

3GPP TSG CN Plenary Meeting #19
12th – 14th March 2003 Birmingham, UK.

NP-030105

Source: TSG CN WG4
Title: Corrections on End to end Qos for PS domain
Agenda item: 8.5
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.002	562	1	N4-030296	Rel-5	Alignment of TS 29.002 with TS 23.107 regarding QoS subscribed data	F	5.4.0
29.002	563	1	N4-030297	Rel-6	Alignment of TS 29.002 with TS 23.107 regarding QoS subscribed data	A	6.0.0

CR-Form-v7

CHANGE REQUEST

⌘ **29.002 CR 562** ⌘ rev **1** ⌘ Current version: **5.4.0** ⌘

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

Title:	⌘ Alignment of TS 29.002 with TS 23.107 regarding QoS subscribed data		
Source:	⌘ CN4		
Work item code:	⌘ TEI5	Date:	⌘ 13/02/2003
Category:	⌘ F		Release: ⌘ Rel-5
	Use <u>one</u> 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 <u>one</u> 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:	⌘ According to stage 2 TS 23.107, Insert Subscriber Data message of R99 shall also contain the R99 attributes as an extension of the R97/98 QoS Information Element when this is sent to a R99 SGSN. The R99 SGSN shall use the R97/98 attributes of subscribed QoS profile when a R97/98 MS requests to use subscription data in the PDP Context Activation. In contradiction to the above statement, in TS 29.002 it is stated under clause 17.7.1 in PDP-Context that “qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported”. Doing this, R97/98 QoS Information will be discarded even if this is necessary.
Summary of change:	⌘ The statement “qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported” is removed. The R97/98 QoS Information is necessary, if a R97/98 MS requests to use subscription data in the PDP Context Activation towards R99 SGSN and should not be discarded.
Consequences if not approved:	⌘ R99 SGSN will continue to discard needed information which could be requested by a R97/98 MS.

Clauses affected:	⌘ 17.7.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications Test specifications O&M Specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
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.

***** For Information *****

TS 23.107 V5.7.0

9.1.2.1 General rules

Air interface Session Management and GTP messages of R99 shall contain the R99 attributes as an extension of the R97/98 QoS Information Element thus unnecessary mapping can be avoided. When a R97/98 MS is visiting a GPRS R99 or UMTS SGSN and the GGSN is of R97/98 or R99, the visited SGSN shall not perform any mapping of QoS attributes. In case of GGSN R99, the GTP version 1 (R99) QoS profile only contains the R97/98 QoS attributes. It can be noted that for this PDP Context a Traffic Flow Template (TFT) can not be requested.

When a R99 UE is visiting a GPRS R99 or UMTS SGSN (or serving PLMN) and the GGSN (or home PLMN) is of R97/98, the visited SGSN (or visited PLMN) shall be capable of providing bearers having QoS support according to R99. When a PDP Context is activated (mobile or network initiated) mapping takes place in the serving SGSN.

For MS initiated PDP Context Activations as well as network initiated PDP Context Activations, the home R97/98 GGSN will respond to the activation request by returning a the QoS Negotiated Profile, which contain the accepted and changed R97/98 attributes. A mapping of the changed attributes into R99 attributes will be done in serving SGSN and signalled to the UE in the Activate PDP Context Accept message.

It is a general mapping rule that returned and unchanged attributes during negotiation procedures shall not be mapped a second time by serving SGSN, i.e. the unchanged R99 attributes received in the Create PDP Context Response message will be sent to UE in QoS Negotiated Profile of the Activate PDP Context Accept message.

MAP message of R99 shall also contain the R99 attributes as an extension of the R97/98 QoS Information Element when Insert Subscriber Data message is sent to a R99 SGSN. In the case when a R99 HLR send a Insert Subscriber Data message to a R97/98 SGSN, the message shall contain the R97/98 QoS attributes. A R99 SGSN shall use the R99 attributes of subscribed QoS profile when a R99 UE requests to use subscription data in the PDP Context Activation. The R99 SGSN shall use the R97/98 attributes of subscribed QoS profile when a R97/98 MS requests to use subscription data in the PDP Context Activation.

