**3GPP TSG-SA3 Meeting #108-e *draft\_S3-222094-r1***

**e-meeting, 22nd – 26th August, 2022** Revision of S3-22xxxx

**Source: Huawei, HiSilicon**

**Title: New Solution on User Consent Architecture for RAN as Enforcement Point**

**Document for: Approval**

**Agenda Item: 5.22**

# 1 Decision/action requested

***The contribution*** ***proposes a new solution to address KI#2 and new KI***

# 2 References

# 3 Rationale

The contribution proposes a new solution that RAN is deeded as enforcemen point to address KI#2 and new KI that RAN processes data. Both of them have the similar scenario that the RAN will collect the UE’s data for specific usage, e.g. NTN or AI/ML, thus, it is proposed a unified user consent architecture that the RAN is deeded as enforcement point.

# 4 Detailed proposal

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

## 6.X Solution #X: User Consent Architecture for RAN as Enforcement Point

### 6.X.1 Introduction

This solution addresses the requirement in KI#2 “User consent for NTN” and KI#Y “User consent for AI/ML for RAN”.

Both KI#2 and KI#Y have the similar scenario that the RAN will collect the UE’s data for specific usage, e.g. NTN or AI/ML, thus, it is proposed a unified user consent architecture that the RAN is deeded as enforcement point.

### 6.X.2 Solution details

### 6.X.2.1 User consent check and revocation for RAN as enforcement point



Figure 6.X.2.1-1 User consent check and revocation for RAN as enforcement point

1. If NG-RAN is going to collect UE’s data (e.g. UE’s location information) for specific purpose, e.g. NTN service, Model training, analytics, etc., and there are no user consent parameters in current UE context, the NG-RAN triggers an N2 message based on local policy.

2. NG-RAN sends N2 message including user consent required for RAN indication to the AMF.

NOTE: Whether to define a new N2 message or reuse the existing N2 message depends on RAN3’s decision.

3. The AMF sends Nudm\_SDM\_Get request message including SUPI and user consent required for RAN indication to the UDM to retrieve user consent parameters used for RAN.

4. The UDM replies Nudm\_SDM\_Get response message to the AMF. The message includes user consent parameters used for RAN. The user consent parameters at least include purpose of data processing, user consent result (i.e. grant or not granted)

5. The AMF sends the user consent parameters transparently to the RAN.

6. NG-RAN stores the user consent parameters. If there is any service requirement for NG-RAN to collect UE’s data, e.g. triggered by OAM, AMF, or NG-RAN itself, the NG-RAN enforces user consent policy based on the user consent parameter before triggering data collection, i.e. whether the specific purpose is granted or not.

7. The AMF subscribes the notification service by sending Nudm\_SDM\_Subscribe message to the UDM.

Editor’s Note: When does AMF subscribe the notification on UDM is ffs.

8. If user consent parameter is changed, e.g. consent is revoked, the UDM will notify it.

9. The UDM sends Nudm\_SDM\_Notify message to the AMF, the message includes the changed user consent parameter.

10. The AMF sends the changed user consent parameters transparently to the RAN.

11. NG-RAN updates the user consent parameters. If the consent is revoked, the NG-RAN stops collecting and processing the UE’s data subject to the consent. The NG-RAN may also delete the UE’s data subject to the consent based on local regulations.

### 6.X.2.2 User consent parameter transmission

The user consent parameter is stored as UE context in NG-RAN, thus, the user consent parameter will be transferred in mobility case.

In Xn handover, source NG-RAN sends the user consent parameter to the target NG-RAN in Handover Request message.

In N2 handover, source NG-RAN sends the user consent parameter to the target NG-RAN in source-to-target container in Handover Required message.

In RRC reestablishment or RRC resume procedure, source NG-RAN sends the user consent parameter to the target NG-RAN in Retrieve UE context Response message.

In DC procedure, MN sends the user consent parameter to the SN in SN Addition Request message.

Editor’s Note: procedure for user consent parameter transmission is ffs, since user consent is location specific, it may not be transferred from one node to another node blindly.

### 6.X.3 Evaluation

TBD

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