

**Work Item Description**

**Title**

Key Management of group keys for Voice Group Call Services

**1 3GPP Work Area**

x	Radio Access
x	Core Network
	Services

**2 Linked work items**

*(list of linked WIs)*

**3 Justification**

Voice Group Call Services are getting more and more important for GSM operators in order to provide a solution for group call users who want to replace their analog systems. Since existing standards like TETRA and TETRApol require to set up a completely new (i.e. expensive) network it is desirable to provide a cost effective solution which reuses existing infrastructure as much as possible. Because of this situation VGCS has been specified but unfortunately the specification of the ciphering mechanism is not complete.

VGCS is specified in 42.068, 43.068 and 44.068. Although ciphering of the air-interface is mentioned in 42.068 and 43.068 (a number of group keys is used for each group) no mechanism has been specified concerning the key management of the group keys, e.g. where to store the keys, transport mechanisms of keys.

**4 Objective**

It is the goal of this WI to specify:

Where group keys are stored in the network (e.g. Group Call Register, VLR, HLR, BSS)

Where group keys are stored in the mobile equipment (e.g. USIM or handset)

How groups are transported between different network entities (e.g. from the Group Call Register to the BTS)

How the group key identification and selection is done

**5 Service Aspects**

*None*

**6 MMI-Aspects**

None

**7 Charging Aspects**

None

**8 Security Aspects**

This is a security Work Item

**9 Impacts**

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

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

The following work plan is proposed:

SA#21	22 <sup>nd</sup> - 25 <sup>th</sup> Sep. 03	Approval of WID
SA3#30	6 <sup>th</sup> – 10 <sup>th</sup> Oct. 03	Draft Concept (stage 2 description) of Ciphering
SA3#31	18 <sup>th</sup> – 21 <sup>st</sup> Nov. 03	Concept finalised
SA#22	15 <sup>th</sup> – 18 <sup>th</sup> Dec. 03	First Stage 2 changes approved
SA#23	March 04	Stage 2 changes completed
SA#24	June 04	Stage 3 changes completed

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject			Approved at plenary#	Comments
42.068						SA1
43.068						CN1
44.068						CN1
42.069						SA1
43.069						CN1
44.069						CN1
31.102						T3
24.008						CN1
48.008						GERAN
42.009						SA3
43.020						SA3

**11 Work item rapporteurs**

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**12 Work item leadership**

SA3

**13 Supporting Companies**

Siemens, Vodafone D2, Ericsson, G&D

**14 Classification of the WI (if known)**

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

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

form change history:  
2003-05-28: spelling of "rapporteur" corrected  
2002-07-04: "USIM" box changed to "UICC apps"