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Lawful Interception (LI);
Handover interface for the lawful interception of telecommunications traffic

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Foreword

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

The ASN.1 module is also available as an electronic attachment to the original document from the ETSI site (see clause D.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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Introduction

References within the main body of the present document are made if applicable to the 3GPP specification number with in square brackets the reference number as listed in clause 2. In clause 2 "References" the corresponding ETSI specification number is indicated with a reference to the 3GPP specification number. 3GPP specifications are available faster than the equivalent ETSI specifications.

The present document is made historical and is therefore no longer maintained or revised. It has been superseded by ETSI TS 102 232 (all parts) [i.6] and ETSI TS 103 280 [i.7].

1 Scope

The present document is step 3 of a three-step approach to describe a generic Handover Interface (HI) for the provision of lawful interception from a Network Operator, an Access Provider or a Service Provider (NWO/AP/SvP) to the Law Enforcement Agencies (LEAs). The provision of lawful interception is a requirement of national law, which is usually mandatory for the operation of any telecommunication service.

Step 1 contains the requirements for lawful interception from a users (LEAs) point of view and is published in ETSI TS 101 331 [1].

Step 2 describes the derived network functions and the general architecture (or functional model) and is published in ETSI ES 201 158 [2].

The present document specifies:

- the **generic flow of information** as well as the procedures and information elements, which are applicable to any future telecommunication network or service;
- the **network/service specific protocols** relating to the provision of lawful interception at the Handover Interface (HI), for the following networks/services:
  - switched circuit; and
  - packet data.

The technologies covered in the present document are: GSM, TETRA, GPRS, ISDN, PSTN, fixed NGN (including PSTN/ISDN emulation) and fixed IMS PSTN simulation.

NOTE 1: Void.

New telecommunication networks and services are IP based Packet Switched networks and Packet Switched services . Some legacy networks and services are still Circuit Switched networks and/or services even if the transport might be IP based. For new LI implementations it is therefore recommended to use the ETSI TS 102 232 series (part 1 to 7) [i.6] instead of the present document. Current implementations of the present document are advised to migrate to the ETSI TS 102 232 series [i.6].

NOTE 2: The HI3 transport technology change may have an impact on the delivery network between the CSP and the LEA.

NOTE 3: The ETSI TS 102 232 series [i.6], 3GPP TS 33.107 [64] and 3GPP TS 33.108 [61] make use of imports from the present document. Taking the current IP based networks and services into account, these imports from circuit switched specifications seem not to be appropriate anymore. These imports will therefore be removed. After these imports are made obsolete in these specifications, the present document will be made "historical" according to the ETSI Directive. This does not exclude local regulations continuing to require the use of ETSI TS 101 671. The imports from the present document can be made obsolete by updating ETSI TS 103 280 [i.7] and redirecting the imports to ETSI TS 103 280 [i.7].
In the ETSI TC LI plenary meeting #29 in Dun Laoghaire, January 2012 it was decided not to upgrade the the present document anymore to ETSI ES 201 671 [i.5].

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 reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://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 101 331: "Lawful Interception (LI); Requirements of Law Enforcement Agencies".

[2] ETSI ES 201 158: "Telecommunications security; Lawful Interception (LI); Requirements for network functions".

[3] ETSI ETR 330: "Security Techniques Advisory Group (STAG); A guide to legislative and regulatory environment".

[4] Void.

[5] ETSI EN 300 356 (all parts): "Integrated Services Digital Network (ISDN); Signalling System No. 7 (SS7); ISDN User Part (ISUP) version 4 for the international interface".

[6] ETSI EN 300 403-1 (V1.3.2): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".

NOTE: Reference [6] is specific, because the format of the sub parameters "dSS1-Format, DSS1-parameters-codeset-0", "DSS1-SS-parameters-codeset-0" and "UUS1-Content" are defined by V1.3.2.

[7] Void.

[8] Void.

[9] Void.

[10] ETSI EN 300 061-1: "Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[11] Void.

