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PROJECT: T1P1 Activity on Lawful Intercept for UMTS

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TITLE: Recommended changes to TS 33.107 to address Packet Activity Detection and IRI reporting (Issue #2 in Issues list documented in T1P1/2002-004).

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LOCATION: Irving, Texas

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ABSTRACT: Recommended changes to TS 33.107 to address Packet Activity Detection and IRI Reporting (PAD-IR).

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DISTRIBUTION: T1P1.SAH

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Summary

3 This contribution provides proposed changes to TS 33.107 to support the Packet Activity Dection and IRI
4 reporting capability. The changes to the current text in TS 33.107 are shown in blue text.

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Recommendation

7 Approve, adopt and forward all proposed changes to 3GPP SA3 LI.

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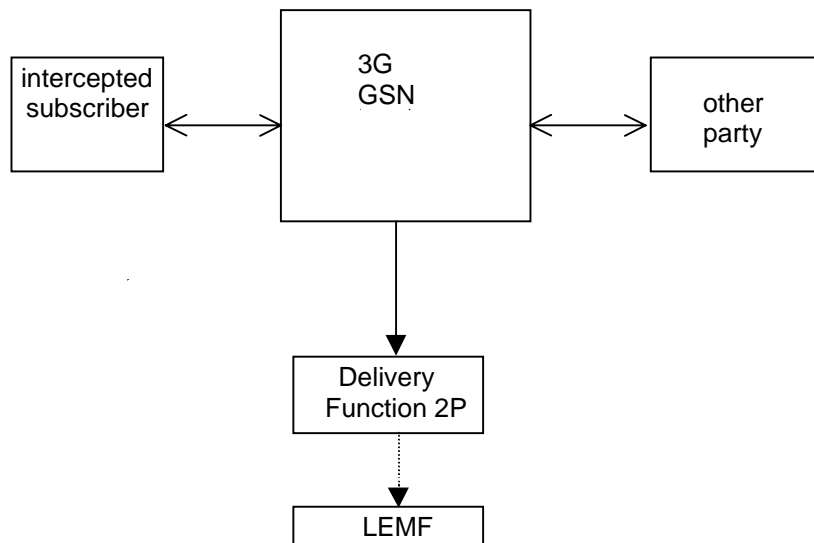
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2 7.3 Provision of Intercept Related Information

3 Intercept Related Information (Events) are necessary at the Mobile Station Attach, Mobile Station Detach, PDP
 4 Context Activation, Start of intercept with PDP context active, PDP Context Deactivation, RA update, [Packet](#)
 5 [Activity Detection and IRI reporting \(PAD-IR\)](#), and SMS events.

6 Figure 21 shows the transfer of intercept related information to the DF2. If an event for / from a mobile
 7 subscriber occurs, the 3G GSN sends the relevant data to the DF2.

8 See section 7A for multi-media Intercept Related Information produced at the CSCF.



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10 **Figure 21: Provision of Intercept Related Information**

11 7.3.1 X2-interface

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

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

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

1 7.3.2 Structure of the events

2 There are seven different events in which the information is sent to the DF2 if this is required. Details are
 3 described in the following section. The events for interception are configurable (if they are sent to DF2) in the
 4 3G GSN and can be suppressed in the DF2.

5 **The following events are applicable to 3G SGSN:**

- 6 - Mobile Station Attach;
- 7 - Mobile Station Detach;
- 8 - [PAD-IR](#);
- 9 - PDP context activation;
- 10 - Start of intercept with PDP context active;
- 11 - PDP context deactivation;
- 12 - RA update;
- 13 - SMS.

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

16 The following events are applicable to the 3G GGSN:

- 17 - PDP context activation;
- 18 - PDP context modification;
- 19 - PDP context deactivation;
- 20 - Start of interception with PDP context active;
- 21 - [PAD-IR](#).

22 A set of fields as shown below is used to generate the events. The events transmit the information from 3G GSN
 23 to DF2. This set of fields as shown below can be extended in the 3G GSN, if this is necessary as a national
 24 option. DF2 can extend this information if this is necessary as a national option e.g. a unique number for each
 25 surveillance warrant. [When content of communication interception is performed at the GGSN, then PAD for](#)
 26 [PAD-IR shall also be performed at the GGSN and not at the SGSN.](#)

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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, PAD-IR .
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 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
Packet Count Count of the number of packets detected over the packet activity reporting interval.
Packet Activity Report Type The packet activity report type indicates the reason (e.g., count threshold reached) for generation of the packet activity report
Originating Address Address of the source of the IP packet.
Destination Address Address of the destination of the IP packet.

Transport Protocol Information

The transport protocol information includes the set of observed triplets (transport protocol [e.g., TCP], originating transport port number, and destination transport port number) over the packet activity reporting interval.

7.4.8 PAD-IR

The Packet Activity Detection and IRI reporting event is initiated at the 3G GSN, when the 3G GSN has detected packet activity for the intercept subject; this event provides a summary of the intercept subject packets detected over a given time interval. The fields will be delivered to the DF2, if available;

<u>Observed MSISDN</u>
<u>Observed IMSI</u>
<u>Observed IMEI</u>
<u>PDP address of observed party</u>
<u>Event Type</u>
<u>Event Time</u>
<u>Event Date</u>
<u>Correlation number(Note)</u>
<u>Access Point Name</u>
<u>PDP Type</u>
<u>Network Element Identifier</u>
<u>Packet Count (if applicable)</u>
<u>Packet Activity Report Type (if applicable)</u>
<u>Originating Address (if applicable)</u>
<u>Destination Address (if applicable)</u>
<u>Transport Protocol Information (if applicable)</u>
<u>IAs (if applicable)</u>