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**19- 22 November 2002, Oxford, UK**

**S3-020615**

3GPP TSG-SA3 LI Meeting #07  
 SanDiego, USA, 12 – 14 November 2002

Tdoc # S3LI\_165r2  
 (former S3LI02\_154r4)

CR-Form-v7	
<h2 style="margin: 0;">CHANGE REQUEST</h2>	
# <b>33.107 CR 029</b> # rev #	# Current version: <b>5.4.0</b> #

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

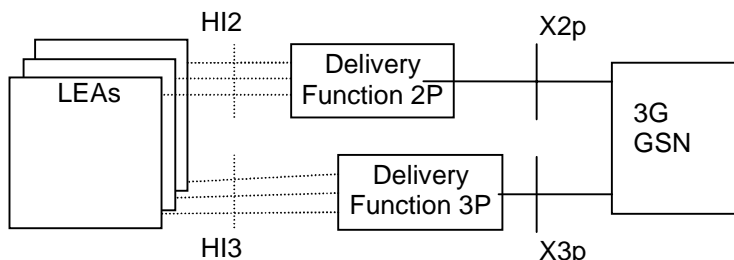
<b>Title:</b>	#	Essential correction to the LI events generated during inter-SGSN RAU, when PDP context is active	
<b>Source:</b>	#	SA WG3 (LI Group)	
<b>Work item code:</b>	#	SEC1-LI	<b>Date:</b> # 13.11.2002
<b>Category:</b>	#	<b>F</b>	<b>Release:</b> # REL-5
		Use <u>one</u> of the following categories: <i>F</i> (correction) <i>A</i> (corresponds to a correction in an earlier release) <i>B</i> (addition of feature), <i>C</i> (functional modification of feature) <i>D</i> (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)

<b>Reason for change:</b>	#	Currently, 33.107 and 33.108 do not offer a proper matching of events generated once an inter-SGSN RAU is underway and for a target, which has at least one PDP context active. In case PLMN changes, LEMF would expects a BEGIN record for 'Start of interception with PDP context active' event. Otherwise, the CONTINUE record would be more appropriate. The problem may be solved either in an intercepting GSN, or in a DF/MF.  It is proposed to leave to solution to the implementation. However, in case vendor opts to make the decision in DF/MF, the DF/MF has to receive certain information from the intercepting GSN. The CR proposes to insert an optional information element into the 'Start of interception with PDP context active event', the 'Old Location Information'.
<b>Summary of change:</b>	#	Remove a restriction to send an 'Start of interception with PDP context active' event in case of inter-SGSN change. Besides, a new optional information element, the 'Old Location Information' is inserted into the 'Start of interception with PDP context active event'.
<b>Consequences if not approved:</b>	#	Misalignment of 33.107 with 33.108, ambiguity and inconsistent implementations.

<b>Clauses affected:</b>	#	7; 7.4.4; 7.4.9								
<b>Other specs affected:</b>	#	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> </table> Other core specifications # 3GPP TS 33.108 Test specifications O&M Specifications	Y	N	X			X		X
Y	N									
X										
	X									
	X									
<b>Other comments:</b>	#									

## 7 Invocation of Lawful Interception for GSN Packet Data services

Figure shows the extract from the reference configuration which is relevant for the invocation of the Lawful Interception of the packet data GSN network.



**Figure 18: Functional model for Packet Data GSN Network Lawful Interception invocation**

The HI2 and HI3 interfaces represent the interfaces between the LEA and two delivery functions. Both interfaces are subject to national requirements. They are included for completeness, but are beyond the scope of this specification. The delivery functions are used:

- to convert the information on the X2-interface to the corresponding information on the HI2 interface;
- to distribute the intercept related information to the relevant LEA(s);
- to distribute the intercept product to the relevant LEA(s).

In case a Packet Data communication is selected based on several identities (MSISDN, IMSI, IMEI, ) of the same target, the 3G SGSN and/or, per national option 3G GGSN will deliver CC and IRI only once to the DF2 and DF3. DF2 and DF3 will then distribute the information to the relevant LEAs.

