3GPP TSG CN Plenary Meeting #19 **NP-030054**
12th - 14th March 2003. Birmingham, U.K.

Source: **TSG CN WG 1**

Title: **CRs to Rel-5 on Work Item IMS-CCR towards Signaling PDP context Indication to Core Network**

Agenda item: **8.1**

Document for: **APPROVAL**

Introduction:

This document contains **2** CRs, **Rel-5 to** Work Item **"IMS-CCR"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #19 for approval.

Spec	CR	Rev	Cat	Phase	Subject	Version-Current	Version-New	Meeting-2nd-Level	Doc-2nd-Level
24.008	738	2	F	Rel-5	Signalling PDP Context Indication to Core Network	5.6.0	5.7.0	N1-28	N1-030266
24.229	321	2	F	Rel-5	Signalling PDP Context Indication to Core Network	5.3.0	5.4.0	N1-28	N1-030267

3GPP TSG-CN1 Meeting #28 ***Tdoc N1-030267***
Dublin, Ireland, 10 – 14 February 2003 **(N1-030205, N1-030141)**

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** **CR** **321** ⌘ **rev** **2** ⌘ Current version: **5.3.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [ ]

Title:	⌘	Signalling PDP Context Indication to Core Network
Source:	⌘	Vodafone
Work item code:	⌘	IMS-CCR
Date:	⌘	03/02/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Currently the RAN cannot determine the difference between Interactive traffic and IMS signalling traffic. This may limit the reliability/speed of IMS signalling and have other negative effects. In order for the RAN to determine that the traffic is IMS signalling, the core network needs to know at PDP context activation time. In order to achieve this, a flag is added to the QoS IE in the UE to CN signalling. The GPRS procedures in 24.229 need to be aligned with this.
Summary of change:	⌘	It is stated that when requesting a dedicated signalling PDP context, the UE shall set the Signalling Indication flag in the QoS IE.
Consequences if not approved:	⌘	IMS signalling may be handled poorly leading to a poor customer perception of IMS.

Clauses affected:	⌘	9.2.1			
		Y	**N**		
Other specs affected:	⌘	**Y**		Other core specifications	25.413, 23.107 CR134r2, 24.008 CR738r2
				Test specifications	
				O&M Specifications	
Other comments:	⌘				

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.

9.2.1 PDP context activation and P-CSCF discovery

Prior to communication with the IM CN subsystem, the UE shall:

a) perform a GPRS attach procedure;

b) establish a PDP context used for SIP signalling according to the APN and GGSN selection criteria described in 3GPP TS 23.060 [4] and 3GPP TS 27.060 [10A]. This PDP context shall remain active throughout the period the UE is connected to the IM CN subsystem, i.e. from the initial registration and at least until the deregistration. As a result, the PDP context provides the UE with information that makes the UE able to construct an IPv6 address;

The UE shall choose one of the following options when performing establishment of this PDP context:

I. A dedicated PDP context for SIP signalling:

In order to request a dedicated PDP context for SIP signalling, t~~T~~he UE shall ~~indicate to the GGSN that this is a PDP context intended to carry IM CN subsystem related signalling only by s~~etting the IM CN Subsystem Signalling Flag in the PCO IE and set the Signalling Indication flag in the QoS IE.

The IM CN Subsystem Signalling flag is used to indicate to the GGSN the request for a dedicated PDP context for signalling.

The Signalling Indication flag is used to indicate to the SGSN that the PDP context should be optimised for SIP signalling.

The UE may also use this PDP context for DNS and DHCP signalling according to the static packet filters as described in 3GPP TS 29.061 [11];

II. A general-purpose PDP context:

In order to request a general-purpose PDP context, ~~T~~the UE ~~may decide to use a general-purpose PDP Context to carry IM CN subsystem related signaling. The UE shall indicate to the GGSN that this is a general-purpose PDP context by not setting~~shall set neither the IM CN Subsystem Signalling Flag nor the Signalling Indication flag.

The UE may ~~carry~~ transmit both signalling and media on the general-purpose PDP context.

