Source: **CN3**

Title: **WID - Interworking between IM CN subsystem and CS networks**

Title: Interworking between IM CN subsystem and circuit switched networks.

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

?? Support of IP multimedia services (S1)

?? An architecture for Call control and roaming to support IP-based multimedia services in UMTS (S2)

3 Justification

Within UMTS, the capability of IP-based multimedia (IM) services will enable the support of basic voice calls to and from circuit switched (CS) networks (i.e. PSTN, ISDN and GSM/UMTS CS networks). These voice calls will require interworking functions within the IM CN subsystem.

The UMTS architecture includes media gateway (MGW) functionality for interworking between the GGSN Gi reference point and CS networks for the user plane, and Media Gateway Control Function (MGCF) and Transport Signalling Gateway (T-SGW) functionality to allow interworking between the Call Session Control Function (CSCF) and CSnetworks in the control plan.

This WI will outline the solutions and functionality required within the MGW to deliver the user plane aspects between IM CN subsystems and CS networks for support of basic voice calls. Also, it will outline the solutions and functionality required within the MGCF and T-SGW to deliver the control plane aspects between IM CN subsystems and CS networks to support basic voice calls.

4 Objective

The objective of this work item is to address the issue of interworking between the IM CN subsystem and CS networks, in order to support basic voice calls.

A significant goal is to define the functionality of the MGW, together with aspects of the MGCF and T-SGW for the support of voice calls to and from CS networks (i.e. PSTN, ISDN and GSM/UMTS CS networks).

The work item will address the issue of control plane interworking, for example, the mapping required between 3GPP profile of SIP and ISUP/BICC protocols, if required, to enable the IM CN subsystem to communicate with CS networks, in order to support basic voice calls.

The work item will address the issue of user plane interworking, for example, between the AMR codec used in the IM CN subsystem and possibly other codec types used with in CS networks, in order to support basic voice calls.

The areas addressed should encompass the transport protocol, transcoding and signalling issues for negotiation and mapping of bearer capabilities and QoS information.

5 Service Aspects

None identified.

6 MMI-Aspects

None identified.

7 Charging Aspects

None identified.

8 Security Aspects

None identified.

9 Impacts

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

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
TS 29.163	Tech Specification "Interworking between the IM CN subsystem and CS networks"	CN3	CN1 SA4	CN#14 (Dec 01)	CN#15 (Mar 02)	Specifying User Plane interworking between AMR Codec and other codec types Specifying Control Plane interworking between SIP and BICC/ISUP The mapping between the BICC/ISUP to SIP will be defined by ITU-T SG11. CN3 may be required to define the mapping between ISUP/BICC and 3GPP profile of SIP.
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
29.061		Interworking between the PLMN supporting GPRS and PDNs		CN#14 (Dec 01)		
24.228		Signalling flows for the IP multimedia call control based on SIP and SDP				

11 Work item rapporteurs

David Sanders, Vodafone UK
e-mail – dave.sanders@vf.vodafone.co.uk Tel +44 16356 76684

12 Work item leadership

CN3

13 Supporting Companies

BT, Nokia, Motorola, Alcatel, Siemens, Lucent Technologies, Nortel Networks, Vodafone, Ericsson

14 Classification of the WI (if known)

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

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

N/A

14b The WI is a Building Block: parent Feature

N/A

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

??   Call control and roaming to support IP based multimedia services in UMTS