For the delivery of the CC and IRI the 3G SGSN and/or, per national option 3G GGSN provides correlation number and target identity to the DF2 and DF3 which is used there in order to select the different LEAs where the product shall be delivered.

The correlation number is unique in the whole PLMN and is used to correlate CC with IRI and the different IRI's of one PDP context.

The correlation number shall be generated by using existing parameters related to the PDP context.

**NOTE:** If interception has been activated for both parties of the Packet Data communication both CC and IRI will be delivered for each party as separate intercept activity.

In case of location dependent interception:

- for each target, the location dependency check occurs at each Packet Data session establishment or release and at each Routing Area (RA) update to determine permanently the relevant IAs (and deduce, the possible LEAs within these IAs),
- concerning the IRI:
  - when an IA is left, a Mobile Station Detach event is sent when changing servicing 3 G GSNs or a RA update event is sent when changing IAs inside the same servicing 3G SGSN to DF2;
  - when a new IA is entered a RA update event is sent to DF2 and, optionally, a “Start of iInterception with ~~Active~~ PDP Ccontext active” event for each PDP context;
- concerning the CC, when crossing IAs, the CC is not sent anymore to the DF3 of the old IA but sent to the DF3 of the new IA.

Both in case of location dependent and location independent interception:

"Start of interception with ~~active~~ PDP context active" event is sent by the new SGSN if an Inter-SGSN RA update procedure, which involves different PLMNs, takes place for a target, which has at least one active PDP context.

NOTE: An SGSN can differentiate "Inter PLMN" type of Inter-SGSN RA update procedure from "Intra PLMN" type of Inter-SGSN RA update procedure by inspecting the old RAI parameter, which is being received by the SGSN as part of the procedure (see 3GPP TS 23.060, section 6.9.1.2.2 and 3GPP TS 23.003, section 4.2).

Optionally, it is possible to send "Start of interception with PDP context active" for all cases of inter- SGSN RA update when at least one PDP context is active.

\*\*\*\*\* Next Modification \*\*\*\*\*

### 7.3.1 X2-interface

The following information needs to be transferred from the 3G GSN or the HLR 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 a reliable transport mechanism.

### 7.3.2 Structure of the events

There are eight 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 or the HLR 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 GSN 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.

**The following events are applicable to the HLR:**

- Roaming.

A set of fields as shown below is used to generate the events. The events transmit the information from 3G GSN or HLR to DF2. This set of fields as shown below can be extended in the 3G GSN or HLR, 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, Serving System, Cell and/or RA update.
Event date Date of the event generation in the 3G GSN or the HLR.
Event time Time of the event generation in the 3G GSN or the HLR. Timestamp shall be generated relative to GSN internal clock.
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.
<u>Old Location Information</u> <u>Location Information of the subscriber before Routing Area Update</u>
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 Identifier Unique 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.
Deactivation / termination cause The termination cause of the PDP context.
QoS This field indicates the Quality of Service associated with the PDP Context procedure.
Serving System Address Information about the serving system (e.g. serving SGSN number or serving SGSN address).

## 7.4 Packet Data related events

### 7.4.1 Mobile Station Attach

For attach an attach-event is generated. When an attach activation is generated from the mobile to servicing 3G G SN this event is generated. These fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
Event Type
Event Time
Event Date
Network Element Identifier
Location Information
Failed attach reason
IAs (if applicable)

### 7.4.2 Mobile Station Detach

For detach a detach-event is generated, this is for the common (end) detach. These fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
Event Type
Event Time
Event Date
Network Element Identifier
Location Information
IAs (if applicable)

### 7.4.3 Packet Data PDP context activation

For PDP context activation a PDP context activation-event is generated. When a PDP context activation is generated from the mobile to 3G GSN this event is generated. 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
Failed context activation reason
IAs (if applicable)
Session Initiator (optional)

## 7.4.4 Start of interception with PDP context active

This event will be generated if interception for a target is started and if the target has at least one PDP context active. If more than one PDP context are open for each of them an event record is generated. 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
Old Location Information (optional)
IAs (if applicable)

Presence of the optional Old Location Information field indicates that PDP context was already active, and being intercepted. However, the absence of this information does not imply that interception has not started in the old location SGSN for an active PDP context.

