3GPP TSG SA WG2 Meeting #156-e

April 17 - 21, 2023, Electronic

**Source: KPN**

**Title: Discussion on MBSR authorization indication and update.**

**Document for: Discussion**

**Agenda item: VMR**

# 1. Introduction

In the last meeting, the SA2 WG specified the procedure to indicate to the MBSR that it is not allowed to act as such during the UE registration. However, MBSR authorization update has not been specified yet.

This paper discusses possible options and proposes a way forward.

# 2. Discussion

After UE registration, MBSR authorization might change, for example if there are updates in the subscription information and the AMF receives a Subscriber Data Update Notification from the UDM.

We argue for allowing the AMF to update MBSR authorization for radio network optimization considerations as well, to allow temporarily disabling a set of selected MBSRs to avoid interference if a high number of MBSRs is currently operating in the area. This can also be useful to optimize energy consumption, by enabling and disabling MBSRs dynamically as needed depending on the number and distribution of MBSRs and UEs currently in the area, without having to change their allowed locations in the subscription information.

To change MBSR authorization, two options are possible:

1) UE Configuration Update; or

2) Deregistration with re-registration of the UE.

We argue for using the first option as it prevents deregistering the UE and causing unnecessary service interruption when MBSR authorization is updated.

In case the MBSR authorization is changing from authorized to un-authorized, the UEs currently connected to the MBSR are handed over to other cells. We propose in that case to re-use the procedures described in clause 5.35A.3 in TS 23.501. for UE mobility between a fixed cell and MBSR cell and UE mobility between MBSR cells. This process can be triggered by the IAB-donor-CU upon receiving a UE Context Modification request from the AMF to the NG-RAN (see clause 8.3.4 in TS 38.413).

Consequently, our CR XXXX to TS 23.501 proposes to use the UCU procedure for changes in the MBSR authorization, and re-using the UE mobility support procedures described in clause 5.35A.3 in TS 23.501

If the UE Configuration Update option is selected, an IE indicating the MBSR authorization status should be added to the UCU command in clause 4.2.4.2 in TS 23.502 (See our corresponding CR XXXX).

The MBSR authorization indication has still not been specified, with two remaining ENs (i.e. reuse the IAB-Operation allowed indication and IAB authorized indication, or add new IEs). Although we do not have a strong opinion on the matter, we suggest to re-use the existing IEs, namely the IAB authorized indication which is already used in the UE Context Setup, Modification and the Handover requests from the AMF to the NG-RAN (see clauses 9.2.2 and 9.3.1.129 in TS 38.413), and the IAB-Operation allowed indication which is already present in the UE subscription data.

This option re-uses already available IEs, and avoids impact on RAN by adding a new IE in TS 38.413 for the UE Context Management Messages. Furthermore, new IEs add more complexity in ensuring consistency between the IAB and MBSR authorization indications, since a UE that is not IAB-allowed should also not be allowed to act as an MBSR.

In consequence, our CR XXXX to TS 23.502 updating the UCU procedure adds the IAB Authorized Indication, and an additional CR YYYY to TS 23.501 resolves the two related ENs and updates MBSR authorization text for consistency.

# 3. Conclusion & proposal

In our view, the UE Configuration Update option for MBSR authorization changes avoids service disruption for the UE, thus option 1 is proposed in our CR XXX to TS 23.501. Additionally, to minimize impact on RAN procedures, we propose to re-use the IAB-Operation allowed indication and IAB authorized indication in our CRs YYYY and XXXX to TS 23.501 and TS 23.502 respectively.

# 4. Reference

NA.