The UE indicates the IM CN Subsystem Signalling Flag to the GGSN within the Protocol Configuration Options IE of the ACTIVATE PDP CONTEXT REQUEST message or ACTIVATE SECONDARY PDP CONTEXT REQUEST message. Upon successful signalling PDP context establishment the UE receives an indication from GGSN in the form of IM CN Subsystem Signalling Flag within the Protocol Configuration Options IE. If the flag is not received, the UE shall consider the PDP context as a general-purpose PDP context.

NOTE 1: Indication of successful signalling PDP context establishment is needed for the case when the GGSN does not receive the IM CN Subsystem Signalling Flag from the SGSN. Consequently, it acknowledges a request for activating a PDP Context without an IM CN Subsystem Signalling Flag. The UE will then regard it as a general-purpose PDP context instead of as a dedicated PDP context for SIP signalling as initially requested by the UE.

~~D~~ etailed description of how The coding of the IM CN Subsystem Signalling Flag ~~is carried~~ in the Protocol Configuration Options IE and of the Signalling Indication flag in the QoS IE is ~~provided~~ specified in 3GPP TS 24.008 [8].

NOTE 2: A general-purpose PDP Context may carry both IM CN subsystem signaling and media, in case the media does not need to be authorized by Service Based Local Policy mechanisms defined in 3GPP TS 29.207 [12] and the media stream is not mandated by the P-CSCF to be carried in a separate PDP Context.

c) acquire a P-CSCF address(es).

The methods for P-CSCF discovery are:

I. Employ Dynamic Host Configuration Protocol for IPv6 (DHCPv6) draft-ietf-dhc-dhcpv6 [40], the DHCPv6 options for SIP servers draft-ietf-sip-dhcpv6 [41] and if needed DNS after PDP context activation.

The UE shall either:

- in the DHCP query, request a list of SIP server domain names of P-CSCF(s) and the list of Domain Name Servers (DNS); or

- request a list of SIP server IPv6 addresses of P-CSCF(s).

II. Transfer P-CSCF address(es) within the PDP context activation procedure.

The UE shall indicate the request for a P-CSCF address to the GGSN within the Protocol Configuration Options IE of the ACTIVATE PDP CONTEXT REQUEST message or ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

If the GGSN provides the UE with a list of P-CSCF IPv6 addresses in the ACTIVATE PDP CONTEXT ACCEPT message or ACTIVATE SECONDARY PDP CONTEXT ACCEPT message, the UE shall assume that the list is prioritised with the first address within the Protocol Configuration Options IE as the P-CSCF address with the highest priority.

The UE can freely select method I or II for P-CSCF discovery. In case several P-CSCF addresses are provided to the UE, the selection of P-CSCF address shall be performed according to the resolution of host name as indicated in RFC 3261 [26]. If sufficient information for P-CSCF address selection is not available, selection of the P-CSCF address by the UE is implementation specific.

If the UE is designed to use I above, but receives P-CSCF address(es) according to II, then the UE shall either ignore the received address(es), or use the address(es) in accordance with II, and not proceed with the DHCP request according to I.

The UE may request a DNS Server IPv6 address(es) via draft-ietf-dhc-dhcpv6-26 [40] or by the Protocol Configuration Options IE when activating a PDP context according to 3GPP TS 27.060 [10A].

Detailed description of how the request and response for IPv6 address(es) for DNS server(s) and list of P-CSCF address(es) are carried in the Protocol Configuration Options IE is provided in 3GPP TS 24.008 [8].

3GPP TSG-CN1 Meeting #28 ***Tdoc N1-030266***
Dublin, Ireland, 10 – 14 February 2003 **(N1-030204, N1-030140)**

CR-Form-v7

CHANGE REQUEST

⌘ **24.008** **CR** **738** ⌘ **rev** **2** ⌘ Current version: **5.6.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Signalling PDP Context Indication to Core Network
Source:	⌘	Vodafone
Work item code:	⌘	IMS-CCR
Date:	⌘	31/01/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Currently the RAN cannot determine the difference between Interactive traffic and IMS signalling traffic. This may limit the reliability/speed of IMS signalling and have other negative effects. In order for the RAN to determine that the traffic is IMS signalling, the core network needs to know at PDP context activation time.
Summary of change:	⌘	A flag is added to the QoS IE in the UE to CN signalling.
Consequences if not approved:	⌘	IMS signalling may be handled poorly leading to a poor customer perception of IMS.

