

**Source:** Ericsson  
**Title:** Implicit registration of IMS User Public Identities, IMPU(s)  
**Agenda item:** TBD  
**Document for:** Discussion and Decision

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## 1 Introduction

3GPP WG SA2 have agreed in S2-012997 that the Service Profile can be used to perform implicit registrations of IMS User Public Identities i.e. IMPU(s).

To ensure that the S-CSCF is able to take the decision whether a subsequent registration shall trigger a new authentication and to be able to check that all INVITE messages will be sent to an authorised UE. This contribution proposes to add a requirement that, in addition to the existing IMPU, also all the IMPU(s) that are implicitly registered shall be included in a response to S-CSCF.

## 2 Discussion

In the Cx-AV-Req the HSS receives both the IMPI and the IMPU, that the S-CSCF received in a REGISTER message from the UE. The HSS validates the IMPI and IMPU. In the response message, i.e. the Cx-AV-Req-Resp and/or Cx-Pull, the S-CSCF receives the number of requested AVs and Service profile information related to the used IMPI and IMPU. This means that the S-CSCF only has access to the IMPU received in the REGISTER message and not any IMPU(s) that possibly are implicitly registered.

If the S-CSCF receives a subsequent REGISTER message with a different IMPU the S-CSCF would not know if the IMPU had previously been considered as implicitly registered. That is the S-CSCF would have to trigger a new authentication. Also, the S-CSCF could receive an INVITE (originating or terminating) with a different IMPU compared to the IMPU stored in S-CSCF. The S-CSCF would not know whether the INVITE should be allowed or not.

Based on the above it should be clear that the S-CSCF needs to receive all IMPU(s) that are implicitly registered, from the HSS in the Cx-AV-Req-Resp message or in the Cx-Pull message exchange. The TS 33.203 do not show any details of the Cx-Pull message exchange and it should be a TSG CN4 decision on in which message the HSS includes the list of IMPU(s) to the S-CSCF.

Note: SA3 has not yet discussed whether and how the requirement of implicit registration of IMPU(s) affects the authentication flows, i.e. this is FFS and out of the scope of this contribution.

## 3 Proposal

It is proposed that the TS 33.203 is modified to reflect that:

- The HSS shall include all IMPU(s) that are implicitly registered in a list at either the Cx-AV-Req-Resp or in the Cx-Pull message exchange.
- The S-CSCF shall regard all IMPU(s) received from the HSS as registered IMPU(s).

If the above is agreed then SA3 should send an LS to CN4 on the new requirement.