## 7.4.5 Packet Data PDP context deactivation

At PDP context deactivation a PDP context deactivation-event is generated. 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
Network Element Identifier
Location Information
IAs (if applicable)
Deactivation cause

## 7.4.6 RA update

For each RA update an update-event with the fields about the new location is generated. These fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
Event Type
Event Time
Event Date
Network Element Identifier
Location Information
IAs (if applicable)



## 7.4.7 SMS

For MO-SMS the event is generated in the 3G SGSN. Dependent on national requirements, event generation shall occur either when the 3G SGSN receives the SMS from the target MS or when the 3G SGSN receives notification that the SMS-Centre successfully receives the SMS; for MT-SMS the event is generated in the 3G SGSN. Dependent on national requirements, event generation shall occur either when the 3G SGSN receives the SMS from the SMS-Centre or when the 3G SGSN receives notification that the target MS successfully received the message. This fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
Event Type
Event Time
Event Date
Network Element Identifier
Location Information
SMS
Initiator
IAs (if applicable)

## 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

## 7.4.9 Serving System

The Serving System report event is generated at the HLR, when the HLR has detected that the intercept subject has roamed. The fields will be delivered to the DF2 if available:

Observed MSISDN
Observed IMSI
Observed IMEI
Event Type
Event Time
Event Date
Network Element Identifier
Serving System Address

## CHANGE REQUEST

⌘ **33.108 CR 005** ⌘ 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:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘	Essential correction to the LI events generated during RAU, when PDP context is active
<b>Source:</b>	⌘	SA WG3 (LI Group)
<b>Work item code:</b>	⌘	SEC1-LI
		<b>Date:</b> ⌘ 13.11.2002
<b>Category:</b>	⌘	<b>F</b>
		Use <u>one</u> of the following categories:
		<b>F</b> (correction)
		<b>A</b> (corresponds to a correction in an earlier release)
		<b>B</b> (addition of feature),
		<b>C</b> (functional modification of feature)
		<b>D</b> (editorial modification)
		Detailed explanations of the above categories can be found in 3GPP TR 21.900.
		<b>Release:</b> ⌘ REL-5
		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)

<b>Reason for change:</b>	⌘	Currently, 33.107 and 33.108 do not offer a proper matching of events generated once an inter-SGSN RAU is underway for a target, which has at least one PDP context active. In case PLMN changes, LEMF would expects a BEGIN record for 'Start of interception with PDP context active' event . Otherwise, the CONTINUE record would be more appropriate.The problem may be solved either in an intercepting GSN, or in a DF/MF. Remove the inconsistent descriptions for RAU event.
<b>Summary of change:</b>	⌘	Correction and clarification for CONTINUE record for 'Start of interception with PDP context active' event and for RAU event.
<b>Consequences if not approved:</b>	⌘	Misalignment of 33.107 with 33.108, ambiguity and inconsistent implementations.

<b>Clauses affected:</b>	⌘	6.5, 6.5.1.1, 6.5.1.2, 6.5.1.3								
<b>Other specs affected:</b>	⌘	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table> Other core specifications ⌘ 3GPP TS 33.107 Test specifications O&M Specifications	Y	N	X			X		X
Y	N									
X										
	X									
	X									
<b>Other comments:</b>	⌘									

## 6.5 IRI for packet domain

Intercept related information will in principle be available in the following phases of a data transmission:

1. At connection attempt when the target identity becomes active, at which time packet transmission may or may not occur (set up of a data context, target may be the originating or terminating party);
2. At the end of a connection, when the target identity becomes inactive (removal of a data context);
3. At certain times when relevant information are available.

In addition, information on non-transmission related actions of a target constitute IRI and is sent via HI2, e.g. information on subscriber controlled input.

