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Shenzhen, China

Agenda item: 6.9.2 GBA
Title: Update of GUSS in BSF
Source: Huawei
Document for: Discussion and Decision

1 Introduction

When BSF contract the HSS, the BSF can fetch the required authentication information and all GBA user security settings from HSS. There is still an open issue that the proceeding is FFS in the case where GBA user security settings are updated in HSS after GBA user security settings were forwarded. This contribution discusses the possible approaches to resolve this open issue.

2 Discussion

The necessity of notification of the update:

The GUSS can't keep unchanged according the various application services.

The first, the existing USS may be updated, and this change may affect the implementation of the service, for example, the type of subscriber certificate in USS for certificate service is changed according to the subscription, if HSS don't notify this change to BSF, the subscriber may not get the right certificate.

The second, a new USS is added to the GUSS, but before this adding, the BSF fetch a batch of AV and GUSS just now, then the new USS will be missed. The result will be the NAF can't get the corresponding USS, and the error may be raised.

Current mechanism:

With the current mechanism, when the BSF request the authentication information, BSF can get the GUSS at the same procedure. But the authentication information can be got in batch for the reason of saving resource, that means it's not necessary that BSF must contract the HSS for every running bootstrapping, then the BSF maybe get the updated GUSS after a long delayed time.

Possible processing:

If HSS record the state and keep session for each user, it's not appropriate and not desirable to put such heavy burden to HSS but with low efficiency.

If the HSS just notify the BSF simply when the GUSS is updated, it will not put more additional work to HSS. For example, when the GUSS is updated, HSS notify the BSF “a user’s GUSS is updated” and don’t wait the answer from the BSF, after the BSF receive this notification, it should decide whether it need request the updated GUSS, if “yes”, the BSF request new GUSS, otherwise the BSF ignore this notification.

The HSS should put a flag to each GUSS to indicate whether the GUSS is forwarded to the BSF, if the BSF don’t request the GUSS for a long time, the HSS should get rid of this flag, because the user might turn to inactive state, the BSF had deleted the information of that user, in this case, the HSS should avoid to do the useless notification.

If the subscriber’s GUSS is updated in a bulk, the HSS should include the all IMPI that be affected in one notification message, the BSF also request the updated GUSS in a bulk to avoid the congestion.

After the BSF update the GUSS, BSF may take two alternative to update the GUSS to NAF..

1) BSF may take same action with HSS to notify NAF, and it’s up to NAF whether it will update or not. Because there may be many NAFs associating with different part of GUSS, the BSF should do some work to keep information between NAF and USS.

2) BSF don’t do additional work and just wait the NAF retrieve the B-TID, then USS can be updated with current procedure.

The first alternative is a little complex and more detailed work should be done in BSF. The alternative 2 is simple and the slight delay don’t take significant impact to user’s service, , and should be the best practical choice for current TS.

3 Conclusion

1 When the GUSS is updated in HSS, it’s needed to notify the BSF, but HSS don’t need to wait the answer from the BSF. It’s up to the BSF whether it will update the GUSS or not.

2 The HSS should set a flag for each subscriber’s GUSS to avoid the useless notification.

3 The HSS can deal with a block update in a notification message, and BSF also can request the GUSS in a batch.

4 When the GUSS is updated in BSF, NAF do not need to be notified, it will update the USSs when it perform current Using Bootstrapping procedure, no extra procedure is needed before that.

4 Proposal

SA3 endorse the above summary.

A separate CR to 33.220 is prepared.