**3GPP TSG-SA3 Meeting #108e *draft\_S3-221863-r2***

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

**Source: Nokia, Nokia Shanghai Bell**

**Title: KI7 evaluation of solution 9 on authorization method negotiation**

**Document for: Approval, Information, Discussion**

**Agenda Item: 5.24**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 2 References

[1] 3GPP TR 33.875

# 3 Rationale

# 4 Detailed proposal

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

## 6.9 Solution #9: Authorization mechanism negotiation

### 6.9.1 Introduction

This solution addresses Key Issue #7 "Authorization mechanism negotiation". It is proposed to use the two NRFs for the authorization mechanism negotiation.

### 6.9.2 Solution details



Figure 6.9.2-1: Authorization mechanism negotiation

Pre-requisite:

- the vPLMN and hPLMN support at least static authorization dependent on the roaming partner

1. The NF Service Consumer sends a discovery request to the vNRF.

2. The vNRF sends a discovery request to the hNRF. In addition to the discovery request from the NFc, the vNRF add the vPLMN authorization Capability into the discovery request. The vPLMN authorization Capability indicates the supported authorization mechanisms, i.e., static, OAuth, or Both.

3. The hNRF selects the Final authorization mechanism supported by both the received vPLMN authorization Capability and the hPLMN authorization Capability. The hPLMN, i.e. all NF producers of the hPLMN that handle service requests from other PLMN, need to support at least static authorization. In this way, the hNRF can always select an authorization method that is supported by both the vPLMN and the hPLMN.

NOTE: The Final authorization mechanism selected by hNRF is depend on operator.

4-5. The hNRF sends the Final authorization mechanism to the NFc.

Then, if the Final authorization mechanism indicates static authorization, then the NFc could use the static authorization to access the NFp service. If the Final authorization mechanism indicates OAuth authorization, then the NFc could get the token from the NRF before consuming the service from the NFp.

### 6.9.3 Evaluation

This solution addresses the threats and requirements of Key issue #7: "Authorization mechanism negotiation".

The pre-requisite is that the hPLMN support at least static authorization.

This solution addresses for the inter-PLMN scenario the use case that the vPLMN has only implemented static authorization. The NF Service Producer needs to support whichever authorization mechanism is determined by the hNRF, i.e. using different authorization mechanisms depending on the roaming partner.

In the solution proposed, the VPLMN could enforce the HPLMN to overcome the mandated support for OAuth. I.e. to demand static authorization by only providing this specific capability to the roaming partner. This is however in contradiction with the statement given in the solution note itself: "NOTE: The final authorization mechanism selected by hNRF is dependent on operator" of the service provider's NF.

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