The intercept related information (IRI) may be subdivided into the following categories:

1. Control information for HI2 (e.g. correlation information);
2. Basic data context information, for standard data transmission between two parties.

The events defined in ref [11] are used to generate records for the delivery via HI2.

There are eight different event types received at DF2 level. According to each event, a Record is sent to the LEMF if this is required. The following table gives the mapping between event type received at DF2 level and record type sent to the LEMF.

**Table 6.1: Mapping between UMTS Data Events and HI2 records type**

Event	IRI Record Type
GPRS attach	REPORT
GPRS detach	REPORT
PDP context activation (successful)	BEGIN
PDP context modification	CONTINUE
PDP context activation (unsuccessful)	REPORT
Start of intercept with PDP context active	BEGIN or optionally CONTINUE
PDP context deactivation	END
Location update	REPORT
SMS	REPORT
ServingSystem	REPORT

A set of information is used to generate the records. The records used transmit the information from mediation function to LEMF. This set of information can be extended in the GSN or DF2 MF, if this is necessary in a specific country. The following table gives the mapping between information received per event and information sent in records.

**Table 6.2: Mapping between Events information and IRI information**

parameter	description	HI2 ASN.1 parameter
observed MSISDN	Target Identifier with the MSISDN of the target subscriber (monitored subscriber).	partyInformation (party-identity)
observed IMSI	Target Identifier with the IMSI of the target subscriber (monitored subscriber).	partyInformation (party-identity)
observed IMEI	Target Identifier with the IMEI of the target subscriber (monitored subscriber)	partyInformation (party-identity)
observed PDP address	PDP address used by the target..	partyInformation (services-data-information)
event type	Description which type of event is delivered: PDP Context Activation, PDP Context Deactivation,GPRS Attach, etc.	gPRSevent
event date	Date of the event generation in the xGSN	timeStamp
event time	Time of the event generation in the xGSN	
access point name	The APN of the access point	partyInformation (services-data-information)
PDP type	This field describes the PDP type as defined in TS GSM 09.60, TS GSM 04.08, TS GSM 09.02	partyInformation (services-data-information)
initiator	This field indicates whether the PDP context activation, deactivation, or modification is MS directed or network initiated.	initiator
correlation number	Unique number for each PDP context delivered to the LEMF, to help the LEA, to have a correlation between each PDP Context and the IRI.	gPRSCorrelationNumber
lawful interception identifier	Unique number for each lawful authorization.	lawfulInterceptionIdentifier
location information	This field provides the service area identity, RAI and/or location area identity that is present at the SGSN at the time of event record production.	locationOfTheTarget
SMS	The SMS content with header which is sent with the SMS-service	sMS
failed context activation reason	This field gives information about the reason for a failed context activation of the target subscriber.	gPRSOperationErrorCode
failed attach reason	This field gives information about the reason for a failed attach attempt of the target subscriber.	gPRSOperationErrorCode
service center address	This field identifies the address of the relevant server within the calling (if server is originating) or called (if server is terminating) party address parameters for SMS-MO or SMS-MT.	serviceCenterAddress
umts QOS	This field indicates the Quality of Service associated with the PDP Context procedure.	qOS
context deactivation reason	This field gives information about the reason for context deactivation of the target subscriber.	gPRSOperationErrorCode
network identifier	Operator ID plus SGSN or GGSN address.	networkIdentifier
iP assignment	Observed PDP address is statically or dynamically assigned.	iP-assignment
SMS originating address	Identifies the originator of the SMS message.	DataNodeAddress
SMS terminating address	Identifies the intended recipient of the SMS message.	DataNodeAddress
SMS initiator	Indicates whether the SMS is MO, MT, or Undefined	sms-initiator
serving SGSN number	An E.164 number of the serving SGSN.	servingSGSN-Number
serving SGSN address	An IP address of the serving SGSN.	servingSGSN-Address

NOTE: LIID parameter must be present in each record sent to the LEMF.

### 6.5.1.1 REPORT record information

The REPORT record is used to report non-communication related subscriber actions (events) and for reporting unsuccessful packet-mode communication attempts.