Clauses affected:	⌘	10.5.6.5			
		Y	**N**		
Other specs affected:	⌘	**Y**		Other core specifications	25.413, 23.107 CR134r2, 24.229 CR321r2
				Test specifications	
				O&M Specifications	
Other comments:	⌘				

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.

10.5.6.5 Quality of service

The purpose of the *quality of service* information element is to specify the QoS parameters for a PDP context.

The QoS IE is defined to allow backward compatibility to earlier version of Session Management Protocol.

The *quality of service* is a type 4 information element with a length of 14 octets. The QoS requested by the MS shall be encoded both in the QoS attributes specified in octets 3-5 and in the QoS attributes specified in octets 6-14.

A QoS IE received without octets 6-14 or without octet 14 shall be accepted by a receiving entity.

NOTE: This behavior is required for interworking with entities supporting an earlier version of the protocol.

The *quality of service* information element is coded as shown in figure 10.5.138/3GPP TS 24.008 and table 10.5.156/3GPP TS 24.008.

8	7	6	5	4	3	2	1	
Quality of service IEI								octet 1
Length of quality of service IE								Octet 2
0 0 spare			Delay class			Reliability class		octet 3
Peak throughput				0 spare		Precedence class		octet 4
0 0 0 spare			Mean throughput					octet 5
Traffic Class			Delivery order			Delivery of erroneous SDU		Octet 6
Maximum SDU size								Octet 7
Maximum bit rate for uplink								Octet 8
Maximum bit rate for downlink								Octet 9
Residual BER				SDU error ratio				Octet 10
Transfer delay						Traffic Handling priority		Octet 11
Guaranteed bit rate for uplink								Octet 12
Guaranteed bit rate for downlink								Octet 13
0 0 0 0 Spare				Source Statistics Descriptor				Octet 14

Figure 10.5.138/3GPP TS 24.008: *Quality of service* information element

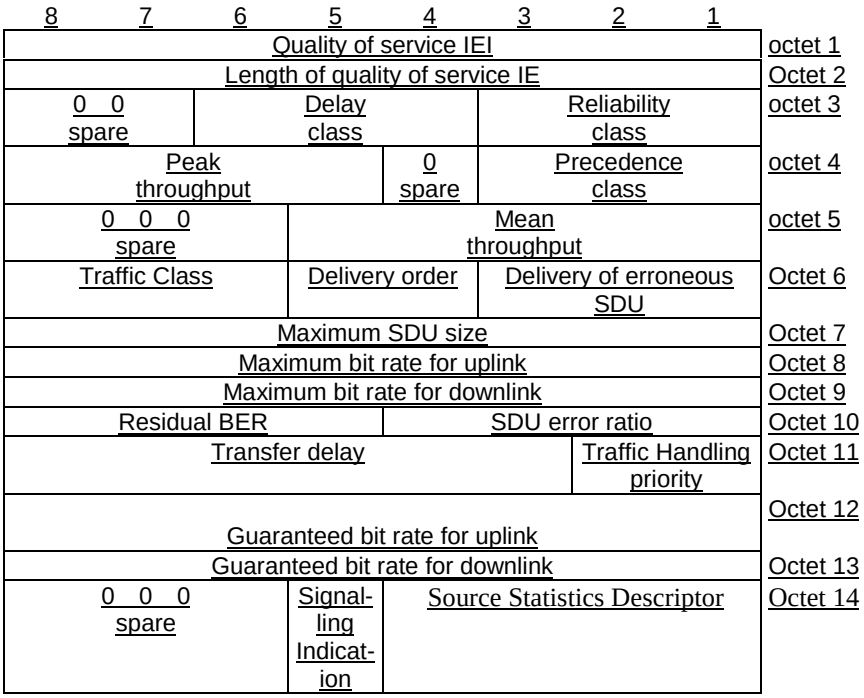

Figure 10.5.138/3GPP TS 24.008: *Quality of service* information element

Table 10.5.156/3GPP TS 24.008: *Quality of service* information element

Reliability class, octet 3 (see 3GPP TS 23.107)
Bits
3 2 1
In MS to network direction:
0 0 0 Subscribed reliability class
In network to MS direction:
0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 1 Acknowledged GTP, LLC, and RLC; Protected data
0 1 0 Unacknowledged GTP; Acknowledged LLC and RLC, Protected data
0 1 1 Unacknowledged GTP and LLC; Acknowledged RLC, Protected data
1 0 0 Unacknowledged GTP, LLC, and RLC, Protected data
1 0 1 Unacknowledged GTP, LLC, and RLC, Unprotected data
1 1 1 Reserved

All other values are interpreted as *Unacknowledged GTP and LLC; Acknowledged RLC, Protected data* in this version of the protocol.

