclusion of a token such as CCA for the producer side such that a NF Service Consumer would have the option to validate if the NF sending the response is the producer that NFc has selected by itself or if it is a producer of the same NF Set or NF Service Set as indicated in the OAuth token received from NRF.

In solution #Z ….. TBD

### 7.1.2 Conclusion

TBD

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