Technical Specification Group Services and System Aspects
Meeting #8, Dusseldorf, Germany, 26-28 June 2000

TSGS#8(00)0299

Work Item Description

Title

Core network signaling security: protection of MAP Application Layer
(formerly the minimal solution)

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

- Related work is in N4 to specify the solutions developed by S3.
- A separate work item was defined by S3 to develop the key management and distribution scheme (old MAP security layer I&II).
- Core network security (formerly the full solution)

3 Justification

An identified security weakness in 2G systems is the absence of security in SS7 networks. This was formerly perceived not to be a problem, since this network was the province of a small number of large institutions. This is no longer the case, and so there is now a need for security precautions.

This work item describes ongoing work in S3, which had been originally tasked by SA to S3 under the name of “MAP Security”, an early version of which had originally been included in R’99.

4 Objective

The MAP protocol is used for signaling in and between core networks. It is the objective of this work item to protect all sensitive data transmitted via MAP, e.g. authentication data and user related data. The security characteristics that have been identified as being in need of protection are confidentiality, integrity, and authentication. These will be ensured by standard procedures, based on cryptographic techniques.

The topic has been split into three work items, a solution for MAP protection at the application layer (formerly called the minimal solution), a solution for protection of other protocols (the full solution), and the key management distribution. The minimal solution is defined to specify protection of MAP signaling in R00 (as already earlier defined by MAP security layer III in the original R99 proposal).

5 Service Aspects

None identified.

6 MMI-Aspects

None identified.

7 Charging Aspects

None identified.

8 Security Aspects

The work item is a security item.

9 Impacts

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

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

Meeting	Date	Activity
CN/S3 joint meeting	June 13-14, 2000	Key management and distribution has been split-up from min/full solution
CN#8	June 2000	Approval of CN4 CR on TS 29.002
S3#14	August 1-4, 2000	Completion of work (selection of algorithms and algorithm identifiers; CRs on TS 33.102, TS 33.103, TS 33.105)
SA#9	September 2000	Approval of CR

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
33.102				Re-inclusion of core network signaling security in a R'00 version of 33.102
33.103				Re-inclusion of core network signaling security in a R'00 version of 33.103
33.105				Inclusion of core network signaling security algorithm requirements in a R'00 version of 33.105

11 Work item raporteurs

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12 Work item leadership

TSG SA WG3

13 Supporting Companies

T-Mobil, Vodafone, Ericsson, Telenor

14 Classification of the WI (if known)

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

14a This WI is a Feature. This Feature has no active Building Blocks.
14b The WI is a Building Block: parent Feature core network security.