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Zakonito prestrezanje (LI) - Izročilni vmesnik in storitveno specifične podrobnosti (SSD) za IP-dostavo vsebin - 6. del: Storitveno specifične podrobnosti za storitve PSTN/ISDN

Lawful Interception (LI) - Handover Interface and Service-Specific Details (SSD) for IP delivery - Part 6: Service-specific details for PSTN/ISDN services

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Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 6: Service-specific details for PSTN/ISDN services

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ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Lawful Interception (LI).

The present document is part 6 of a multi-part deliverable. Full details of the entire series can be found in part 1 [2].

The ASN.1 module is available as an electronic attachment to the present document (see clause A.2 for more details).

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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1 Scope

The present document contains service-specific details for the handover of the lawfully intercepted PSTN/ISDN Services (including emulated services such as those defined in ETSI ES 282 002 [i.3]) using packet-based techniques as defined in ETSI TS 102 232-1 [2].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference/.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 101 671: "Lawful Interception (LI); Handover interface for the lawful interception of telecommunications traffic".

NOTE: ETSI TS 101 671 is in status "historical" and is not maintained.

[2] ETSI TS 102 232-1: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 1: Handover specification for IP delivery".

[3] Void.

[4] Void.

[5] Void.

[6] Recommendation ITU-T G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".

[7] IETF RFC 4566: "SDP: Session Description Protocol".

[8] ETSI TS 187 005: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Lawful Interception; Stage 1 and Stage 2 definition".

[9] Void.

[10] IETF RFC 3551: "RTP Profile for Audio and Video Conferences with Minimal Control".

[11] Recommendation ITU-T T.38: "Procedures for real-time Group 3 facsimile communication over IP networks".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI TR 102 053: "Telecommunications security; Lawful Interception (LI); Notes on ISDN lawful interception functionality".

[i.2] ETSI TR 102 503: "Lawful Interception (LI); ASN.1 Object Identifiers in Lawful Interception and Retained data handling Specifications".

[i.3] ETSI ES 282 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN Emulation Sub-system (PES); Functional architecture".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 102 232-1 [2] and ETSI TS 101 671 [1] apply.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASN.1	Abstract Syntax Notation One
CC	Content of Communication
CIN	Communications Identity Number
CR	Change Request
CSP	Communications Service Provider

NOTE: CSP covers all Access Providers, Network Operators and Service Providers.

IP	Internet Protocol
IRI	Intercept Related Information
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union - Telecommunication standardization sector
LEA	Law Enforcement Agency
LEMF	Law Enforcement Monitoring Facility
LI	Lawful Interception
NGN	Next Generation Network
OID	Object IDentifier
PDU	Protocol Data Unit
PSTN	Public Switched Telephone Network
RTP	Real-time Transport Protocol
SDP	Session Description Protocol
TC	Technical Committee

UDP	User Datagram Protocol
UDPTL	Facsimile UDP Transport Layer (protocol)

4 General

4.1 Approach

The present document forms part 6 of the ETSI TS 102 232 family of standards, in that it is a service-specific component of the ETSI TS 102 232-1 [2] framework.

For ISDN interception ETSI TS 101 671 [1] defines the interception behaviour that leads to visible IRI events on the handover interface. ETSI TR 102 053 [i.1] provides detailed guidance in support of ETSI TS 101 671 [1].

The present document provides a model for handover that may be used in conjunction with the interception domain specification ETSI TS 187 005 [8]. ETSI TS 187 005 [8] also provides a context for the present document within the NGN LI domain.

