**3GPP TSG-SA3 Meeting #108e *draft\_S3-221869-r3***

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

**Source: Nokia, Nokia Shanghai Bell**

**Title: KI8 conclusion on deploying multiple NRFs**

**Document for: Approval**

**Agenda Item: 5.24**

# 1 Decision/action requested

***Conclusion on key issue 8 is provided.***

# 2 References

[1] 3GPP TR 33.875

# 3 Rationale

*The key issue was created to document the different deployment scenarios for NRFs. It is concluded to add a clause in line with below analysis to TS 33.501.*

# 4 Detailed proposal

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

\*\*\* Clause 7 on Conclusions

## 7.8 KI#8: Service access authorization requirements in intra-PLMN scenarios for PLMN deploying multiple NRFs (in OAuth2.0 AS role)

### 7.8.1 Analysis

As described in clause 6.2.6.1 of TS 23.501 [1], an operator network can deploy multiple NRFs, for example due to network slicing or network segmentation.

A clause on handling access token requests in deployments with several NRFs is missing in 3GPP TS 33.501 [2].

Solution #10 addresses one part, i.e. making NF Service Consumer instance and type available to a slice specific NRF. As provided by evaluation, the solution is technical possible but seems to have high impact in realization.

For normative work, rather a generic description is desired how to handle multiple NRF scenarios.

### 7.8.2 Conclusion

A new clause to TS 33.501 along the lines of the following text will be added to clarify NRF deployment scenarions.

If an NRF receives an access token request for an NF Service Producer that is not registered at this NRF, the NRF has to determine the target NRF where the NF Service Producer is registered. Only afterwards it can forward the access token request to the target NRF.

There can also be several hops of NRFs between the NRF that receives the access token request from the NF Service Consumer and the target NRF where the NF Service Producer is registered.

. One option of hierarchical NRF deployment is the local NRF deployment, where the local NRF checks if the NF Service Consumer is authorized to receive the requested service and, if yes, issues and signs the access token. In the case when the access token request from the NF Service Consumer was forwarded by another NRF, the local NRF of the NF Service Producer needs to trust the NRF which forwarded the access token request.

Editor’s Note: Further conclusion regarding solution #10 is FFS.

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