The REPORT record shall be triggered when:

- the intercept subject's mobile station performs a GPRS attach procedure (successful or unsuccessful);
- the intercept subject's mobile station performs a GPRS detach procedure;
- the intercept subject's mobile station is unsuccessful at performing a PDP context activation procedure;
- the intercept subject's mobile station performs a cell, routing area, or combined cell and routing area update;

the intercept subject's mobile station sends an SMS-Mobile Originated (MO) communication. Dependent on national requirements, the triggering event shall occur either when the 3G SGSN receives the SMS from the target MS or, when the 3G SGSN receives notification that the SMS-Centre successfully received the SMS;

for GSM and UMTS systems deployed in the U.S., a REPORT record shall be triggered when the 3G SGSN receives an SMS-MO communication from the intercept subject's mobile station;

- the intercept subject's mobile station receives a SMS Mobile-Terminated (MT) communication. Dependent on national requirements, the triggering event shall occur either when the 3G SGSN receives the SMS from the SMS-Centre or, when the 3G SGSN receives notification that the target MS successfully received the SMS;

for GSM and UMTS systems deployed in the U.S., a REPORT record shall be triggered when the 3G SGSN receives an SMS-MT communication from the SMS-Centre destined for the intercept subject's mobile station;

- as a national option, a mobile terminal is authorized for service with another network operator or service provider.

**Table 6.3: GPRS Attach REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
event type	C	Provide GPRS Attach event type.
event date	M	Provide the date and time the event is detected.
event time		
network identifier	M	Shall be provided.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
failed attach reason	C	Provide information about the reason for failed attach attempts of the target subscriber.

**Table 6.4: GPRS Detach REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
event type	C	Provide GPRS Detach event type.
event date	M	Provide the date and time the event is detected.
event time		
network identifier	M	Shall be provided.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.

**Table 6.5: PDP Context Activation (unsuccessful) REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	Provide to identify either the: <ul style="list-style-type: none"> <li>- static address requested by the intercept subject's MS in association with a subject-initiated PDP context activation request for unsuccessful PDP context activation requests; or</li> <li>- address offered by the network in association with a network-initiated PDP context activation request when the intercept subject's MS rejects the network-initiated PDP context activation.</li> </ul>
iP assignment	C	Provide to indicate observed PDP address is statically or dynamically assigned.
event type	C	Provide PDP Context Activation event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify either the: <ul style="list-style-type: none"> <li>- packet data network to which the intercept subject requested to be connected when the intercept subject's mobile station is unsuccessful at performing a PDP context activation procedure (MS to Network); or</li> <li>- access point of the packet data network that requested to be connected to the MS when the intercept subject's mobile station rejects a network-initiated PDP context activation (Network to MS).</li> </ul>
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
Initiator	C	Provide to indicate whether the PDP context activation is network-initiated, intercept-subject-initiated, or not available.
network identifier	M	Shall be provided.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
failed context activation reason	C	Provide information about the reason for failed context activation attempts of the target subscriber.
umts QOS	C	Provide to identify the QOS parameters.

**Table 6.6: Location Information Update (with No PDP Context Active) REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
event type	C	Provide Location Information Update event type.
event date	M	Provide the date and time the event is detected.
event time		
network identifier	M	Shall be provided.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.

**Table 6.7: SMS-MO and SMS-MT Communication REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
event type	C	Provide SMS event type.
event date	M	Provide the date and time the event is detected.
event time		
network identifier	M	Shall be provided.
lawful intercept identifier	M	Shall be provided.
SMS originating address	O	Provide to identify the originating and destination address of the SMS message
SMS destination address		
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
SMS	C	Provide to deliver SMS content, including header which is sent with the SMS-service.
service center address	C	Provide to identify the address of the relevant SMS-C server. If SMS content is provided, this parameter is optional.
SMS initiator	M	Indicates whether the SMS is MO, MT, or Undefined.

