TSGS#15(02)0111

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

Source: SA WG3

Title: 3 CRs to 33.107: Inter-SGSN RA update with active PDP context

(R99, Rel-4, Rel-5)

Document for: Approval

Agenda Item: 7.3.3

SA doc#	Spec	CR	R	Phase	Subject	Cat	Current Version	SA WG3 doc#
SP-020111	33.107	019			Inter-SGSN RA update with active PDP context	F	3.4.0	S3-020073
SP-020111	33.107	020			Inter-SGSN RA update with active PDP context	Α	3.4.0	S3-020074
SP-020111	33.107	021		Rel-5	Inter-SGSN RA update with active PDP context	А	5.2.0	S3-020075

3GPP TSG SA WG3 Security — S3#22

S3-020073

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Tdoc S3LI02_059r1059r2

Amsterdam, Netherlands. 29-31 January 2002

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7 Invocation of Lawful Interception for Packet Data services

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

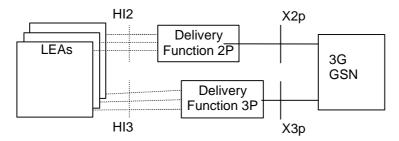


Figure 18: Functional model for Packet Data Lawful Interception invocation

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 X2p-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 DF2P and DF3P. DF2P and DF3P 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 DF2P and DF3P 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 cell and/or 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 G SNs or a cell and/or RA update event is sent when changing IAs inside the same servicing 3G SGSN to DF2P;
 - when a new IA is entered a cell and/or RA update event is sent to DF2P 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 DF3P of the old IA but sent to the DF3P 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.

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).

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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.

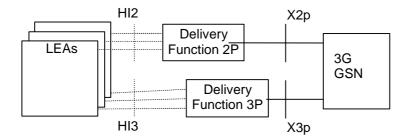


Figure 18: Functional model for Packet Data GSN Network Lawful Interception invocation

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 G SNs 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;
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Both in case of location dependent and location independent interception:

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3GPP TSG-SA WG3 LI

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Amsterdam, Netherlands. 29 - 31 January 2002

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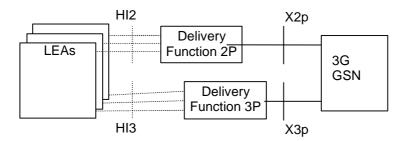


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