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Lawful Interception (LI); Handover for messaging services over HTTP/XML

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Foreword

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

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

The present document provides the handover details to deliver messaging services for LI over HTTP/XML. Audio and video streaming and RCS are not in scope of the present document. The CSP may opt to use other standards to facilitate LI over TCP/ASN.1 as an alternative message format, e.g. ETSI TS 102 232-2 [i.5] (for messaging services) and ETSI TS 102 232-5 [i.6] (for IP Multimedia Services).

1 Scope

The present document specifies the handover details to deliver messaging services for LI over HTTP/XML.

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.

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

[1] ETSI TS 103 120: "Lawful Interception (LI); Interface for warrant information".

[2] IETF RFC 2818: "HTTP Over TLS".

[3] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

NOTE: Obsoleted by IETF RFC 8446.

[4] IETF RFC 7525: "Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)".

[5] IETF RFC 8446: "The Transport Layer Security (TLS) Protocol Version 1.3".

[6] IETF RFC 4279: "Pre-Shared Key Ciphersuites for Transport Layer Security (TLS)".

[7] ETSI TS 103 280: "Lawful Interception (LI); Dictionary for common parameters".

[8] IETF RFC 6838: "Media Type Specifications and Registration Procedures".

[9] FIPS Publication 180-4 (2015): "Secure Hash Standard (SHS)".

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

[i.2] IETF RFC 5322: "Internet Message Format".

[i.3] IETF RFC 5321: "Simple Mail Transfer Protocol".

[i.4] IETF RFC 3696: "Application Techniques for Checking and Transformation of Names".

[i.5] ETSI TS 102 232-2: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 2: Service-specific details for messaging services".

[i.6] ETSI TS 102 232-5: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 5: Service-specific details for IP Multimedia Services".

3 Definition of terms, symbols and abbreviations

3.1 Terms

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

messaging service: service which allows users to transfer messages to a finite number of users whereby the persons initiating or participating in the communications determine its recipient(s)

3.2 Symbols

Void.

3.3 Abbreviations

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

CSP	Communications Service Provider
HTTP	HyperText Transfer Protocol
HTTPS	HyperText Transfer Protocol Secure
ID	IDentifier
IP	Internet Protocol
LEA	Law Enforcement Agency
LI	Lawful Interception
LIID	Lawful Interception IDentifier
MIME	Multipurpose Internet Mail Extensions
MSISDN	Mobile Station International Subscriber Directory Number
RCS	Rich Communication Services
SHA	Secure Hash Algorithm
SSL	Secure Sockets Layer
TC	Technical Committee
TLS	Transport Layer Security
URL	Uniform Resource Locator
UUID	Universally Unique Identifier
XML	eXtensible Markup Language
XSD	XML Schema Definition

4 Introductory material

4.1 Reference model

This clause provides a Reference Model which applies to request and delivery mechanisms between Law Enforcement Agencies (LEAs) and Communications Service Providers (CSPs) for the present document.

Request means submission of a request for data and delivery means handover of the material that was identified by the CSP as meeting the request. Figure 1 shows the reference model.

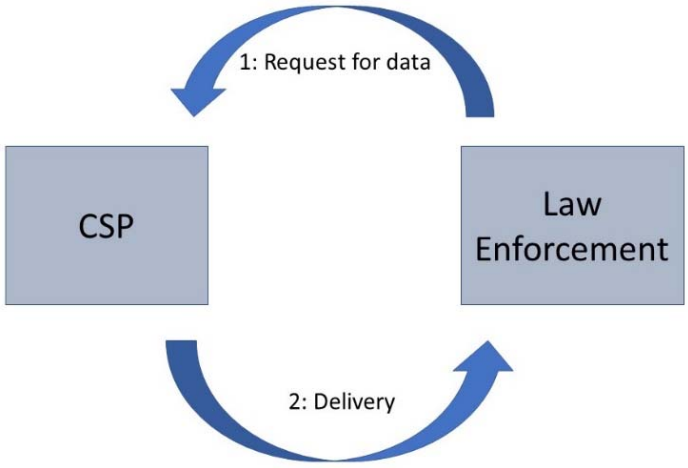

Figure 1: Reference model

The LEA/CSP standards should accommodate for a variety of different law enforcement agencies and for a variety of CSPs. In other words, it is important to support some variance in the internal procedures, processes and data structures. Such variance should not compromise the establishment of security best-practice.

