**3GPP TSG-SA3 Meeting #104-e *S3-212890***

**e-meeting, 16 - 27 August 2021** Revision of S3-21xxxx

**Source: Nokia, Nokia Shanghai Bell**

**Title: KI and solution for verification of NFc by NF Service Producer**

**Document for: Approval**

**Agenda Item: 5.20**

# 1 Decision/action requested

Inclusion of KI and Solution.

# 2 References

[1] 3GPP 33.875

# 3 Rationale

*Reason for change: The NF Service Producer currently has no way to verify that the fqdn or domain where the response/notification will be sent to, is indeed the one belonging to the NF Service Consumer for which the OAuth token has been generated.*

*Summary of changes: KI and Solution proposed.*

# 4 Detailed proposal

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

## 5.X Key issue #X: NF Service Consumer authenticity verification by NF Service Producer

### 5.X.1 Key issue details

The NF Service Producer currently has no way to verify that the fqdn or domain where the response/notification will be sent to, is indeed the one belonging to the NF Service Consumer for which the OAuth token has been generated.

This is because the NF Service Producer cannot verify authenticity of the FQDN/domain in the NF Service Consumer in the service request or subscription request.

### 5.X.2 Security threats

If the requester fqdn/domain in the service request is tampered, the NF Service Producer can return a service response or a service notification to the malicious FQDN, resulting sensitive information leaked to unauthorized NFs.

### 5.X.3 Security requirements

The NF Service Producer shall be able to verify the fqdn or domain of the NF Service Consumer.

\*\*\*\*\*\*\*\*\*\*\* NEXT CHANGE

## 6.Y Solution #Y: NF Service Consumer verification by enhancing CCA and access token

### 6.Y.1 Introduction

This solution addresses KI#X. It is proposed to add fqdn or domain to the NFc's CCA as well as in the access token provided by NRF for this NFc. If fqdn or domain is present, the NF Service Producer is able to check that it provides the service to the correct NF Service Consumer.

### 6.Y.2 Solution details

The NF Service Consumer adds fqdn or domain in the CCA. This guarantees that the consumer fqdn/domain is not manipulated while “travelling” to the NF Service Producer.

NRF adds fqdn or domain in the access token, i.e. claims include a list of NF Service Consumer fqdn or domain allowed to access the NF Service Producer to allow the NF Service Producer to verify consumers authorized to access events for the subscription.

After comparing the information in the access token with the info in the CCA, the producer is assured that the fqdn and/or domain of the NF Service Consumer is genuine.

EN: how to handle if the CCA does not have the FQDN is ffs.

### 6.Y.3 Evaluation

tbd

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