CR-Form-v4

CHANGE REQUEST

⌘ **33.203** **CR** **002** ⌘ ev **-** ⌘ Current version: **5.0.0** ⌘

Spec Title: Access security for IP-based services ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Removal of reference to non Operator IMS provision
Source:	⌘	mmO2, TIM
Work item code:	⌘	IMS-ASEC
Date:	⌘	2002-02-13
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The specification refers to provision of services by an operator which is not a UMTS operator. This is a problem because: 1. This type of sentence we would normally expect to be in the Stage 1 22.228 specification for IMS. 2. SA1 does not have any requirement for this in Release 5 so far. 3. SA1 and other groups agreed that the ISIM must be on the same UICC as the USIM in Release 5, this effectively rules out the scenario described below (without the consent of the operator providing the USIM) because the UICC is provided by one operator. Therefore the inconsistency in the specifications needs to be removed.
Summary of change:	⌘	Remove reference to non-UMTS operator.
Consequences if not approved:	⌘	Inconsistent specifications

Clauses affected:	⌘	7.2.1		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

*** First modified section ***

5.1.1 Authentication of the subscriber and the network

Authentication between the subscriber and the network shall be performed as specified in section 6.1.

An IM-subscriber will have its subscriber profile located in the HSS in the Home Network. The subscriber profile will contain information on the subscriber that may not be revealed to an external partner, cf. [3]. At registration an S-CSCF is assigned to the subscriber by the I-CSCF. The subscriber profile will be downloaded to the S-CSCF over the Cx-reference point from the HSS (Cx-Pull). When a subscriber requests access to the IP Multimedia Core Network Subsystem this S-CSCF will check, by matching the request with the subscriber profile, if the subscriber is allowed to continue with the request or not i.e. Home Control (Authorization of IM-services).

All SIP-signaling will take place over the PS-domain in the user plane i.e. IP Multimedia Core Network Subsystem is essentially an overlay to the PS-domain. Hence the Visited Network will have control of all the subscribers in the PS-domain i.e. Visited Control (Authorization of bearer resources) since the Visited Network provides the subscriber with a transport service and its associated QoS.

For IM-services a new security association is required between the mobile and the IMS before access is granted to IM-services. ~~The Home Network or even a 3rd party (which does not have to be an UMTS operator) provides the user with the IM-services.~~

The mechanism for mutual authentication in UMTS is called UMTS AKA. It is a challenge response protocol and the AuC in the Home Stratum derives the challenge. A Quintet containing the challenge is sent from the Home Stratum to the Serving Network. The Quintet contains the expected response XRES and also a message authentication code MAC. The Serving Network compares the response from the UE with the XRES and if they match the UE has been authenticated. The UE calculates an expected MAC, XMAC, and compares this with the received MAC and if they match the UE has authenticated the Serving Network.

The AKA-protocol is a secure protocol developed for UMTS and the same concept/principles will be reused for the IP Multimedia Core Network Subsystem, where it is called IMS AKA.

The Home Network authenticates the subscriber at anytime via the registration or re-registration procedures.

*** End of modified section ***