Delay class, octet 3 (see 3GPP TS 22.060 and 3GPP TS 23.107)
Bits
6 5 4
In MS to network direction:
0 0 0 Subscribed delay class
In network to MS direction:
0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 1 Delay class 1
0 1 0 Delay class 2
0 1 1 Delay class 3
1 0 0 Delay class 4 (best effort)
1 1 1 Reserved

All other values are interpreted as *Delay class 4 (best effort)* in this version of the protocol.
Bit 7 and 8 of octet 3 are spare and shall be coded all 0.
Precedence class, octet 4 (see 3GPP TS 23.107)
Bits
3 2 1
In MS to network direction:
0 0 0 Subscribed precedence
In network to MS direction:
0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 1 High priority
0 1 0 Normal priority
0 1 1 Low priority
1 1 1 Reserved

All other values are interpreted as *Normal priority* in this version of the protocol.

Bit 4 of octet 4 is spare and shall be coded as 0.

Peak throughput, octet 4 (see 3GPP TS 23.107)
Bits
8 7 6 5
In MS to network direction:
0 0 0 0 Subscribed peak throughput
In network to MS direction:
0 0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 0 1 Up to 1 000 octet/s
0 0 1 0 Up to 2 000 octet/s
0 0 1 1 Up to 4 000 octet/s
0 1 0 0 Up to 8 000 octet/s
0 1 0 1 Up to 16 000 octet/s
0 1 1 0 Up to 32 000 octet/s
0 1 1 1 Up to 64 000 octet/s
1 0 0 0 Up to 128 000 octet/s
1 0 0 1 Up to 256 000 octet/s
1 1 1 1 Reserved

All other values are interpreted as *Up to 1 000 octet/s* in this version of the protocol.
Mean throughput, octet 5 (see 3GPP TS 23.107)
Bits
5 4 3 2 1

In MS to network direction:
0 0 0 0 0 Subscribed mean throughput
In network to MS direction:
0 0 0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 0 0 1 100 octet/h
0 0 0 1 0 200 octet/h
0 0 0 1 1 500 octet/h
0 0 1 0 0 1 000 octet/h
0 0 1 0 1 2 000 octet/h
0 0 1 1 0 5 000 octet/h
0 0 1 1 1 10 000 octet/h
0 1 0 0 0 20 000 octet/h
0 1 0 0 1 50 000 octet/h
0 1 0 1 0 100 000 octet/h
0 1 0 1 1 200 000 octet/h
0 1 1 0 0 500 000 octet/h
0 1 1 0 1 1 000 000 octet/h
0 1 1 1 0 2 000 000 octet/h
0 1 1 1 1 5 000 000 octet/h
1 0 0 0 0 10 000 000 octet/h
1 0 0 0 1 20 000 000 octet/h
1 0 0 1 0 50 000 000 octet/h
1 1 1 1 0 Reserved
1 1 1 1 1 Best effort
The value Best effort indicates that throughput shall be made available to the MS on a per need and availability basis. All other values are interpreted as *Best effort* in this
version of the protocol.

Bits 8 to 6 of octet 5 are spare and shall be coded all 0.

Delivery of erroneous SDUs, octet 6 (see 3GPP TS 23.107)
Bits
3 2 1
In MS to network direction:
0 0 0 Subscribed delivery of erroneous SDUs
In network to MS direction:
0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 1 No detect ('-')
0 1 0 Erroneous SDUs are delivered ('yes')
0 1 1 Erroneous SDUs are not delivered ('no')
1 1 1 Reserved

The network shall map all other values not explicitly defined onto one of the values defined in this version of the protocol. The network shall return a negotiated value which is explicitly defined in this version of this protocol.

