

Source: TSG CN WG 3  
Title: CR to Rel-5 Work Item "E2EQoS"  
Agenda item: 8.5  
Document for: APPROVAL

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**Introduction:**

This document contains 1 CR to **Rel-5** Work Item "**E2EQoS**", that has been agreed by **TSG CN WG3**, and is forwarded to TSG CN Plenary meeting #17 for approval.

Doc-2nd-	Spec	CR	Rev	Subject	Cat	Phase	Version-	Workitem
N3-020725	29.207	011	1	Remove incomplete DS function	F	Rel-5	5.0.0	E2E QoS

CR-Form-v7

## CHANGE REQUEST

# 29.207 CR 011 # rev 1 # Current version: 5.0.0 #

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

**Proposed change affects:** UICC apps#  ME  Radio Access Network  Core Network

<b>Title:</b>	# Remove incomplete DS function				
<b>Source:</b>	# TSG_CN WG3				
<b>Work item code:</b>	# E2EQoS	<b>Date:</b>	# 22/07/2002		
<b>Category:</b>	# <b>F</b>	<b>Release:</b>	# REL-5		
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:		
	<b>F</b> (correction)		2 (GSM Phase 2)		
	<b>A</b> (corresponds to a correction in an earlier release)		R96 (Release 1996)		
	<b>B</b> (addition of feature),		R97 (Release 1997)		
	<b>C</b> (functional modification of feature)		R98 (Release 1998)		
	<b>D</b> (editorial modification)		R99 (Release 1999)		
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Rel-4 (Release 4)		
			Rel-5 (Release 5)		
			Rel-6 (Release 6)		

<b>Reason for change:</b>	#	The specification contains information related to DS control over Go interface which has not been completed in release 5. Such incomplete functions should be held over to the next release, and hence removed from the specification for the current release.
<b>Summary of change:</b>	#	Remove chapter on incomplete function for Go control of DS.
<b>Consequences if not approved:</b>	#	Specification contains incomplete function

<b>Clauses affected:</b>	#	4.1, 4.3.1.4, A.1.2								
<b>Other specs Affected:</b>	#	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications # Test specifications # O&M Specifications #	Y	N	#	X	#	X	#	X
Y	N									
#	X									
#	X									
#	X									
<b>Other comments:</b>	#									

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## First amended section

### 4.1 Overview

The Go interface allows service-based local policy and QoS inter-working information to be "pushed" to or requested by the Policy Enforcement Point (PEP) in the GGSN from a Policy Control Function (PCF). As defined in the stage 2 specifications [3], this information is used by the GGSN for:

- GPRS bearer authorisation;
- Charging correlation;
- Policy based "gating" function in GGSN;
- ~~- Control of DiffServ inter-working;~~
- Control of RSVP admission control and inter-working.

The Go interface uses IP flow based policies.

The Common Open Policy Service (COPS) protocol has been developed as a protocol for use between a policy server and a network device, as described in [7].

In addition, COPS for Provisioning extensions have been developed as described in [8] with [9] describing a structure for specifying policy information that can then be transmitted to a network device for the purpose of configuring policy at that device. The model underlying this structure is one of well-defined provisioning classes and instances of these classes residing in a virtual information store called the Policy Information Base (PIB).

The Go interface shall conform to the IETF COPS [7] and the extensions of COPS-PR [8]. For the purpose of exchanging the required specific UMTS information, a COPS-PR Policy Information Based (PIB) is defined in the present document.

COPS Usage for Policy Provisioning (COPS-PR) is independent of the type of policy being provisioned (QoS, Security, etc.). In the present document, COPS-PR is used to communicate service-based local policy information between PCF and GGSN. COPS-PR can be extended to provide per-flow policy control along with a 3GPP Go Policy Information Base (PIB). The 3GPP Go PIB may inherit part of the data object definitions from the framework PIB and the DiffServ PIB defined in the IETF.

The minimum functionalities that the Go interface shall cover are introduced below.

#### 1. Media Authorisation request from GGSN:

The GGSN receives the binding information during the activation of a (Secondary) PDP context or during the modification of an existing PDP context that has been previously authorized by the PCF. To authorise the PDP context activation, the GGSN shall send a media authorisation request to the PCF. To authorise the PDP context modification, the GGSN shall send a media authorisation request to the PCF when the requested QoS exceeds the authorised QoS or new binding information is received.

This authorisation request shall include the following information:

#### - Binding information:

The binding information is used by the GGSN to identify the correct PCF and subsequently request service-based local policy information from the PCF. The GGSN may receive one or more sets of the binding information during an activation or modification of a PDP context. Each binding information consists of:

- One Authorisation token;
- One or more Flow id(s) within the session.

It is assumed that only one set of binding information is carried within a PDP context in this Release.

## 2. Media authorisation decision from PCF:

The media authorisation information sent by the PCF to the GGSN, contains at a minimum the following information:

- Decision on the binding information.

The PCF shall respond with an authorisation decision for the binding information. The authorisation decision shall identify that the binding information is validated with an ongoing SIP session. Additionally, the PCF shall verify if the multiple media components are correctly assigned to the PDP Context. If validated, the PCF shall also communicate the following media authorisation details to the GGSN:

- "Authorised QoS".

This information is used by the GGSN to authorise the media resources according to the service-based local policy and the requested bearer QoS.

The "Authorised QoS" for media components signalled over the Go interface is based on the SDP requirements signalled and agreed previously within SIP signalling for this session.

The "Authorised QoS" specifies the maximum QoS that is authorised for a PDP context for that specific binding information. In case of an aggregation of multiple media components within one PDP context, the combination of the "Authorised QoS" information of the individual media components is provided as the "Authorised QoS" for the bearer.

The "Authorised QoS" contains the following information:

- DiffServ class:

The DiffServ class determines the highest PHB that can be used for the media component. It is derived from the media type information of the SDP media description.

- Data rate:

The Data rate information is extracted from the SDP bandwidth parameter, more specifically the bandwidth value indicated by the "b=AS:" parameter. The Data rate shall include all the overhead coming from the IP-layer and the layers above, e.g. UDP, RTP. The Data rate shall also include the overhead coming from the possible usage of RTCP. The Data rate within the "Authorized QoS" information for the bearer is the combination of the data rate values of the authorised QoS of the individual media components.

- Packet Classifier.

The packet classifier for media components is based on the IP-address and port number information in the SDP and shall allow for all IP flows associated with the SDP media component description.

## 3. Charging correlation:

The PCF shall send the ICID provided by the P-CSCF as part of the authorisation decision. The GGSN shall send the GCID of the PDP Context and the GGSN address to the PCF as part of the authorisation report.

## 4. Approval of QoS Commit / Removal of QoS Commit / Revoke Authorisation for GPRS and IP resources:

The PCF controls media components and may revoke resources at any time. Approval of QoS Commit / Removal of QoS Commit / Revoke Authorisation for GPRS and IP resources is communicated by the PCF to the GGSN.

## 5. Indication of PDP Context Release / Modification to/from 0 kbit/s:

The GGSN informs the PCF of bearer changes related to the authorised resources for the IMS session in the following cases:

- Loss of radio contact (modification to/from 0 kbit/s for conversational and streaming class);
- Deactivation of PDP context.

## Next amended section

### ~~4.3.1.4 DiffServ edge function~~

~~Editor's Note: This clause describes the functionality of "DiffServ Edge Function" in GGSN. This is dependent on SA2 decision.~~

## Next amended section

### ~~A.1.2 DiffServ edge function~~

~~Editor's Note: This clause describes the functionality of "DiffServ Edge Function" in UE~~