**3GPP TSG-SA3 Meeting #108e *draft\_S3-221868-r1***

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

**Source: Nokia, Nokia Shanghai Bell**

**Title: KI8 update of solution 10 and evaluation**

**Document for: Approval**

**Agenda Item: 5.24**

# 1 Decision/action requested

***Solution 10 update and adding an evaluation.***

# 2 References

[1] 3GPP TS 33.875

# 3 Rationale

# 4 Detailed proposal

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6.10 Solution #10: NRF deployment clarifications

6.10.1 Introduction

This solution addresses key issue #8. It provides clarification of handling access token requests in different NRF deployment scenarions.

6.10.2 Solution details

There are different deployment options for NRFs, as described in TS 23.501 (see clause 5.15.5).

The NF Service Consumer may have discovered a specific NRF in advance, e.g. a slice specific NRF, and can send its request directly to this specific NRF. In this case, if the specific NRF is not the NF Service Consumer's local NRF, the authorization server part of this NRF does only have a record of this NF Service Consumer's Oauth2.0 client registration, when information about the NF Service Consumer instance and its NF Type is made available in the OAuth 2.0 Authorization server, ie. the slice specific NRF.

This registration process is subject to implementation procedures of the operator, with the following consideration on authentication procedure: OAuth 2.0 clients are capable to authenticate securely with the authorization server, i.e., client type as specified in RFC 6749 [35] is "confidential".

If the NF Service Consumer requests an NRF, where the NF Service Producer is not registered (see NRF deployment options), the requested NRF needs to redirect/forward the service request to that NRF.

In a local NRF deployment, the NF Service Producer only gets the certificate of its local NRF. Thus, the local NRF of the NF Service Producer would need to trust the forwarding NRF that has authenticated the NF Service Consumer before the local NRF be able to authorize the NF Service Consumer.

6.10.3 Evaluation

The solution proposes that information about the consumer instance and its type is made available in the slice specific NRF. This is technically possible, potentially quite complicated. It is applied to an optimization in TS 23.501on a slicing-related procedure. Whether the procedure with this addition is still an optimization, would need further evaluation.

This proposal requires pre-configuration of the slice-specific NRF for solving a very specific issue of an optimization in TS 23.501 on a slicing-related procedure.

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