Technical Specification Group Services and System Aspects **TSGS#27(05) 0238**
Meeting #28, Quebec, Canada, 6-8 June 2005

Source: **SA3**

Title: **New WID proposal: IMS security extensions**

Document for: **Approval**

Agenda Item: **7.3.3**

3GPP TSG SA WG3 Security — SA3#38 **S3-050320**

April 26 - 29, 2005

Geneva, Switzerland

Agenda Item: IMS

Source: Ericsson, Nokia, Nortel, Huawei, Rogers Wireless

Title: New WID proposal: IMS security extensions

Document for: Discussion/Decision

Work Item Description

Title

Security Enhancements for Fixed Broadband Access to IMS

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

None

3 Justification

Release 5 and 6 IMS access security solution was mainly designed for UMTS access networks. Even though the access security solution is access network independent, there are still important use scenarios in which the current solution is difficult or even impossible to use, for example access networks that include NATs, such as fixed broadband access as currently specified in ETSI and ITU-T in the framework of next generation networking (TISPAN-NGN).

Furthermore, IMS security architecture relies partly on underlying network security. The deployment of a NAT traversal between the UE and the P-CSCF causes problems to

apply the adequate security by using the current IPSec solution. The IMS signalling protection solution that traverse NA(P)T is a fundamental need for TISPAN NGN R1.

TISPAN stated that “TISPAN NGN Release 1 priority is for securing IMS for a fixed network, and is independent of any discussion of what mobile operators may or may not mandate for interconnection to their IMS services i.e. the fixed operator has a commercial relationship with the customer, and deploys terminal, network, IMS service and HSS. In this case, we cannot necessarily rely on having a physical UICC to implement the security mechanisms.” However, for 3GPP operators running IMS, the authentication of the IMS subscriber must be based on access to physical UICC.

TSG-S3 has prime responsibility for all security-related specification work in 3GPP. The unity of the security extensions to the IMS security specifications must be preserved and handled in 3GPP SA3. TSG-S3 needs to study if IMS access security solution needs to be extended in order to solve the above problems, and how potential extensions are done.

4 Objective

The objective with this WI is to further study security requirements and solutions related fixed broadband access to IMS. Special focus is put on an IMS signalling protection solution that traverse NA(P)T and firewall devices. Another objective is to study the other requirements and solutions needed for TISPAN NGN R1. An example of the issues that are not targeted for R1 of TISPAN, but should be within the scope of 3GPP R7 is also to study requirements and need for media protection in IMS, as well as the possible solutions.

Another objective is to study requirements and solutions for IMS security in conjunction with solutions for secure access to the core network which are independent of access networks and applications.

Lawful interception should also be studied in relation to this work.

5 Service Aspects

yes, the end-user shall be able to access the services located at the home IM-domain wherever the end-user may roam to. It shall also be possible to use different access technology to connect the “IP multimedia CN Subsystem” e.g. xDSL, wireline and Wireless LAN etc.

6 MMI-Aspects

yes, visibility and configurability. Issues like visibility of offered security level and user interaction shall be studied.

7 Charging Aspects

none identified

8 Security Aspects

yes, this WI issues security features

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes		X		X	
No			X		X
Don't know	X				

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR 33.8xx	Feasibility study on IMS Security Extensions	SA3		SA #29	SA #30	The intended purpose of this TR is to collect intermediate solutions for CRs to 33.203. The finalisation of the TR is dependent on the progress of the work both in 3GPP and in TISPAN.

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
33.203		Access security for IP-based services	SA #30	Adds solutions to meet NGN R1 requirements
33.203		Access security for IP-based services	SA #31	Adds solutions to meet NGN R2 requirements
		Other specifications may be identified as work progresses, e.g. stage 3 specifications	SA #30, SA #32	

11 Work item rapporteur(s)

Ericsson, Bengt Sahlin

12 Work item leadership

SA3

13 Supporting Companies

Ericsson, Nokia, Nortel, Huawei, Rogers Wireless, BT Group

14 Classification of the WI (if known)

	Feature (go to 14a)

X	Building Block (go to 14b)
	Work Task (go to 14c)

14b The WI is a Building Block: parent Feature

The parent Feature is “System enhancements for fixed broadband access to IMS”

form change history:
v1.11.0: includes those changes from v1.8.0 agreed at SP-25.
v1.10.0: full circle
v1.9.0: a clean sheet
v1.8.0: includes comments from SA#24
v1.7.0: includes comments from RAN, CN and T #24; also includes “early implementation” data
v1.6.0: includes comments made during review period prior to TSGs#24
v1.5.0: includes comments made at TSGs#23 (Phoenix)
v1.4.0: offered to SA#23 for approval
v1.3.0: offered to CN#23, RAN#23 and T#23 for comments
DRAFT4 v1.3.0: 2004-03-09: Incorporation of comments from Leaders list
DRAFT3 v1.3.0: 2004-02-19: Incorporation of comments from MCC members
DRAFT2 v1.3.0: 2004-01-29: Complete redraft:
v1.2.0: 2002-07-04: "USIM" box changed to "UICC apps"
2003-05-28: spelling of “rapporteur” corrected
2002-07-04: "USIM" box changed to "UICC apps"