**3GPP TSG-SA3 Meeting #104-e- Ad-hoc *S3-213415***

**e-meeting, 27 – 30 September 2021** Revision of S3-20xxxx

**Source: Huawei, HiSilicon**

**Title: Address EN and add evaluation for solution 6**

**Document for: Approval**

**Agenda Item: 5.5**

# 1 Decision/action requested

***This contribution proposes to address ENs and update evaluation in solution 6 in TR 33.867.***

# 2 References

# 3 Rationale

There are 3 editor’s notes in the solution 6:

“Editor’s Note: How does the UDM decide whether a data consumer is allowed to subscribe to the service is ffs.”

“Editor's note: how to achieve the necessary granularity of subscription to receive only relevant consent revocation information (i.e. related to that data, and for what purpose) is FFS.”

“Editor’s Note: How to handle scenarios where the target NF is not available is FFS.”

For the 1st EN, as depicted in 13.3 in TS 33.501 [1], static authorization or token based authorization can address the authorization issue based on local policy.

For the 2nd EN, it is agreed in S2-2105408 [2], In agreed S2-2105408 [2], Nudm\_SDM\_Subscribe is for user consent check usage as depicted as

“*If user consent for a user is granted, then the NWDAF subscribes to user consent updates in UDM using Nudm\_SDM\_Subscribe service operation. Otherwise, the NWDAF excludes the corresponding SUPI from the request to collect data and generate analytics.*

*When Data is collected from the UE Application, the ASP is responsible to obtain user consent to share data with the MNO.*

*If the UDM notifies that the user consent changed, then the NWDAF checks if the user consent is not granted for the purpose of analytics or model training. If user consent was revoked for a UE, the NWDAF stops data collection for that UE. For analytics subscriptions to any of the UE related analytics with target for analytics set to that UE, the NWDAF stops generation of new analytics and stops providing affected analytics to consumers. If the target for analytics is either an Internal or External Group Id or a list of SUPIs or "any UE", the NWDAF skips those SUPIs that do not grant user consent for the purpose of analytics or model training. The NWDAF may unsubscribe to be notified of user consent updates from UDM for users for which data consent has been revoked.*”

“*2. If the user consent is granted, the NWDAF subscribes to UDM to notifications of changes on subscription data type "User consent” for this user using Nudm\_SDM\_Subscribe.*”.

So, the subscription data can be limited in user consent parameters.

For the 3rd EN, since the issue is related to regulation, if data consumer or intermediate NF is not available when the notification is issued, the UDM shall log the event. Administrators may address the issue using mechanism out of band, e.g. contact the legal entity manually.

Besides, the solution can address the requirement in key issue #3, so, it is proposed to add the evalution part for the solution.

# 4 Detailed proposal

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of 1st Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 7.6 Solution #6: Revocation for user consent

### 7.6.1 Solution overview

The solution addresses key issue 3.

The solution gives an overview for revoking user consent due to some regulatory requirements.

### 7.6.2 Solution details

Figure 7.6.2-1 illustrates the general procedure for user consent revocation.

The overall assumption is that user consent is part of subscription of the UE stored in UDM. If there is revocation or modification requirement on user consent, UDM shall initiate the subsequent procedures in the network. There are several means for a UE to trigger the user consent revocation, for example, out-of-band way, i.e. the user can revoke a contract.



Figure 7.6.2-1 user consent revocation procedure

The pre-condition is that, a data consumer or an intermediate NF (e.g. including NWDAF/NEF) shall subscribe to the user consent revocation as a service at UDM, reusing the subscription notification procedure, e.g. Nudm\_SDM\_notification service. To be detailed, the inputs shall be set as: “Subscription data type(s)” is set to “user consent subscription data”, the “Key for each Subscription data type(s)” is set to “SUPI”.

NOTE X: Since input “Subscription data type(s)” is set to “user consent subscription data”, only changes on the user consent parameters will trigger notification.

Another precondition is that any NF acquiring user consent from the UDM shall register to this revocation service.

Step1: UDM updates subscription information which aims to revoke the user consent due to the request from user. User can request to withdraw its specific user consent corresponding the user data, e.g. location, identity through the demand on network. How does the user require the revocation is not captured in this solution.

NOTE Y: The existing mechanism as depicted in 13.3 in TS 33.501 can be reused for authorization of subscribing the service on the UDM

Step2a: UDM shall send out the Nudm\_SDM\_Notify message which shall include UE ID, processor ID, purpose of processing, user consent result to the Intermediate NF. UE ID is relevant to the subscriber ID, e.g. SUPI, GPSI, processor ID refers to a data processor who processes data for the UE, can be PLMN ID, AF ID, or more generic, e.g. “3rd party” or “all”. Purpose of processing is linked to the revoked services. User consent result refers to consent for data processor to process the data according to purpose of data processing, e.g. allowed or not allowed.

Once receiving the request, the intermediate NF shall delete the data subject to the consent, if the intermediate NF has the processing data functionalities, such as analysis, collection functionalities, intermediate NF shall stop processing the data subject to the consent.

Step 3: If the Data Consumer accesses the Data Provide via intermediate NF, the intermediate NF shall additionally send user consent revocation request message to the Data Consumer. Upon receiving the request, the Data Consumer shall delete the data subject to the consent, if the intermediate NF has the processing data functionalities, such as analysis, collection functionalities, intermediate NF shall stop processing the data subject to the consent.

Step2b: UDM shall send out the Nudm\_SDM\_Notify message to Data Consumer directly. The message is the same as provided to the intermediate NF.

Once receiving the request, the Data Consumer shall delete the data subject to the consent, if the intermediate NF has the processing data functionalities, such as analysis, collection functionalities, intermediate NF shall stop processing the data subject to the consent.

In case that if the data consumer or intermediate NF is not available when the notification is issued, the UDM logs the event.

### 7.6.3 Solution evaluation

There is no impact on UE side.

The solution addresses requirements in key issue #3.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of 1st Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*