3GPP TSG SA WG3 Security — S3#23   **S3-020408**

9 - 12 July 2002

Helsinki, Finland

Title:	Draft LS on Network Authentication Failure in the UE
Response to:	
Source:	SA3
To:	CN1
Cc:	

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Attachments: None

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1. Overall Description:

SA3 has currently a requirement in TS33.203, which states, that in the case the check of the MAC fails in the UE, the UE shall send a (SM7) Register message to the network, including an indication of the cause of the failure in the (SM7) Register (e.g. Failure = AuthenticationFailure).

In the case of a MAC failure, the S-CSCF shall use this cause of failure indication to clear any registration information related to the IMPI. See extract from TS33.203 version 5.2.0 attached at the end of this LS.

SA3 would like to ask CN1 how this requirement is implemented and supported in the CN1 specifications for IMS. In particular SA3 would like to be informed by CN1 how the failure indication at MAC failure is supported.

2. Actions:

To CN1 group.

ACTION: **SA3 kindly asks CN1 to inform SA3 how the requirement described above is implemented and supported by the CN1 specifications for IMS.**

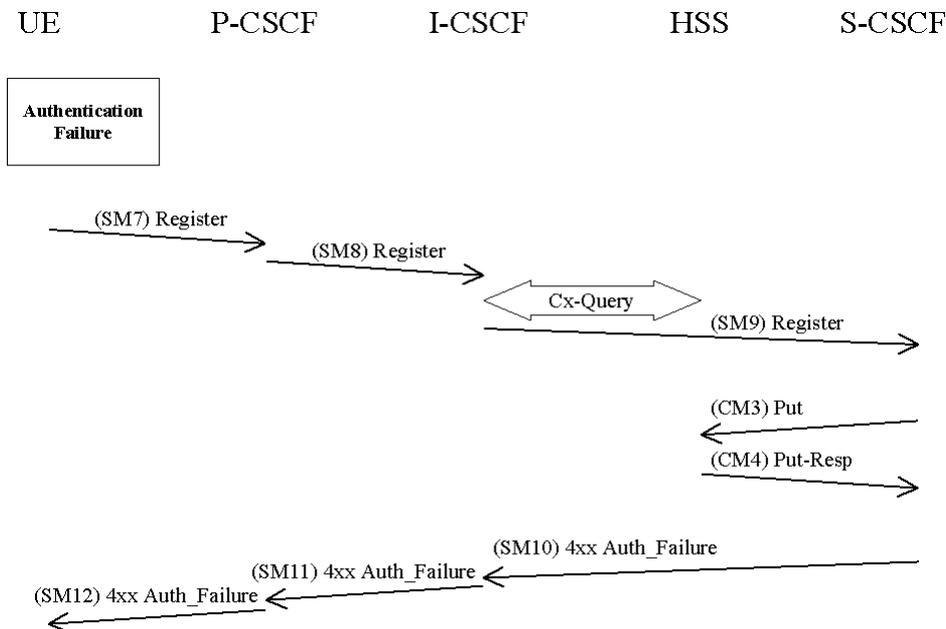**3. Date of Next TSG-SA3 Meetings:**

SA3#25 $8^{th} – 11^{th}$ Oct 2002   Munich, Germany

6.1.2.2   Network authentication failure

In this section the case when the authentication of the network is not successful is specified. When the check of the MAC in the UE fails the network can not be authenticated and hence registration fails. The flow is identical as for the successful registration in 6.1.1 up to SM6.

UE   P-CSCF   I-CSCF   HSS   S-CSCF

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Authentication
   Failure
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(SM7) Register

(SM8) Register

Cx-Query

(SM9) Register

(CM3) Put

(CM4) Put-Resp

(SM10) 4xx Auth_Failure

(SM11) 4xx Auth_Failure

(SM12) 4xx Auth_Failure

The UE shall send a Register message towards the HN including an indication of the cause of failure in SM7. The P-CSCF and the I-CSCF forward this message to the S-CSCF.

       SM7:
       REGISTER(Failure = *AuthenticationFailure*, IMPI)

Upon receiving SM9, which includes the cause of authentication failure, the S-CSCF sends a Cx-Put in CM3 and receives a Cx-Put-Resp in CM4.

       CM3:
       Cx-AV-Put(IMPI, Clear S-CSCF name)

The S-CSCF sends a Cx-Put (CM3) to the HSS, which indicates that authentication failed and that, the S-CSCF should be cleared. The HSS responds with a Cx-Put-Resp in CM4.

In SM10 the S-CSCF sends a 4xx Auth_Failure towards the UE indicating that authentication has failed, no security parameters shall be included in this message.

       SM10:
       SIP/2.0 4xx Auth_Failure

Upon receiving SM10 the I-CSCF shall clear any registration information related to the IMPI.