**Table 6.8: Serving System REPORT Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
event type	C	Provide Serving System event type.
event date	M	Provide the date and time the event is detected.
event time		
network identifier	M	Network identifier of the HLR reporting the event.
lawful intercept identifier	M	Shall be provided.
servingSGSN-Number	C	Provide to identify the E.164 number of the serving SGSN.
servingSGSN-Address	C	Provide to identify the IP address of the serving SGSN.

### 6.5.1.2 BEGIN record information

The BEGIN record is used to convey the first event of packet-data communication interception.

The BEGIN record shall be triggered when:

- successful PDP context activation;
- the interception of a subject's communications is started and at least one PDP context is active. If more than one PDP context is active, a BEGIN record shall be generated for each PDP context that is active;
- during the inter-SGSN RAU, when the target has at least one PDP context active and the PLNM has changed;
- the target entered an interception area and has at least one PDP context active.

Table 6.9: PDP Context Activation (successful) BEGIN Record

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	Provide to identify one of the following: <ul style="list-style-type: none"> <li>- static address requested by the intercept subject's MS, and allocated by the Network for a successful PDP context activation;</li> <li>- address allocated dynamically by the network to the intercept subject MS in association with a PDP context activation (i.e., address is sent by the Network in an Activate PDP Context Accept) for a successful PDP context activation procedure when the PDP Context activation request does not contain a static PDP address; or</li> <li>- address offered by the network in association with a network-initiated PDP context activation request when the intercept subject's MS accepts the network-initiated PDP context activation request.</li> </ul>
iP assignment	C	Provide to indicate observed PDP address is statically or dynamically assigned.
event type	C	Provide PDP Context Activation event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify the: <ul style="list-style-type: none"> <li>- packet data network to which the intercept subject requested to be connected when the intercept subject's MS is successful at performing a PDP context activation procedure (MS to Network).</li> <li>- access point of the packet data network that requested to be connected to the MS when the intercept subject's MS accepts a network-initiated PDP context activation (Network to MS).</li> </ul>
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
Initiator	C	Provide to indicate whether the PDP context activation is network-initiated, intercept-subject-initiated, or not available.
network identifier	M	Shall be provided.
correlation number	C	Provide to uniquely identify the PDP context delivered to the LEMF and to correlate IRI records with CC.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
umts QOS	C	Provide to identify the QOS parameters.



Table 6.10: Start Of Interception (with PDP Context Active) BEGIN Record

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	Provide to identify the: <ul style="list-style-type: none"> <li>- static address requested by the intercept subject's MS, and allocated by the Network for a successful PDP context activation.</li> <li>- address allocated dynamically by the network to the intercept subject MS in association with a PDP context activation (i.e., address is sent by the Network in an Activate PDP Context Accept) for a successful PDP context activation procedure when the PDP Context activation request does not contain a static PDP address.</li> <li>- address offered by the network in association with a network-initiated PDP context activation request when the intercept subject's MS accepts the network-initiated PDP context activation request.</li> </ul>
event type	C	Provide Start Of Interception With PDP Context Active event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify the: <ul style="list-style-type: none"> <li>- packet data network to which the intercept subject requested to be connected when the intercept subject's MS is successful at performing a PDP context activation procedure (MS to Network).</li> <li>- access point of the packet data network that requested to be connected to the MS when the intercept subject's MS accepts a network-initiated PDP context activation (Network to MS).</li> </ul>
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
Initiator	C	Provide to indicate whether the PDP context activation is network-initiated, intercept-subject-initiated, or not available.
network identifier	M	Shall be provided.
correlation number	C	Provide to uniquely identify the PDP context delivered to the LEMF and to correlate IRI records with CC.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
umts QOS	C	Provide to identify the QOS parameters.

### 6.5.1.3 CONTINUE record information

The CONTINUE record is used to convey events during an active packet-data communication PDP Context.

The CONTINUE record shall be triggered when:

- \_\_\_—An active PDP context is modified;
- during the inter-SGSN RAU, when target has got at least one PDP context active, the PLMN does not change and the triggering event information is available at the DF/MF.

