



**Lawful Interception (LI);
Handover Interface and
Service-Specific Details (SSD) for IP delivery;
Part 2: Service-specific details for messaging services**

Reference

RTS/LI-00135-2

Keywordsemail, handover, interface, IP, Lawful
Interception, security, traffic**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 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2016.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	6
Foreword.....	6
Modal verbs terminology.....	6
Introduction	6
1 Scope	7
2 References	7
2.1 Normative references	7
2.2 Informative references.....	9
3 Definitions and abbreviations.....	9
3.1 Definitions.....	9
3.2 Abbreviations	10
4 General	11
4.1 E-mail services	11
4.2 Unified messaging.....	11
5 E-mail system model	11
5.1 Reference network topology.....	11
5.2 Reference scenarios.....	12
5.2.1 E-mail send failure.....	12
5.2.2 E-mail send success	13
5.2.3 E-mail download detail	14
5.2.4 E-mail send detail	15
6 E-mail events.....	16
6.1 Introduction	16
6.2 E-mail send event	16
6.2.1 Introduction.....	16
6.2.2 E-mail send captured content.....	17
6.2.3 E-mail send IRI.....	17
6.3 E-mail receive event.....	17
6.3.1 Introduction.....	17
6.3.2 E-mail receive captured content.....	18
6.3.3 E-mail receive IRI.....	18
6.4 E-mail download event.....	18
6.4.1 Introduction.....	18
6.4.2 E-mail download captured content	19
6.4.3 E-mail download IRI	19
7 E-mail attributes	19
7.0 Availability of information.....	19
7.1 E-mail protocol ID.....	20
7.2 E-mail address	20
7.3 E-mail recipient list	20
7.4 E-mail sender.....	20
7.5 Total recipient count.....	20
7.6 Message ID.....	20
7.7 Status	21
7.8 Server and client port	21
7.9 Server and client octets sent	21
7.10 AAAInformation	21
8 Unified Messaging events	21
8.0 Generic description.....	21
8.1 Delivery of CC	22
8.2 Messaging events	23

8.3	Messaging box events	24
8.4	Messaging notification events	25
8.5	Messaging call events.....	26
8.6	Signalling of party information	26
8.7	Messaging properties.....	27
Annex A (normative): SMTP		31
A.1	SMTP introduction.....	31
A.2	SMTP HI2 events	31
A.2.1	E-mail login event	31
A.2.2	E-mail send event	31
A.2.3	E-mail receive event.....	31
A.3	SMTP HI2 attributes	32
A.4	SMTP HI2 event-record mapping	32
Annex B (normative): POP3		33
B.1	POP3 introduction	33
B.2	POP3 HI2 events	33
B.2.1	E-mail login event	33
B.2.2	E-mail download event.....	33
B.2.3	E-mail partial download event.....	33
B.3	POP3 HI2 attributes	34
B.4	POP3 HI2 event-record mapping	34
B.5	POP3 HI3 delivery of Content of Communication	35
B.6	POP3 Interception example.....	35
Annex C (normative): IMAP4.....		36
C.1	IMAP4 introduction	36
C.2	IMAP4 HI2 event-record mapping.....	36
C.3	IMAP4 HI3 delivery of call content.....	37
C.4	IMAP4 Interception example	37
Annex D (normative): Messaging ASN.1		39
Annex E (informative): E-mail LI requirements.....		47
E.1	HI2 requirements.....	47
E.2	HI3 requirements.....	48
E.3	General requirements	49
E.4	Requirements mapping.....	49
Annex F (informative): SMTP characteristics		50
F.1	SMTP service characteristics	50
F.2	SMTP protocol characteristics	50
Annex G (informative): POP3 characteristics.....		51
G.1	POP3 service characteristics	51
G.2	POP3 protocol characteristics	51
Annex H (informative): Discussion of webmail interception		52

H.1	Webmail network topology	52
H.2	Webmail protocols	52
H.3	Webmail interception	53
Annex I (informative):	Discussion for Driving HI2 of HI3.....	54
I.1	Introduction	54
I.2	Discussion	54
I.2.1	Introduction	54
I.2.2	IP packets	55
I.2.3	TCP packets.....	55
I.2.4	SMTP packets	55
I.2.5	E-mail messages	55
I.3	Conclusion.....	56
Annex J (informative):	Change Request History.....	57
Annex K (informative):	Bibliography.....	61
History		62

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

The present document is part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1 [3].

The ASN.1 module is also available as an electronic attachment to the original document from the ETSI site (see details in annex D).

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document describes what information is required for the handover of intercepted IP-based messaging traffic from a Communications Service Provider to an LEMF. The present document covers a stage 2 description of the data, but does not specify any functionality within the scope of ETSI TS 102 232-1 [3].

The Recommendation ITU-T I.130 [6] method for characterizing a service will be used as a general framework for the present document. The modified concept of a "stage 1" will be called the "attributes" of the interface. The attributes of the interface are the sum total of the entire constituent attributes that an interface may need to communicate. The modified concept of a "stage 2" will be called the "events" of the interface. The events of the interface define the rules of the relationships between the attributes that are required to arrange the disjoint attributes into meaningful information for a messaging service interaction.

The present document is intended to be general enough to be used in a variety of messaging services. It should be recognized that a side effect of this approach is some IRI fields identified may be difficult to extract or non-existent depending on the messaging service being intercepted. In such cases it may be completely reasonable that the delivered IRI contain empty fields or fields with the value 0.

1 Scope

The present document contains a stage 1 like description of the interception information in relation to the process of sending and receiving asynchronous messages. The present document also contains a stage 2 like description of when Intercept Related Information (IRI) and Content of Communication (CC) need to be sent, and what information it needs to contain.

It is recognized that "Instant Messenger" and "Chat" applications are another way of exchanging electronic text messages. While the present document may be applicable to such applications it is in no way a goal of the present document to address these methods of electronic text messaging.

The definition of handover transport and encoding of HI2 and HI3 is outside the scope of the present document. Refer to ETSI TS 102 232-1 [3].

The present document is designed to be used where appropriate in conjunction with other deliverables that define the service specific IRI data formats. The present document aligns with 3GPP TS 33.108 [5], ETSI TS 101 671 [4], ETSI TS 101 331 [1] and ETSI TR 101 944 [i.1].

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 101 331: "Lawful Interception (LI); Requirements of Law Enforcement Agencies".
- [2] Void.
- [3] 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".
- [4] ETSI TS 101 671: "Lawful Interception (LI); Handover interface for the lawful interception of telecommunications traffic".

NOTE: Periodically TS 101 671 is published as ES 201 671. A reference to the latest version of the TS as above reflects the latest stable content from ETSI/TC LI.

- [5] ETSI TS 133 108: "Universal Mobile Telecommunications System (UMTS); LTE; 3G security; Handover interface for Lawful Interception (LI) (3GPP TS 33.108)".
- [6] Recommendation ITU-T I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [7] IETF RFC 5322: "Internet Message Format".

NOTE 1: IETF RFC 5322 obsoletes IETF RFC 2822: "Internet Message Format".

NOTE 2: IETF RFC 2822 obsoletes IETF RFC 0822: "Standard for the format of ARPA Internet text messages".

- [8] IETF RFC 1939: "Post Office Protocol - Version 3".
- [9] IETF RFC 5321: "Simple Mail Transfer Protocol".