3GPP TSG CN Plenary Meeting #12 **Tdoc NP-010~~254~~363**
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Source:	CN3
Title:	WID “End-to-end QoS Stage 3”
Agenda item:	9.8
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3GPP TSG CN WG3 Meeting #17 **Tdoc N3-010248**
Puerto Rico, 14th - 18th May 2001

Source:	**CN3**
Title:	**Proposed work item description sheet for “End-to-end QoS Stage 3”**
Agenda item:	**9.3**
Document for:	**APPROVAL**

This document proposes the work item description sheet for “End-to-end QoS Stage 3”.

Work Item Description

Title: End-to-end QoS Stage 3

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

- Provisioning of IP-based multimedia services (SA1)
- SIP call control for the IM CN subsystem (CN1)
- End-to-end QoS Concept and Architecture for PS Domain (SA2)
- Interworking between IM CN subsystem and IP networks (CN3)
- Interworking between IM CN subsystem and CS networks (CN3)

3 Justification

IP based multimedia services are a required feature of UMTS Release 5, which will include IP telephony and other real time service support. The provisioning of these services need well-defined QoS mechanisms.

This work item will define the ~~signalling over the Go interface~~ mechanisms required to secure end-to-end QoS provisioning within the IM CN subsystem.

4 Objective

The objective of this work item is to address the issues of
- end-to-end QoS negotiation,
- QoS policy control and enforcement mechanisms for negotiated traffic parameters,
- provision of negotiated QoS,
- mapping of QoS parameters between different networks.

The goal of the negotiation phase is to select an appropriate QoS class and its parameters based on the outband set-up signalling (e.g. SIP/SDP) or on inband signalling (e.g. RSVP, LDP).

The QoS policy control and enforcement mechanisms includes the definition of interactions between the PCF (Policy Control Function) and the GGSN (Gateway GPRS Support Node) for QoS management by controlling admissions of resource allocations based on administrative policy and the IM session attributes and state transitions for user plane transport within the IM CN subsystem. Significant goals are to define the protocol between the PCF and the GGSN required to ensure the required QoS within the IM CN subsystem and to specify the signalling interactions for the service-based local policy control over the Go interface based on the COPS (Common Open Policy Service) protocol specified by IETF.

Mapping of QoS parameters has to be considered for outband set-up signalling and for inband IP Bearer signalling at various interfaces, especially the Gi interface between GGSN and external networks.

Deviation from IETF protocols should only be applied when deemed necessary. 3GPP specific extensions should be kept to an absolute minimum in order to allow the usage of as generic IETF protocols as possible.

5 Service Aspects

Yes, the new service aspects are being defined in SA1 and the architectural aspects are being defined in SA2.

6 MMI-Aspects

Yes, the resources could be requested by users through MMI but no impact on CN3.

7 Charging Aspects

Yes, the information on resource usage needs to be utilised for charging. Required work to be addressed in an SA5 work item.

8 Security Aspects

Yes, the policy of resource admission could be controlled under security aspects.

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes		X	X	X	
No					
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
TS 29.207 (tbc)	IMS Go Interface SBLP Signalling	CN3		CN#13 (Sept 01)	CN#14 (Dec 01)	Specifying signalling interactions to secure the end-to-end QoS provisioning over the Go interface.

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
27.060		Mobile Station (MS) supporting Packet Switched Services	CN#14 (Dec 01)	Specifying scheme for interworking between PDP context activation procedures and resource reservation protocols.
29.061		Interworking between the PLMN supporting GPRS and PDNs	CN#14 (Dec 01)	Specifying scheme for interworking between PDP context activation procedures and resource reservation protocols.
24.008		Mobile radio interface layer 3 specification; Core Network Protocols – Stage 3	CN#14 (Dec 01)	Impact of QoS parameters.
24.228		Signalling flows for the IP multimedia call control based on SIP and SDP	CN#14 (Dec 01)	Note – TS has not been presented at CN plenary, and is not currently under change control.
29.060		GPRS Tunnelling Protocol (GTP) across the Gn and Gp Interface	CN#14 (Dec 01)	Impact of QoS on GTP.
29.162		Interworking between the IMS and IP based networks	CN#14 (Dec 01)	Note – TS has not been presented at CN plenary, and is not currently under change control.
29.163		Interworking between the IMS and CS networks	CN#14 (Dec 01)	Note – TS has not been presented at CN plenary, and is not currently under change control.
25.413		UTRAN Iu Interface RANAP Signalling	RAN#14 (Dec 01)	Impact of QoS parameters.

11 Work item raporteurs

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12 Work item leadership

CN3

13 Supporting Companies

Lucent Technologies, Motorola, BT, Vodafone, Nokia, Siemens, Cisco Systems

14 Classification of the WI (if known)

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

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

14b The WI is a Building Block: parent Feature

- End to End QoS Concept and Architecture for PS Domain (SA2)

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