***** First Modification *****

17.7 MAP constants and data types

17.7.1 Mobile Service data types

...

```
GMLC-List ::= SEQUENCE SIZE (1..maxNumOfGMLC) OF
                ISDN-AddressString
-- if segmentation is used, the complete GMLC-List shall be sent in one segment
```

```
maxNumOfGMLC INTEGER ::= 5
```

```
NetworkAccessMode ::= ENUMERATED {
    bothMSCAndSGSN          (0),
    onlyMSC                  (1),
    onlySGSN                 (2),
    ...}
-- if unknown values are received in NetworkAccessMode
-- they shall be discarded.
```

```
GPRSDataList ::= SEQUENCE SIZE (1..maxNumOfPDP-Contexts) OF
PDP-Context
```

```
maxNumOfPDP-Contexts INTEGER ::= 50
```

```
PDP-Context ::= SEQUENCE {
pdp-ContextId ContextId,
pdp-Type [16] PDP-Type,
pdp-Address [17] PDP-Address OPTIONAL,
qos-Subscribed [18] QoS-Subscribed,
vplmnAddressAllowed [19] NULL OPTIONAL,
apn [20] APN,
extensionContainer [21] ExtensionContainer OPTIONAL,
... ,
ext-QoS-Subscribed [0] Ext-QoS-Subscribed OPTIONAL,
pdp-ChargingCharacteristics [1] ChargingCharacteristics OPTIONAL }
qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported
```

```
ContextId ::= INTEGER (1..maxNumOfPDP-Contexts)
```

```
GPRSSubscriptionData ::= SEQUENCE {
completedDataListIncluded NULL OPTIONAL,
-- If segmentation is used, completedDataListIncluded may only be present in the
-- first segment.
gprsDataList [1] GPRSDataList,
extensionContainer [2] ExtensionContainer OPTIONAL,
... }
```

```
SGSN-CAMEL-SubscriptionInfo ::= SEQUENCE {
gprs-CSI [0] GPRS-CSI OPTIONAL,
mo-sms-CSI [1] SMS-CSI OPTIONAL,
extensionContainer [2] ExtensionContainer OPTIONAL,
... ,
mt-sms-CSI [3] SMS-CSI OPTIONAL,
mt-smsCAMELTDP-CriteriaList [4] MT-smsCAMELTDP-CriteriaList OPTIONAL,
mg-csi [5] MG-CSI OPTIONAL
}
```

```
GPRS-CSI ::= SEQUENCE {
gprs-CamelTDPDataList [0] GPRS-CamelTDPDataList OPTIONAL,
camelCapabilityHandling [1] CamelCapabilityHandling OPTIONAL,
extensionContainer [2] ExtensionContainer OPTIONAL,
notificationToCSE [3] NULL OPTIONAL,
csi-Active [4] NULL OPTIONAL,
... }
-- notificationToCSE and csi-Active shall not be present when GPRS-CSI is sent to SGSN.
-- They may only be included in ATSI/ATM ack/NSDC message.
-- GPRS-CamelTDPData and camelCapabilityHandling shall be present in
-- the GPRS-CSI sequence.
-- If GPRS-CSI is segmented, gprs-CamelTDPDataList and camelCapabilityHandling shall be
-- present in the first segment
```

```
GPRS-CamelTDPDataList ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF
GPRS-CamelTDPData
-- GPRS-CamelTDPDataList shall not contain more than one instance of
-- GPRS-CamelTDPData containing the same value for gprs-TriggerDetectionPoint.
```

```
GPRS-CamelTDPData ::= SEQUENCE {
gprs-TriggerDetectionPoint [0] GPRS-TriggerDetectionPoint,
serviceKey [1] ServiceKey,
gsmSCF-Address [2] ISDN-AddressString,
defaultSessionHandling [3] DefaultGPRS-Handling,
extensionContainer [4] ExtensionContainer OPTIONAL,
...
}
```

```
DefaultGPRS-Handling ::= ENUMERATED {
continueTransaction (0) ,
releaseTransaction (1) ,
... }
-- exception handling:
-- reception of values in range 2-31 shall be treated as "continueTransaction"
-- reception of values greater than 31 shall be treated as "releaseTransaction"
```

```
GPRS-TriggerDetectionPoint ::= ENUMERATED {
    attach (1),
    attachChangeOfPosition (2),
    pdp-ContextEstablishment (11),
    pdp-ContextEstablishmentAcknowledgement (12),
    pdp-ContextChangeOfPosition (14),
    ... }
-- exception handling:
-- For GPRS-CamelTDPData sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- GPRS-CamelTDPData sequence.
```

```
APN ::= OCTET STRING (SIZE (2..63))
-- Octets are coded according to TS 3GPP TS 23.003 [17]
```

```
PDP-Type ::= OCTET STRING (SIZE (2))
-- Octets are coded according to TS 3GPP TS 29.060 [105]
```

```
PDP-Address ::= OCTET STRING (SIZE (1..16))
-- Octets are coded according to TS 3GPP TS 29.060 [105]

-- The possible size values are:
-- 1-7 octets X.25 address type
-- 4 octets IPv4 address type
-- 16 octets Ipv6 address type
```

```
QoS-Subscribed ::= OCTET STRING (SIZE (3))
-- Octets are coded according to TS 3GPP TS 24.008 [35] Quality of Service Octets
-- 3-5.
```

```
Ext-QoS-Subscribed ::= OCTET STRING (SIZE (1..9))
-- OCTET 1:
-- Allocation/Retention Priority (This octet encodes each priority level defined in
-- 23.107 as the binary value of the priority level, declaration in 29.060)
-- Octets 2-9 are coded according to 3GPP TS 24.008 \[35\] Quality of Service Octets
-- 6-13.
```

