Technical Specification Group Services and System Aspects
Meeting #15, Cheju Island, Korea, 11-14 March 2002

TSGS#15(02)0162

Source: **SA WG3**

Title: **CR to 33.107: Addition of PDP context modification Event and Transferring the QoS information element across the X2 interface (Rel-5)**

Document for: **Approval**

Agenda Item: **7.3.3**

SA doc#	Spec	CR	R	Phase	Subject	Cat	Current Version	SA WG3 doc#
SP-020112	33.107	022		Rel-5	Addition of PDP context modification Event and Transferring the QoS information element across the X2 interface	B	5.1.0	S3-020130

3GPP TSG SA WG3 Security — S3#22 **S3-020130**

25 - 28 February 2002

Bristol, UK **(concatenation of S3-020070 and S3-020071)**

CR-Form-v3

CHANGE REQUEST

⌘ **33.107** **CR** **022** ⌘ rev **-** ⌘ Current version: **5.1.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Addition of PDP context modification Event and Transferring the QoS information element across the X2 interface
Source:	⌘	SA WG3
Work item code:	⌘	SEC-LI
Date:	⌘	26 February 2002
Category:	⌘	**B**
Release:	⌘	REL-5

Use one of the following categories:
- ***F*** *(essential 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)*

Reason for change:	⌘	The PDP context modification procedure is invoked by the network in order to change the QoS negotiated during the PDP context activation procedure or at previously performed PDP context modification procedures. The procedure can be initiated by the network at any time when a PDP context is active. Currently the specification does not support reporting of this procedure. Accordingly, the "PDP context modification" event is being added to the set of reported events. Tdoc S3LI01_082 presented in Aspen meeting has steered the discussion towards the necessity of communicating the QoS information element to the packet data delivery functions (DF). Non Real Time (NRT) traffic should be delivered in a reliable way, while the Real Time (RT) traffic should be delivered promptly. None of the already standardized LI delivery mechanisms alone provide for both. Therefore, in order to meet these requirements, DF has to select appropriate delivery method for the data flow, related to the given QoS, which is defined in the PDP context. Adding an optional QoS IE to the X3 interface has been adopted. This CR also adds QoS to the X2 interface. This would also align 33.107 with 33.108.
Summary of change:	⌘	Reporting of the PDP Contect Modification event is being added to this specification. As an adding to the X2 interface, it is proposed that the QoS IE shall be transferred to DF2. See also S3LI01_102 / 103
Consequences if not approved:	⌘	Missing capability and compatibility with 3GPP TS 23.060. It would be impossible to simultaneously intercept data of all four traffic classes.

Clauses affected:	⌘	7.3.1, 7.3.2, 7.4.8		
Other specs Affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	33.108
Other comments:	⌘			

*** FIRST MODIFICATION ***

7.3.1 X2-interface

The following information needs to be transferred from the 3G GSN to the DF2 in order to allow a DF2 to perform its functionality:

- target identity (MSISDN, IMSI, IMEI);
- events and associated parameters as defined in section 7.3.2 and 7.4 may be provided;
- the target location (if available) or the IAs in case of location dependent interception;
- Correlation number;
- Quality of Service (QoS) identifier..

The IRI should be sent to DF2 using ~~with~~ a reliable transport mechanism.

*** NEXT MODIFICATION ***

7.3.2 Structure of the events

There are seven different events in which the information is sent to the DF2 if this is required. Details are described in the following section. The events for interception are configurable (if they are sent to DF2) in the 3G GSN and can be suppressed in the DF2.

The following events are applicable to 3G SGSN:

- Mobile Station Attach;
- Mobile Station Detach;
- PDP context activation;
- Start of intercept with PDP context active;
- PDP context modification;
- PDP context deactivation;
- RA update;
- SMS.

NOTE: 3G GGSN interception is a national option. Location information may not be available in this case.

The following events are applicable to the 3G GGSN:

- PDP context activation;
- PDP context modification;
- PDP context deactivation;
- Start of interception with PDP context active.

A set of fields as shown below is used to generate the events. The events transmit the information from 3G GSN to DF2. This set of fields as shown below can be extended in the 3G GSN, if this is necessary as a national option. DF2 can extend this information if this is necessary as a national option e.g. a unique number for each surveillance warrant.

Table 2: Information Events for Packet Data Event Records

Observed MSISDN MSISDN of the target subscriber (monitored subscriber)
Observed IMSI IMSI of the target subscriber (monitored subscriber)
Observed IMEI IMEI of the target subscriber (monitored subscriber),it shall be checked for each activation over the radio interface.
Event type Description which type of event is delivered: MS attach, MS detach, PDP context activation, Start of intercept with PDP context active, PDP context deactivation, SMS, Cell and/or RA update,
Event date Date of the event generation in the 3G GSN
Event time Time of the event generation in the 3G GSN
PDP address The PDP address of the target subscriber. Note that this address might be dynamic.
Access Point Name The APN of the access point. (Typically the GGSN of the other party)
Location Information Location Information is the Service Area Identity (SAI), RAI and/or location area identity that is present at the GSN at the time of event record production.
PDP Type The used PDP type.
Correlation Number The correlation number is used to correlate CC and IRI.
SMS The SMS content with header which is sent with the SMS-service. The header also includes the SMS-Centre address.
Network Element IdentifierUnique identifier for the element reporting the ICE.
Failed attach reason Reason for failed attach of the target subscriber.
Failed context activation reason Reason for failed context activation of the target subscriber.
IAs The observed Interception Areas
Session Initiator The initiator of the PDP context activation, deactivation or modification request either the network or the 3G MS
Initiator SMS indicator whether the SMS is MO or MT
QoS This field indicates the Quality of Service associated with the PDP Context procedure.

*** NEXT MODIFICATION ***

7.4.8 Packet Data PDP context modification

This event will be generated if interception for a target is started and if the target has at least one PDP context active. These fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
PDP address of observed party
Event Type
Event Time
Event Date
Correlation number
Access Point Name
PDP Type
Network Element Identifier
Location Information
IAs (if applicable)
Session Initiator
QoS