4.2 Responsibilities

The LEA is responsible for creating a lawful request and the request needs to be clear. The LEA delivers the request to the CSP. The legal obligation on the CSP (e.g. what has to be delivered, what has to be retained) is managed independently of the delivery interface and is out of scope of the present document.

The CSP is responsible for the collection of the data within its system, and produces the data using its own capabilities and entirely under the control of the CSP system. The CSP identifies the data which matches the clear request, and only that data. The CSP needs to be able to perform a human review of the request and delivered material. The CSP packages the data, attaches relevant information (e.g. unique reference number, timestamp) and delivers it to the requesting LEA.

Each request is distinct and shall be handled independently of other requests.

5 Basic concepts

5.1 General

The object consists of the following components:

- Application level header (see clause 5.3).
- Core parameters for messaging (see clause 5.4).
- Messaging glossary (see clause 5.5).
- CSP-defined information (see clause 5.6).

The object is delivered using ETSI TS 103 120 [1] as described in clause 5.2.

The following parameter definitions use the terminology of one of the following:

- Mandatory (M): required for every delivery.
- Conditional (C): required in situations where a condition is met (the condition is given in the description).
- Optional (O): provided at the discretion of the implementation.

5.2 Delivery

5.2.1 General

Handover items are delivered using the DeliveryObject as described in ETSI TS 103 120 [1], clause 10.

The present document does not require the use of any of the tasking components from ETSI TS 103 120 [1]. The present document does not require the use of national profiles (as per the definition of profiles in ETSI TS 103 120 [1]).

5.2.2 ETSI TS 103 120 Message header

The Message Header fields shall be populated as defined in ETSI TS 103 120 [1], clause 6.2, with the additional clarifications as shown in Table 1.

Table 1: ETSI TS 103 120 [1] Message Header population

Parameter	Description	M/O/C
senderIdentifier	The Sender is the CSP. The SenderIdentifier has two components: a CountryCode and a UniqueIdentifier. They shall be populated as follows: • The CSP shall choose the CountryCode; this may be "XX". • If the LEA has supplied a UniqueIdentifier then this shall be used; otherwise the CSP shall choose its own SenderIdentifier.	M
receiverIdentifier	The Receiver is the LEA. The ReceiverIdentifier has two components: a CountryCode and a UniqueIdentifier. They shall be populated as follows: • CountryCode: If the LEA has supplied a ReceiverIdentifier-CountryCode then this shall be used. It is recommended that this is populated in order to assist with uniqueness - see the text at the end of clause 5.2.3. If no CountryCode has been supplied or agreed with the LEA then "XX" shall be used. • UniqueIdentifier: If the LEA has supplied a ReceiverIdentifier-UniqueIdentifier then this shall be used. In general, the actual LEA should not be identified on this interface, and (unless agreed otherwise) the UniqueIdentifier should contain the text "Not specified".	M
timestamp	Shall specify the time the message was created.	M
version	Shall be set to the version of ETSI TS 103 120 [1] used. If national profiles are not used, the NationalProfileOwner and NationalProfileVersion strings shall be set to "N/A".	M

5.2.3 ETSI TS 103 120 Object header

The payload shall contain a "Delivery Request", which shall contain a DeliveryObject as per ETSI TS 103 120 [1], clause 10.

The common Object fields shall be specified as per ETSI TS 103 120 [1], clause 7.1.1 with the clarifications as shown in Table 2.

Table 2: Object top-level fields

Parameter	Description	M/O/C
countryCode	Shall be set to the Country Code used in the ReceiverIdentifier field (see Table 1).	M
ownerIdentifier	Shall be set to the value given in the ReceiverIdentifier.	M
nationalHandlingParameters	Shall not be used.	N/A

Parameters for the DeliveryObject shall be set as per ETSI TS 103 120 [1], clause 10, with the clarifications as shown in Table 3.