***** End of the Document *****

CR-Form-v7

CHANGE REQUEST

⌘ **29.002 CR 563** ⌘ rev **1** ⌘ Current version: **6.0.0** ⌘

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

Title:	⌘ Alignment of TS 29.002 with TS 23.107 regarding QoS subscribed data		
Source:	⌘ CN4		
Work item code:	⌘ TEI5	Date:	⌘ 13/02/2003
Category:	⌘ A		Release: ⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> 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:	⌘ According to stage 2 TS 23.107, Insert Subscriber Data message of R99 shall also contain the R99 attributes as an extension of the R97/98 QoS Information Element when this is sent to a R99 SGSN. The R99 SGSN shall use the R97/98 attributes of subscribed QoS profile when a R97/98 MS requests to use subscription data in the PDP Context Activation. In contradiction to the above statement, in TS 29.002 it is stated under clause 17.7.1 in PDP-Context that “qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported”. Doing this, R97/98 QoS Information will be discarded even if this is necessary.
Summary of change:	⌘ The statement “qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported” is removed. The R97/98 QoS Information is necessary, if a R97/98 MS requests to use subscription data in the PDP Context Activation towards R99 SGSN and should not be discarded.
Consequences if not approved:	⌘ R99 SGSN will continue to discard needed information which could be requested by a R97/98 MS.

Clauses affected:	⌘ 17.7.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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> </table> Other core specifications	Y	N	⌘	X	⌘	
Y	N						
⌘	X						
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⌘	X						
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⌘	X						
Other comments:	⌘						

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***** For Information *****

TS 23.107 V5.7.0

9.1.2.1 General rules

Air interface Session Management and GTP messages of R99 shall contain the R99 attributes as an extension of the R97/98 QoS Information Element thus unnecessary mapping can be avoided. When a R97/98 MS is visiting a GPRS R99 or UMTS SGSN and the GGSN is of R97/98 or R99, the visited SGSN shall not perform any mapping of QoS attributes. In case of GGSN R99, the GTP version 1 (R99) QoS profile only contains the R97/98 QoS attributes. It can be noted that for this PDP Context a Traffic Flow Template (TFT) can not be requested.