[12] Void.

[13] Void.

[14] ETSI EN 300 097-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

NOTE: Reference [14] is specific, because several parameter format definitions point to V1.2.4.

[15] Void.

[16] ETSI EN 300 130-1: "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[17] Void.

[18] Void.

[19] ETSI EN 300 185-1: "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[20] ETSI EN 300 188-1: "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[21] ETSI EN 300 207-1 (V1.2.5): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

NOTE: Reference [21] is specific, because the format of the sub parameters for "DSS1-SS-Invoke-Components" is defined by V1.2.5. In addition several parameter format definitions point to V1.2.5.

[22] Void.

[23] ETSI EN 300 286-1: "Integrated Services Digital Network (ISDN); User-to-User Signalling (UUS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[24] Void.

[25] ETSI EN 300 369-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

NOTE: Reference [25] is specific, because the format of the sub parameters for "DSS1-SS-Invoke-Components" is defined by V1.2.4.

[26] Void.

[27] Void.

[28] Void.

[29] ETSI EN 300 196-1 (V1.3.2): "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

NOTE: Reference [29] is specific, because several parameter format definitions point to V1.3.2.

[30] Void.

[31] Recommendation ITU-T Q.850 (1998): "Usage of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No. 7 ISDN user part".

NOTE: Reference [31] is specific, because several parameter format definitions point to version 1988.

[32] ETSI TS 100 974: "Digital cellular telecommunications system (Phase 2+); Mobile Application Part (MAP) specification (3GPP TS 09.02)".

[33] Recommendation ITU-T X.680: "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[34] Recommendation ITU-T X.690: "Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

[35] Recommendation ITU-T X.880: "Information technology - Remote Operations: Concepts, model and notation".

[36] Void.

[37] Recommendation ITU-T X.882: "Information technology - Remote Operations: OSI realizations - Remote Operations Service Element (ROSE) protocol specification".

[38] Void.

[39] ETSI EN 300 122-1: "Integrated Services Digital Network (ISDN); Generic keypad protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[40] ETSI EN 300 392-1: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 1: General network design".

[41] ETSI TS 124 008: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008)".

[42] ETSI TS 101 509: "Digital cellular telecommunications system (Phase 2+) (GSM); Lawful interception; Stage 2 (3GPP TS 03.33)".

[43] ETSI TS 100 927: "Digital cellular telecommunications system (Phase 2+); Numbering, addressing and identification (3GPP TS 03.03)".

[44] Void.

[45] ETSI TS 101 347: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp Interface (3GPP TS 09.60)".

[46] IETF RFC 959: "File Transfer Protocol".

[47] Void.

[48] Recommendation ITU-T Q.763: "Signalling System No.7 - ISDN User Part formats and codes".

[49] ETSI TS 101 393: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); GPRS Charging (3GPP TS 12.15)".

[50] Void.

[51] IETF RFC 791: "Internet Protocol".

[52] IETF RFC 793: "Transmission Control Protocol".

[53] Void.

[54] ETSI EN 300 089: "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Service description".

[55] ETSI TS 100 940: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification (3GPP TS 04.08)".

[56] Recommendation ITU-T Q.931: "ISDN user-network interface layer 3 specification for basic call control".

[57] ETSI TS 101 109: "Digital cellular telecommunications system (Phase 2+); Universal Geographical Area Description (GAD) (3GPP TS 03.32)".

[58] Recommendation ITU-T E.164: "The international public telecommunication numbering plan".

[59] IETF RFC 3261: "SIP: Session Initiation Protocol".

[60] ETSI TS 129 060: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); General Packet Radio Service (GPRS); GPRS Tunnelling Protocol (GTP) across the Gn and Gp interface (3GPP TS 29.060)".

[61] ETSI TS 133 108: "Universal Mobile Telecommunications System (UMTS); LTE; 3G security; Handover interface for Lawful Interception (LI) (3GPP TS 33.108)".