The MS shall consider all other values as reserved.

Delivery order, octet 6 (see 3GPP TS 23.107)
Bits
5 4 3
In MS to network direction:
0 0 Subscribed delivery order
In network to MS direction:
0 0 Reserved
In MS to network direction and in network to MS direction:
0 1 With delivery order ('yes')
1 0 Without delivery order ('no')
1 1 Reserved

Traffic class, octet 6 (see 3GPP TS 23.107)
Bits
8 7 6
In MS to network direction:
0 0 0 Subscribed traffic class
In network to MS direction:
0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 1 Conversational class
0 1 0 Streaming class
0 1 1 Interactive class
1 0 0 Background class
1 1 1 Reserved

The network shall map all other values not explicitly defined onto one of the values defined in this version of the protocol. The network shall return a negotiated value which is explicitly defined in this version of this protocol.

The MS shall consider all other values as reserved.

Maximum SDU size, octet 7 (see 3GPP TS 23.107)
In MS to network direction:
0 0 0 0 0 0 0 0 Subscribed maximum SDU size
1 1 1 1 1 1 1 1 Reserved
In network to MS direction:
0 0 0 0 0 0 0 0 Reserved
1 1 1 1 1 1 1 1 Reserved
In MS to network direction and in network to MS direction:

For values in the range 00000001 to 10010110 the Maximum SDU size value is binary coded in 8 bits, using a granularity of 10 octets, giving a range of values from 10 octets to 1500 octets.
Values above 10010110 are as below:
1 0 0 1 0 1 1 0 1502 octets
1 0 0 1 1 0 0 0 1510 octets
1 0 0 1 1 0 0 1 1520 octets

The network shall map all other values not explicitly defined onto one of the values defined in this version of the protocol. The network shall return a negotiated value which is explicitly defined in this version of this protocol.

The MS shall consider all other values as reserved.

Maximum bit rate for uplink, octet 8
Bits
8 7 6 5 4 3 2 1
In MS to network direction:
0 0 0 0 0 0 0 0 Subscribed maximum bit rate for uplink
In network to MS direction:
0 0 0 0 0 0 0 0 Reserved
In MS to network direction and in network to MS direction:
0 0 0 0 0 0 0 1 The maximum bit rate is binary coded in 8 bits, using a granularity of 1 kbps
0 0 1 1 1 1 1 1 giving a range of values from 1 kbps to 63 kbps in 1 kbps increments.

0 1 0 0 0 0 0 0 The maximum bit rate is 64 kbps + ((the binary coded value in 8 bits –01000000) * 8 kbps)
0 1 1 1 1 1 1 1 giving a range of values from 64 kbps to 568 kbps in 8 kbps increments.

1 0 0 0 0 0 0 0 The maximum bit rate is 576 kbps + ((the binary coded value in 8 bits –10000000) * 64 kbps)
1 1 1 1 1 1 1 0 giving a range of values from 576 kbps to 8640 kbps in 64 kbps increments.

1 1 1 1 1 1 1 1 0kbps

Maximum bit rate for downlink, octet 9 (see 3GPP TS 23.107)

Coding is identical to that of Maximum bit rate for uplink.

In this version of the protocol, for messages specified in the present document, the sending entity shall not request 0 kbps for both the Maximum bitrate for downlink and the Maximum bitrate for uplink at the same time. Any entity receiving a request for 0 kbps in both the Maximum bitrate for downlink and the Maximum bitrate for uplink shall consider that as a syntactical error (see clause 8).

Residual Bit Error Rate (BER), octet 10 (see 3GPP TS 23.107)
Bits
8 7 6 5
In MS to network direction:
0 0 0 0 Subscribed residual BER
In network to MS direction:
0 0 0 0 Reserved
In MS to network direction and in network to MS direction:
The Residual BER value consists of 4 bits. The range is from $5*10^{-2}$ to $6*10^{-8}$.
0 0 0 1 $5*10^{-2}$
0 0 1 0 $1*10^{-2}$
0 0 1 1 $5*10^{-3}$
0 1 0 0 $4*10^{-3}$
0 1 0 1 $1*10^{-3}$
0 1 1 0 $1*10^{-4}$
0 1 1 1 $1*10^{-5}$
1 0 0 0 $1*10^{-6}$
1 0 0 1 $6*10^{-8}$
1 1 1 1 Reserved

The network shall map all other values not explicitly defined onto one of the values defined in this version of the protocol. The network shall return a negotiated value which is explicitly defined in this version of the protocol.