When a R99 UE is visiting a GPRS R99 or UMTS SGSN (or serving PLMN) and the GGSN (or home PLMN) is of R97/98, the visited SGSN (or visited PLMN) shall be capable of providing bearers having QoS support according to R99. When a PDP Context is activated (mobile or network initiated) mapping takes place in the serving SGSN.

For MS initiated PDP Context Activations as well as network initiated PDP Context Activations, the home R97/98 GGSN will respond to the activation request by returning a the QoS Negotiated Profile, which contain the accepted and changed R97/98 attributes. A mapping of the changed attributes into R99 attributes will be done in serving SGSN and signalled to the UE in the Activate PDP Context Accept message.

It is a general mapping rule that returned and unchanged attributes during negotiation procedures shall not be mapped a second time by serving SGSN, i.e. the unchanged R99 attributes received in the Create PDP Context Response message will be sent to UE in QoS Negotiated Profile of the Activate PDP Context Accept message.

MAP message of R99 shall also contain the R99 attributes as an extension of the R97/98 QoS Information Element when Insert Subscriber Data message is sent to a R99 SGSN. In the case when a R99 HLR send a Insert Subscriber Data message to a R97/98 SGSN, the message shall contain the R97/98 QoS attributes. A R99 SGSN shall use the R99 attributes of subscribed QoS profile when a R99 UE requests to use subscription data in the PDP Context Activation. The R99 SGSN shall use the R97/98 attributes of subscribed QoS profile when a R97/98 MS requests to use subscription data in the PDP Context Activation.

