3GPP TSG CN Plenary, Meeting #11 **Tdoc NP-010038**
Palm Springs, USA. 14th - 16th March 2001

Source: **TSG_CN WG3**

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

Agenda item: **9.1**

Document for: **APPROVAL**

Work Item Description

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 Release 5, 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 Release 5 architecture includes media gateway (MGW) functionality for interworking between the GGSN Gi reference point and circuit switched networks for the user plane. For the control plan, Media Gateway Control Function (MGCF) and Transport Signalling Gateway (T-SGW) functionality is included to allow interworking between the CSCF and circuit switched networks.

This WI will outline the solutions and functionality required within the MGW to deliver the user plane aspects between IM CN subsystems and circuit switched 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 circuit switched 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 circuit switched networks, in order to support basic voice calls.

A significant goal is to define the functionality of the MGW, together with aspects of the Media Gateway Control Function (MGCF) and Transport Signalling Gateway (T-SGW) required to support voice calls to and from circuit switched 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 SIP and ISUP protocols to enable the IM CN subsystem to communicate with circuit switched 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 circuit 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#13 (Sept 01)	CN#14 (Dec 01)	Specifying User Plane interworking between AMR Codec and other codec types Specifying Control Plane interworking between SIP and ISUP

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		Note - TS has not been presented at CN plenary, and is not currently under change control.

11 Work item raporteurs

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12 Work item leadership

CN3

13 Supporting Companies

BT, Nokia, Motorola, Alcatel, Siemens, Lucent Technologies

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