4.2 Reference model

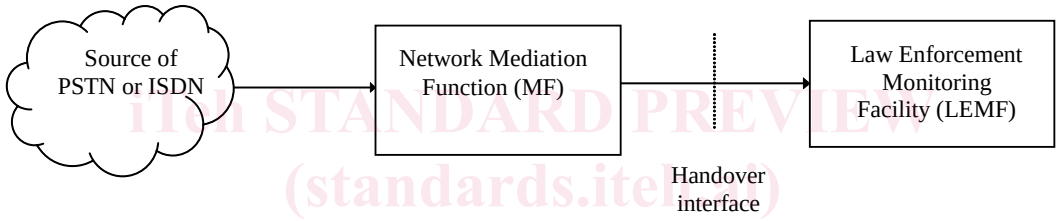

Figure 1: Reference model

5 Headers, data exchange and networks

5.1 Approach

ETSI TS 102 232-1 [2] describes a technique for data exchange and specifies the headers that shall be associated with the results of interception. The present document follows ETSI TS 102 232-1 [2] regarding headers, data exchange and networks.

5.2 Structures

IRI events from ETSI TS 101 671 [1] are sent using the structure ETSI671IRI. Supplementary information IRI (defined in clause 6.3) is sent using the structure pstnIsdnIRI and/or the structure pstnIsdnCC (see clause A.2). CC is sent using the structure pstnIsdnCC (see clause 6.2).

5.3 Definition of a communications session

A new Communications Identity Number (or CIN) is assigned each time a new communications session begins. See ETSI TS 101 671 [1] for the definition of communications session.

Typically, a new communications session is defined to begin (i.e. a new CIN is assigned) when each IRI-BEGIN message is sent (as listed in ETSI TS 101 671 [1]), then all further IRI and CC relating to that session has the same CIN. Typically, a REPORT record would form a communications session in its own right. If CC or an IRI record is generated for a session before the IRI-BEGIN is sent (e.g. through fault situations, or owing to unexpected latency), the CSP shall still ensure that all IRI and CC in the communication session has the same CIN.

6 Intercept Related Information (IRI) and Content of Communication (CC)

6.1 Definition of IRI events and CC events

IRI events are defined as per ETSI TS 101 671 [1]. CC is sent on all occasions that CC would be sent under ETSI TS 101 671 [1]. Further details for ISDN are provided by the state model and message sequence diagrams in ETSI TR 102 053 [i.1]; in particular see clause 6 of ETSI TR 102 053 [i.1].

6.2 CC format

The PstnIsdnCC structure shall contain the application layer traffic. Currently supported application layer protocols are RTP and UDPTL [11]. The CC shall also contain the application layer header, UDP header and IP header, except by agreement between CSP and LEA.

NOTE: CSPs and LEAs may choose to omit headers because they are unavailable at the point of interception.

The SupplementaryInfo FrameType field indicates which headers are present in a given CC stream. If all headers are present, the FrameType field may be omitted.

In the case where the RTP header is unavailable, one may be inserted by the mediation function, subject to agreement between LEA and CSP. The addition of an inserted RTP header may aid processing the audio stream at the receiver. When an artificial header is used, this shall be signalled using the artificialRtpFrame parameter of the FrameType structure.

The content (RTP or UDPTL payload) shall be a complete, unmodified copy of CC information that is part of the target communication. If a UDPTL payload is transmitted, the mediaFormat parameter as defined in clause 6.3.2 shall be set to "0". In this case, the value is insignificant for the LEA.

The RTP header shall accurately describe the target communication.

The information contained in the IP and UDP header does not necessarily relate to any media flow as seen by the target.

IP and UDP headers shall not be inserted to the intercepted material by the mediation function if they are unavailable.

If encryption has been applied within the CSP's domain and under their control, either it shall be removed or full details of the encryption including keys shall be supplied.

Typically under PSTN/ISDN the RTP codec used is Recommendation ITU-T G.711 [6]. The codec in use shall be signalled as described in clause 6.3.

6.3 Supplementary information

6.3.1 Requirements for supplementary information

It is required that the LEA has enough information to decode and comprehend the traffic delivered over the Handover Interface. The following information is required:

- Description of the format of the CC, to allow the LEMF to understand the information within the CC.