***** First Modification *****

17.7 MAP constants and data types

17.7.1 Mobile Service data types

...

```
GMLC-List ::= SEQUENCE SIZE (1..maxNumOfGMLC) OF
                ISDN-AddressString
-- if segmentation is used, the complete GMLC-List shall be sent in one segment
```

```
maxNumOfGMLC INTEGER ::= 5
```

```
NetworkAccessMode ::= ENUMERATED {
    bothMSCAndSGSN          (0),
    onlyMSC                  (1),
    onlySGSN                 (2),
    ...}
-- if unknown values are received in NetworkAccessMode
-- they shall be discarded.
```

```
GPRSDataList ::= SEQUENCE SIZE (1..maxNumOfPDP-Contexts) OF
PDP-Context
```

```
maxNumOfPDP-Contexts INTEGER ::= 50
```

```
PDP-Context ::= SEQUENCE {
pdp-ContextId ContextId,
pdp-Type [16] PDP-Type,
pdp-Address [17] PDP-Address OPTIONAL,
qos-Subscribed [18] QoS-Subscribed,
vplmnAddressAllowed [19] NULL OPTIONAL,
apn [20] APN,
extensionContainer [21] ExtensionContainer OPTIONAL,
... ,
ext-QoS-Subscribed [0] Ext-QoS-Subscribed OPTIONAL,
pdp-ChargingCharacteristics [1] ChargingCharacteristics OPTIONAL }
qos-Subscribed shall be discarded if ext-QoS-Subscribed is received and supported
```

```
ContextId ::= INTEGER (1..maxNumOfPDP-Contexts)
```

```
GPRSSubscriptionData ::= SEQUENCE {
completeDataListIncluded NULL OPTIONAL,
-- If segmentation is used, completeDataListIncluded may only be present in the
-- first segment.
gprsDataList [1] GPRSDataList,
extensionContainer [2] ExtensionContainer OPTIONAL,
... }
```

```
SGSN-CAMEL-SubscriptionInfo ::= SEQUENCE {
gprs-CSI [0] GPRS-CSI OPTIONAL,
mo-sms-CSI [1] SMS-CSI OPTIONAL,
extensionContainer [2] ExtensionContainer OPTIONAL,
... ,
mt-sms-CSI [3] SMS-CSI OPTIONAL,
mt-smsCAMELTDP-CriteriaList [4] MT-smsCAMELTDP-CriteriaList OPTIONAL,
mg-csi [5] MG-CSI OPTIONAL
}
```

```
GPRS-CSI ::= SEQUENCE {
gprs-CamelTDPDataList [0] GPRS-CamelTDPDataList OPTIONAL,
camelCapabilityHandling [1] CamelCapabilityHandling OPTIONAL,
extensionContainer [2] ExtensionContainer OPTIONAL,
notificationToCSE [3] NULL OPTIONAL,
csi-Active [4] NULL OPTIONAL,
... }
-- notificationToCSE and csi-Active shall not be present when GPRS-CSI is sent to SGSN.
-- They may only be included in ATSI/ATM ack/NSDC message.
-- GPRS-CamelTDPData and camelCapabilityHandling shall be present in
-- the GPRS-CSI sequence.
-- If GPRS-CSI is segmented, gprs-CamelTDPDataList and camelCapabilityHandling shall be
-- present in the first segment
```

```
GPRS-CamelTDPDataList ::= SEQUENCE SIZE (1..maxNumOfCamelTDPData) OF
GPRS-CamelTDPData
-- GPRS-CamelTDPDataList shall not contain more than one instance of
-- GPRS-CamelTDPData containing the same value for gprs-TriggerDetectionPoint.
```

```
GPRS-CamelTDPData ::= SEQUENCE {
gprs-TriggerDetectionPoint [0] GPRS-TriggerDetectionPoint,
serviceKey [1] ServiceKey,
gsmSCF-Address [2] ISDN-AddressString,
defaultSessionHandling [3] DefaultGPRS-Handling,
extensionContainer [4] ExtensionContainer OPTIONAL,
...
}
```

```
DefaultGPRS-Handling ::= ENUMERATED {
continueTransaction (0) ,
releaseTransaction (1) ,
... }
-- exception handling:
-- reception of values in range 2-31 shall be treated as "continueTransaction"
-- reception of values greater than 31 shall be treated as "releaseTransaction"
```

```
GPRS-TriggerDetectionPoint ::= ENUMERATED {
    attach (1),
    attachChangeOfPosition (2),
    pdp-ContextEstablishment (11),
    pdp-ContextEstablishmentAcknowledgement (12),
    pdp-ContextChangeOfPosition (14),
    ... }
-- exception handling:
-- For GPRS-CamelTDPData sequences containing this parameter with any
-- other value than the ones listed the receiver shall ignore the whole
-- GPRS-CamelTDPData sequence.
```

```
APN ::= OCTET STRING (SIZE (2..63))
-- Octets are coded according to TS 3GPP TS 23.003 [17]
```

```
PDP-Type ::= OCTET STRING (SIZE (2))
-- Octets are coded according to TS 3GPP TS 29.060 [105]
```

```
PDP-Address ::= OCTET STRING (SIZE (1..16))
-- Octets are coded according to TS 3GPP TS 29.060 [105]

-- The possible size values are:
-- 1-7 octets X.25 address type
-- 4 octets IPv4 address type
-- 16 octets Ipv6 address type
```

```
QoS-Subscribed ::= OCTET STRING (SIZE (3))
-- Octets are coded according to TS 3GPP TS 24.008 [35] Quality of Service Octets
-- 3-5.
```

```
Ext-QoS-Subscribed ::= OCTET STRING (SIZE (1..9))
-- OCTET 1:
-- Allocation/Retention Priority (This octet encodes each priority level defined in
-- 23.107 as the binary value of the priority level, declaration in 29.060)
-- Octets 2-9 are coded according to 3GPP TS 24.008 \[35\] Quality of Service Octets
-- 6-13.
```

***** End of the Document *****