

Source: SA WG3 (Security)

Title: CR to 33.108: Clarification on the use of IRI-END record in PS interception (Rel-6)

Document for: Approval

Agenda Item: 7.3.3

SA Doc number	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	SA WG3 Doc number	Workitem
SP-040162	33.108	044	-	Rel-6	Clarification on the use of IRI-END record in PS interception	F	6.4.0	S3-040139	SEC1-LI

CR-Form-v7

CHANGE REQUEST

33.108 CR 044 # rev - # Current version: **6.4.0**

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

Title:	# Clarification on the use of IRI-END record in PS interception		
Source:	# SA WG3 (LI Group)		
Work item code:	# SEC1-LI	Date:	# 28-01-2004
Category:	# F	Release:	# Rel-6
	<i>Use one of the following categories:</i> F (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 .		<i>Use one of the following releases:</i> 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)

Reason for change: # The current description in 3GPP TS 33.108 of the cases in which an IRI-END record has to be sent over the HI2 interface to LEMF during Packet Switching interception could be interpreted in different ways.
 The problem is due to the following statements:

§4.5.3 – An IRI-END record is defined as the record “to be used at the **end of communication attempt**, closing the IRI transaction”. Moreover for packet oriented data services, “The end of the communication attempt shall be the PDP context deactivation or a **similar event** and an IRI-END record shall be issued”.

§6.5.1.4 - “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.”

Identified problems:

1. The meaning of “similar event” is not further specified.
2. While PDP context deactivation is for sure the last event of PS communication interception, there are cases in which the last event of **packet data**

communication interception does not match with the last event of **packet data communication**. This happens e.g. when an inter-SGSN handover occurs and the new SGSN will not provide interception to the same LEA for any reason (e.g. different PLMN) or, in case of location dependent interception, when an IA is left and then the PDP context is ended in an area in which interception is not allowed. The wording “**last event of packet data communication interception**” in 6.5.1.4 creates an ambiguity on whether an IRI-END shall be sent or not in such cases, due to the mismatch with § 4.5.3

3. According to § 6.5.1.4 the only event in which the END record shall be used is PDP context deactivation and this is once again not according to the wording “end of communication interception” in the same chapter: while PDP context deactivation implies end of communication interception, the other way round is not always true, i.e. end of interception can be due to different reasons than PDP context deactivation.

Summary of change: ⌘ The words “similar event” are deleted from IRI-END definition in §4.5.3. The word “interception” in §6.5.1.4 is deleted.

Consequences if not approved: ⌘ Possible different interpretation in the use of IRI-END record giving as result different implementations. Interworking problems between DF2 and LEMF.

Clauses affected: ⌘ 4.5.3; 6.5.1.4

	Y	N	
Other specs affected:		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

Other comments: ⌘

*** FIRST MODIFICATION ***

4.5.3 Types of IRI records

Intercept related information shall be conveyed to the LEMF in messages, or IRI data records, respectively. Four types of IRI records are defined:

- 1) IRI-BEGIN record at the first event of a communication attempt, opening the IRI transaction.
- 2) IRI-END record at the end of a communication attempt, closing the IRI transaction.
- 3) IRI-CONTINUE record at any time during a communication attempt within the IRI transaction.
- 4) IRI-REPORT record used in general for non-communication related events.

For information related to an existing communication case, the record types 1 to 3 shall be used. They form an IRI transaction for each communication case or communication attempt, which corresponds directly to the communication phase (set-up, active or release).

For packet oriented data services, the first event of a communication attempt shall be the PDP context activation or a similar event and an IRI-BEGIN record shall be issued. The end of the communication attempt shall be the PDP context deactivation ~~or a similar event~~ and an IRI-END record shall be issued. While a PDP context is active, IRI-CONTINUE records shall be used for CC relevant IRI data records, IRI-REPORT records otherwise.

Record type 4 is used for non-communication related subscriber action, like subscriber controlled input (SCI) for service activation. For simple cases, it can also be applicable for reporting unsuccessful communication attempts.

The record type is an explicit part of the record. The 4 record types are defined independently of target communication events. The actual indication of one or several communication events, which caused the generation of an IRI record, is part of further parameters within the record's, information content. Consequently, the record types of the IRI transactions are not related to specific messages of the signalling protocols of a communication case, and are therefore independent of future enhancements of the intercepted services, of network specific features, etc. Any transport level information (i.e. higher-level services) on the target communication-state or other target communication related information is contained within the information content of the IRI records.

For packet oriented data services, if LI is being activated during an already established PDP context or similar, an IRI-BEGIN record will mark the start of the interception. If LI is being deactivated during an established PDP context or similar, no IRI-END record will be transmitted. The end of interception can be communicated to the LEA by other means (e.g. HI1).

*** NEXT MODIFICATION ***

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 6.12: 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.

***** END OF MODIFICATIONS *****