3GPP TSG SA WG3 Security — S3#20   **S3-010481**

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3GPP LI   *Tdoc* **S3LI01_98**
Saarbruken August 21-23

	CR-Form-v3

CHANGE REQUEST

| ⌘ | **33.107 CR xxx** | ⌘ rev | **-** | ⌘ | Current version: | **4.1.0** | ⌘ |

*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 **X**

Title:	⌘	Inter-SGSN RA update with active PDP context
Source:	⌘	SA WG3-LI
Work item code:	⌘ Security	**Date:** ⌘ Aug 13, 2001
Category:	⌘ **F**	**Release:** ⌘ REL-4

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:	⌘	For non-location dependent interception there may be a case in which a user has entered a RA, which is served by a 3G ICE. The user may have one or more active PDP contexts, which are handled by an old SGSN. The user initiates an Inter-SGSN RA update procedure, and the new SGSN establishes a PDP context with the GGSN. If the new SGSN does not send "Start of interception with active PDP context" message for each active PDP context, the LEA misses this information (and as a result may be "surprised" by the CCs coming on the DF3 interface).
Summary of change:	⌘	For non-location dependent interception "Start of interception with active PDP context" message shall be sent by the 3G ICEs to DF2 entity, provided that it received an Inter-SGSN RA update message from an intercepted user, which has at least one active PDP context.
Consequences if not approved:	⌘	Missing functionality.

Clauses affected:	⌘	7

Other specs affected:	⌘	☐ Other core specifications ⌘
		☐ Test specifications
		☐ O&M Specifications
Other comments:	⌘	

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.
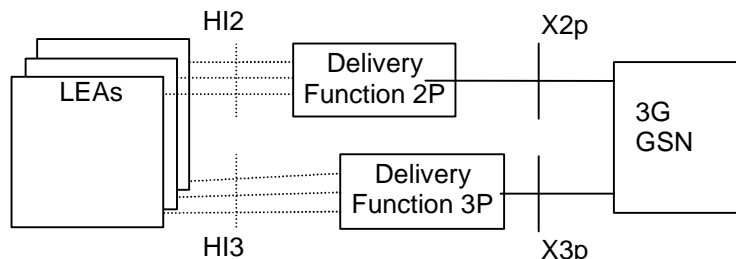

Figure 18: Functional model for Packet Data GSN Network Lawful Interception invocation

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 Interception with Active PDP Context 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" 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.

Note1: 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)

Note2: DF2 needs to make sure it does not send the "Start of interception with active PDP context" event twice to the same LEA