In order to enable the LEMF to correlate the informations on HI3, a new correlation number shall not be generated within CONTINUE record.

Table 6.11: PDP Context Modification CONTINUE Record

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	The observed address after modification Provide to identify the: <ul style="list-style-type: none"> <li>- static address requested by the intercept subject's MS, and allocated by the Network for a successful PDP context activation.</li> <li>- address allocated dynamically by the network to the intercept subject MS in association with a PDP context activation (i.e., address is sent by the Network in an Activate PDP Context Accept) for a successful PDP context activation procedure when the PDP Context activation request does not contain a static PDP address.</li> <li>- address offered by the network in association with a network-initiated PDP context activation request when the intercept subject's MS accepts the network-initiated PDP context activation request.</li> </ul>
event type	C	Provide the PDP Context Modification event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify the: <ul style="list-style-type: none"> <li>- packet data network to which the intercept subject requested to be connected when the intercept subject's MS is successful at performing a PDP context activation procedure (MS to Network).</li> <li>- access point of the packet data network that requested to be connected to the MS when the intercept subject's MS accepts a network-initiated PDP context activation (Network to MS).</li> </ul>
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
initiator	C	Provide to indicate whether the PDP context activation is network-initiated, intercept-subject-initiated, or not available.
network identifier	M	Shall be provided.
correlation number	C	Provide to uniquely identify the PDP context delivered to the LEMF used to correlate IRI records with CC.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
umts QOS	C	Provide to identify the QOS parameters.

**Table 6.124a: Start Of Interception (with PDP Context Active) CONTINUE Record (optional)**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	Provide to identify the: <ul style="list-style-type: none"> <li>- static address requested by the intercept subject's MS, and allocated by the Network for a successful PDP context activation.</li> <li>- address allocated dynamically by the network to the intercept subject MS in association with a PDP context activation (i.e., address is sent by the Network in an Activate PDP Context Accept) for a successful PDP context activation procedure when the PDP Context activation request does not contain a static PDP address.</li> <li>- address offered by the network in association with a network-initiated PDP context activation request when the intercept subject's MS accepts the network-initiated PDP context activation request.</li> </ul>
event type	C	Provide the Continue interception with active PDP event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify the: <ul style="list-style-type: none"> <li>- packet data network to which the intercept subject requested to be connected when the intercept subject's MS is successful at performing a PDP context activation procedure (MS to Network).</li> <li>- access point of the packet data network that requested to be connected to the MS when the intercept subject's MS accepts a network-initiated PDP context activation (Network to MS).</li> </ul>
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
network identifier	M	Shall be provided.
correlation number	C	Provide to uniquely identify the PDP context delivered to the LEMF used to correlate IRI records with CC.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
QOS	C	Provide to identify the QOS parameters.

#### 6.5.1.4 END record information

The END record is used to convey the last event of packet-data communication interception.

The END record shall be triggered when:

- PDP context deactivation.

**Table 6.132: PDP Context Deactivation END Record**

Parameter	MOC	Description/Conditions
observed MSISDN	C	Provide at least one and others when available.
observed IMSI		
observed IMEI		
observed PDP address	C	Provide to identify the PDP address assigned to the intercept subject, if available.
event type	C	Provide PDP Context Deactivation event type.
event date	M	Provide the date and time the event is detected.
event time		
access point name	C	Provide to identify the packet data network to which the intercept subject is connected.
PDP type	C	Provide to describe the PDP type of the observed PDP address. The PDP Type defines the end user protocol to be used between the external packet data network and the MS.
initiator	C	Provide to indicate whether the PDP context deactivation is network-initiated, intercept-subject-initiated, or not available.
network identifier	M	Shall be provided.
correlation number	C	Provide to uniquely identify the PDP context delivered to the LEM and to correlate IRI records with CC.
lawful intercept identifier	M	Shall be provided.
location information	C	Provide, when authorized, to identify location information for the intercept subject's MS.
context deactivation reason	C	Provide to indicate reason for deactivation.