The MS shall consider all other values as reserved.

SDU error ratio, octet 10 (see 3GPP TS 23.107)
Bits
4 3 2 1
In MS to network direction:
0 0 0 0 Subscribed SDU error ratio
In network to MS direction:
0 0 0 0 Reserved
In MS to network direction and in network to MS direction:
The SDU error ratio value consists of 4 bits. The range is is from $1*10^{-1}$ to $1*10^{-6}$.
0 0 0 1 $1*10^{-2}$
0 0 1 0 $7*10^{-3}$
0 0 1 1 $1*10^{-3}$
0 1 0 0 $1*10^{-4}$
0 1 0 1 $1*10^{-5}$
0 1 1 0 $1*10^{-6}$
0 1 1 1 $1*10^{-1}$
1 1 1 1 Reserved

The network shall map all other values not explicitly defined onto one of the values defined in this version of the protocol. The network shall return a negotiated value which is explicitly defined in this version of the protocol.

The MS shall consider all other values as reserved.

Traffic handling priority, octet 11 (see 3GPP TS 23.107)
Bits
2 1
In MS to network direction:
0 0 Subscribed traffic handling priority
In network to MS direction:
0 0 Reserved
In MS to network direction and in network to MS direction:
0 1 Priority level 1
1 0 Priority level 2
1 1 Priority level 3

The Traffic handling priority value is ignored if the Traffic Class is Conversation class, Streaming class or Background class.

Transfer delay, octet 11 (See 3GPP TS 23.107)
Bits
8 7 6 5 4 3

In MS to network direction:
0 0 0 0 0 0 Subscribed transfer delay
In network to MS direction:
0 0 0 0 0 0 Reserved
In MS to network direction and in network to MS direction:

0 0 0 0 0 1 The Transfer delay is binary coded in 6 bits, using a granularity of 10 ms
0 0 1 1 1 1 giving a range of values from 10 ms to 150 ms in 10 ms increments

0 1 0 0 0 0 The transfer delay is 200 ms + ((the binary coded value in 6 bits – 010000) * 50 ms)
0 1 1 1 1 1 giving a range of values from 200 ms to 950 ms in 50ms increments

1 0 0 0 0 0 The transfer delay is 1000 ms + ((the binary coded value in 6 bits – 100000) * 100 ms)
1 1 1 1 1 0 giving a range of values from 1000 ms to 4000 ms in 100ms increments

1 1 1 1 1 1 Reserved

The Transfer delay value is ignored if the Traffic Class is Interactive class or Background class.
Guaranteed bit rate for uplink, octet 12 (See 3GPP TS 23.107)

Coding is identical to that of Maximum bit rate for uplink.

The Guaranteed bit rate for uplink value is ignored if the Traffic Class is Interactive class or Background class, or Maximum bit rate for uplink is set to 0 kbps.
Guaranteed bit rate for downlink, octet 13(See 3GPP TS 23.107)

Coding is identical to that of Maximum bit rate for uplink.

The Guaranteed bit rate for downlink value is ignored if the Traffic Class is Interactive class or Background class, or Maximum bit rate for downlink is set to 0 kbps.

Source Statistics Descriptor, octet 14 (see 3GPP TS 23.107)
Bits
4 3 2 1
In MS to network direction
0 0 0 0 unknown
0 0 0 1 speech

The network shall consider all other values as unknown.

In network to MS direction
Bits 4 to 1 of octet 14 are spare and shall be coded all 0.

Signalling Indication, octet 14 (see 3GPP TS 23.107)
Bit
5
In MS to network direction and in network to MS direction:
0 Not optimised for signalling traffic

1 Optimised for signalling traffic

If set to '1' the QoS of the PDP context is optimised for signalling

In the network to MS direction this bit shall be ignored by the MS.

Bits 8 to ~~5~~6 of octet 14 are spare and shall be coded all 0.