

Source: Ericsson
Title: Optimization of GBA
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1 Introduction

SA3 is currently discussing work related to GAA for Rel-7. Within this context it would be worthwhile to study possible optimizations of the GBA procedures. This contribution discusses some possible optimizations for GBA.

2 Discussion

In current GBA the user needs to have two interfaces towards the network: Ua to the NAF and Ub to the BSF. In case the Ua interface also uses HTTP this means quite similar signalling over Ua and Ub. It would be worthwhile to study if this could be optimized.

Below is described two possible alternatives how optimization could be achieved. Both alternatives assume that Ua interface uses HTTP Digest [1].

In the first alternative the bootstrapping is done via NAF, i.e. Ub and Ua interfaces are combined. HTTP is used over Ua interface to carry double digest headers, first headers to carry HTTP Digest AKA between UE and BSF and second digest headers to carry HTTP Digest authentication between UE and NAF. The flow is described below.

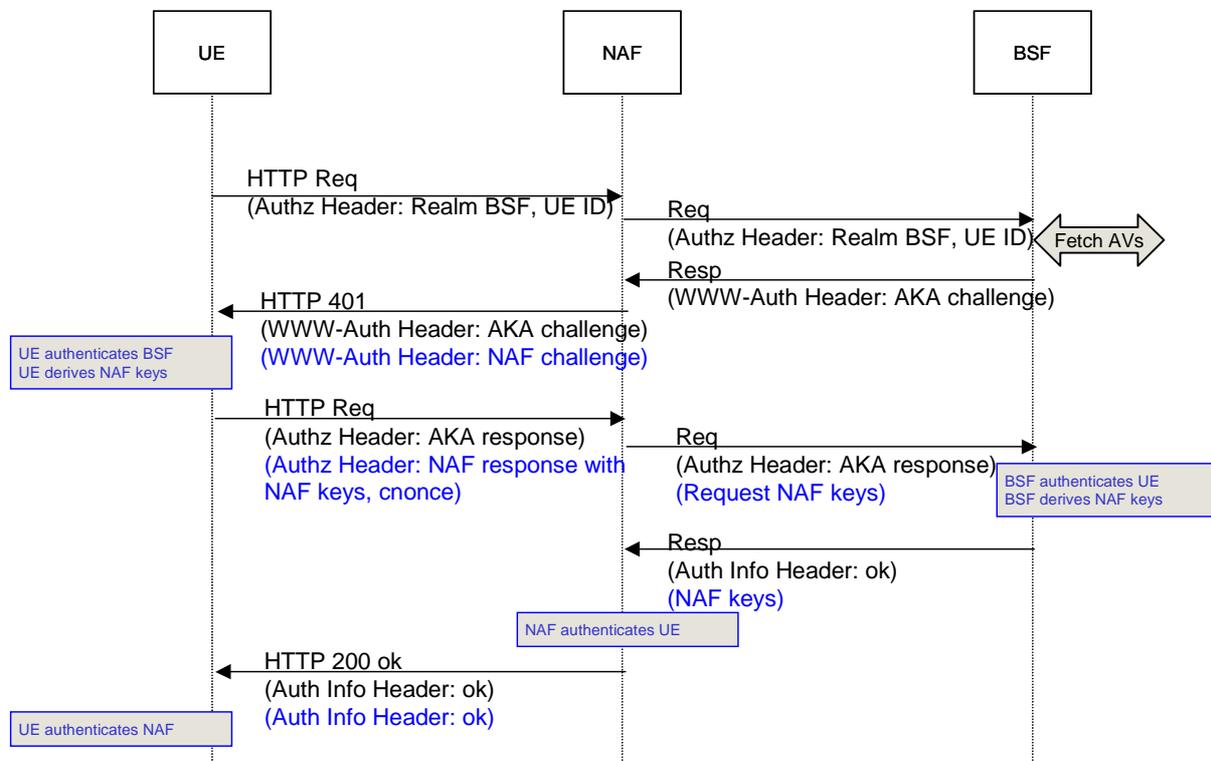


Figure 1: GBA optimization using double HTTP digest headers

In the second alternative the bootstrapping is done via NAF, i.e. Ub and Ua interfaces are combined. HTTP is used over Ua interface to carry single digest headers. The headers are used to carry HTTP Digest AKA between UE and BSF but

Digest AKA is performed using NAF specific keys. It is noted that this alternative modifies the standard HTTP Digest AKA, but the current bootstrapping over Ub has already modified it, thus this is not considered as an issue. The flow is described below.

