**3GPP TSG-SA3 Meeting #104-e *S3-212576r1***

**e-meeting, 16 - 27 August 2021** Revision of S3-20xxxx

**Source: Huawei, HiSilicon**

**Title: New KI on AF authentication and authorization**

**Document for: Approval**

**Agenda Item: 5.21 FS\_eNS2\_SEC**

# 1 Decision/action requested

***Include the KI in TR33.874***

# 2 References

[1]

# 3 Rationale

This contribution proposes a new key issue for the study.

# 4 Detailed proposal

pCR

\*\*\* BEGINNING OF 1st CHANGES (All text are new) \*\*\*

## 5.X Key Issue #X: AF authentication and authorization

### 5.1.1 Key issue details

As specified in TS23.501 [2] and TS23.502 [3], the current utilization state of a network slice, e.g. the number of UEs registered for a network slice or the current number of PDU Sessions established on a network slice, can be reported to an AF deployed within a 3GPP system or in a third party domain. In either case, the AF should be authenticated and authorized beforehand and the 5G system should make sure no sensitive information leakage.

In TS23.502 [3], a notification procedure has been specified to allow an AF to get access to the network slide information through NEF. However, it is not clear how the AF is authenticated and authorized. The authorization details (e.g. what parameters and whether slice-specific parameters need to be verified) need to be specified to avoid ambiguity and potential attacks. It is expected that the AF deployed within the 3GPP domain or a third party domain will be authenticated or authorized in a different way, which should be also studied and specified. In addition, the procedure needs to take into account the privacy issue of S-NSSAI sicne S-NSSAI may not be available at a third party AF due to concerns on the sensitivity information leakage (an S-NSSAI may not to be made known to a third-party AF).

### 5.1.2 Security threats

If an AF is not authenticated or authorized before accessing to the network slice information, a mischievious AF may collect such information for other purposes. If S-NSSAI is sent to a third party AF, sensitive information may leak out of 3GPP systems.

### 5.1.3 Potential security requirements

The 5G system shall specify authentication and authorization procedures with an AF (3rd party or deployed by 3GPP) accessing network slice quota usage information.

S-NSSAI information shall not be sent to a third party AF for network slice quota-usage notification.

\*\*\* END OF 1st CHANGES \*\*\*