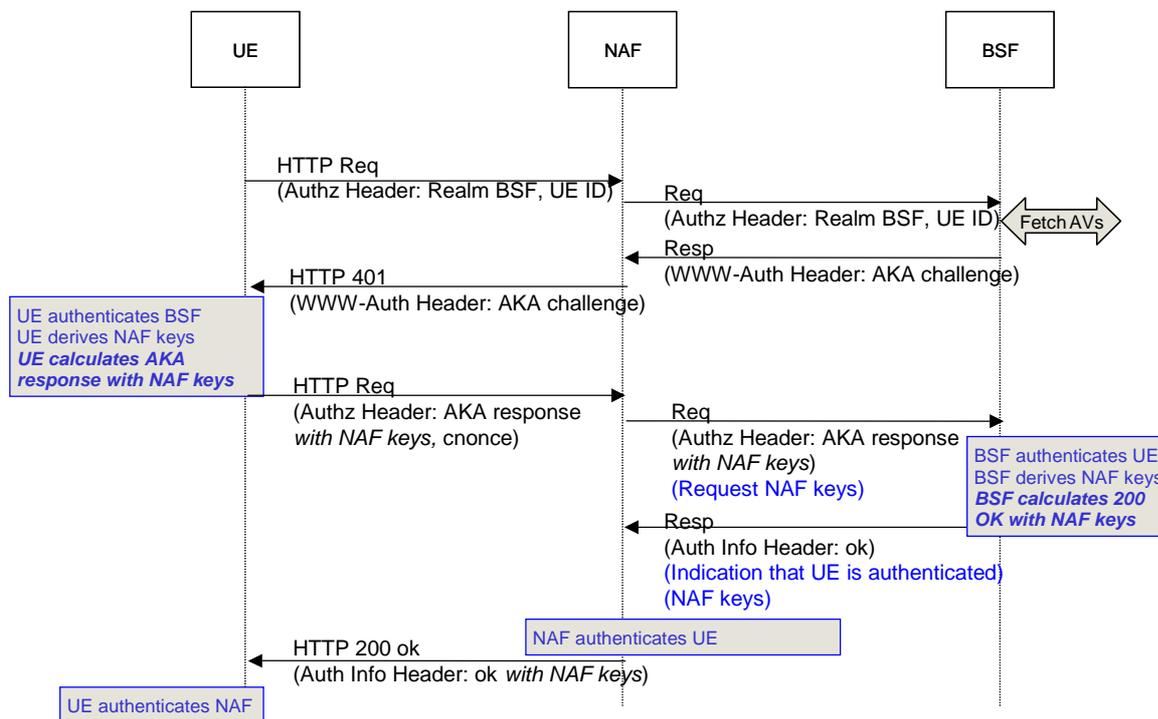


Figure 2: GBA optimization using HTTP digest AKA with NAF keys

One scenario where the optimizations may be useful is the GAA – Liberty interworking. For example in the case where the Liberty IdP acts as a NAF as described in [2] and [3].

3 Conclusion & Proposal

In the context of GAA enhancements this contribution has shown two possible ways to optimize GBA procedure. It proposed that SA3 takes these alternatives into account when GAA enhancement are studied further. The optimizations may also be useful in Liberty – GAA interworking.

4 References

- [1] RFC 2617, “HTTP Authentication: Basic and Digest Access Authentication”
- [2] S3-040980, "Liberty and GAA relationship", Nokia
- [3] S3-041039, “Ericsson Comments to Nokia’s Tdoc on S3-040980, Liberty and GAA relationship”, Ericsson