



**Lawful Interception (LI);
Handover Interface and
Service-Specific Details (SSD) for IP delivery;
Part 7: Service-specific details for Mobile Services**

Reference

RTS/LI-00190-7

Keywords

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Foreword

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

The present document is part 7 of a multi-part deliverable. Full details of the entire series can be found in part 1 [2].

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 ETSI TS 102 232 [i.1] series of standards aims to provide a common delivery interface for lawfully-intercepted material from a wide range of services. The aim of the present document is to increase the range of services to which the ETSI TS 102 232 [i.1] interface applies, by including services from 3GPP TS 33.108 [3], 3GPP TS 33.128 [6] and ANSI/J-STD-025-B [4] within the ETSI TS 102 232 [i.1] delivery framework.

1 Scope

Introduction

The present document specifies an approach for the handover of the lawfully-intercepted information that is defined in the three standards: 3GPP TS 33.108 [3], 3GPP TS 33.128 [6] and ANSI/J-STD-025-B [4]. The present document uses the handover techniques defined in ETSI TS 102 232-1 [2]. In this way, the present document allows additional services to be delivered through a common interface.

UMTS/GPRS and EPS - 3GPP TS 33.108

The scope of the present document includes the handover of lawfully-intercepted information from the following parts of 3GPP TS 33.108 [3]:

- Intercept Related Information (IRI) and the Content of Communication (CC) from the mobile circuit-switched domain (3GPP TS 33.108 [3], clause 5).
- IRI and CC from the mobile packet-switched domain (3GPP TS 33.108 [3], clause 6).
- IRI and CC from the multi-media domain (3GPP TS 33.108 [3], clause 7).
- IRI and CC from the EPS domain (3GPP TS 33.108 [3], clause 10).
- IRI and CC from the IMS Conference domain (3GPP TS 33.108 [3], clause 11).
- IRI and CC from the IMS-based VoIP domain (3GPP TS 33.108 [3], clause 12).
- IRI from the Proximity Services domain (3GPP TS 33.108 [3], clause 13).
- IRI and CC from the Group Communication System Enablers domain (3GPP TS 33.108 [3], clause 14).

The present document does not override or supersede any specifications or requirements in 3GPP TS 33.108 [3].

CDMA2000 - ANSI/J-STD-025-B

The scope of the present document includes the handover of lawfully-intercepted information from the following parts of ANSI/J-STD-025-B [4]:

- Call identifying information from the mobile circuit-switched domain (ANSI/J-STD-025-B [4], clause 5.4). Call Content (CC) from the mobile circuit-switched domain is not covered by the present document.
- Communication identifying information (CII) and CC from the mobile packet-switched domain (ANSI/J-STD-025-B [4], clause 5.5).

The present document does not override or supersede any specifications or requirements in ANSI/J-STD-025-B [4].

3GPP TS 33.128

The scope of the present document includes the handover of lawfully-intercepted information in accordance with 3GPP TS 33.128 [6]

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] Void.
- [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] ETSI TS 133 108: "Universal Mobile Telecommunications System (UMTS); LTE; Digital cellular telecommunications system (Phase 2+) (GSM); 3G security; Handover interface for Lawful Interception (LI) (3GPP TS 33.108)".
- [4] TIA/ATIS ANSI/J-STD-025-B (July 2006): "Lawfully Authorized Electronic Surveillance", as amended by ANSI/J-STD-025-B-1 (September 2006): "Lawfully Authorized Electronic Surveillance (LAES) Addendum 1 - Addition of Mobile Equipment Identifier (MEID)" and by ANSI/J-STD-025-B-2 (April 2007): "Lawfully Authorized Electronic Surveillance (LAES) - Addendum 2 - Support for Carrier Identity".
- [5] Public Law 103-414: "Communications Assistance for Law Enforcement Act (CALEA)", US 103rd Congress, 108 STAT. 4279 (October 25, 1994).
- [6] ETSI TS 133 128: "LTE; 5G; Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Security; Protocol and procedures for Lawful Interception (LI); Stage 3 (3GPP TS 33.128)".

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 TS 102 232 (all parts): "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery".
- [i.2] ETSI TS 101 671: "Lawful Interception (LI); Handover interface for the lawful interception of telecommunications traffic".

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], ETSI TS 101 671 [i.2] and the following apply:

call-identifying information: ANSI/J-STD-025-B [4] states that this term is defined in CALEA Section 102 (2) [5] to be "dialling or signalling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a TSP"

NOTE: This term is always used in expanded format.

3.2 Symbols

Void.

3.3 Abbreviations

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

ASN.1	Abstract Syntax Notation One
ATIS	Alliance for Telecommunications Industry Solutions
CC	Content of Communication

NOTE: This abbreviation is also used by ANSI for the same concept, called "Call Content".

CC-PDU	Content of Communication Protocol Data Unit.
CII	Communication-Identifying Information
CIN	Communications Identity Number
CONFLIC	Conference LI Correlation
CR	Change Request
CS	Circuit Switched
EPS	Evolved Packet System
GCSE	Group Communications System Enablers
GCSELIC	Group Communications System Enablers LI Correlation
GPRS	General Packet Radio Service
IMS	IP Multimedia Subsystem
IP	Internet Protocol
IRI	Intercept Related Information
LAES	Lawfully Authorized Electronic Surveillance (Committee of ATIS)
LI	Lawful Interception
LTE	Long Term Evolution (of UMTS)
MF	Mediation Function (at CSP)
PDU	Protocol Data Unit
ProSe	Proximity Services
PS	Packet Switched
PTSC	Packet Technologies and Systems Committee (Committee of ATIS)
TC	Technical Committee
TIA	Telecommunications Industry Association
TS	Technical Specification
uLIC	UMTS LI Correlation
UMTS	Universal Mobile Telecommunication System
VOIPLIC	Voice Over IP LI Correlation

4 General

4.1 Approach

The present document forms part 7 of the ETSI TS 102 232 [i.1] family of standards, in that it is a service-specific component of the ETSI TS 102 232-1 [2] framework.

3GPP TS 33.108 [3], 3GPP TS 33.128 [6] and ANSI/J-STD-025-B [4] define the interception behaviour that leads to IRI, Communication-Identifying Information (CII) or call-identifying information events on the handover interface, for both the packet data domain and circuit switched domain.

4.2 Reference model

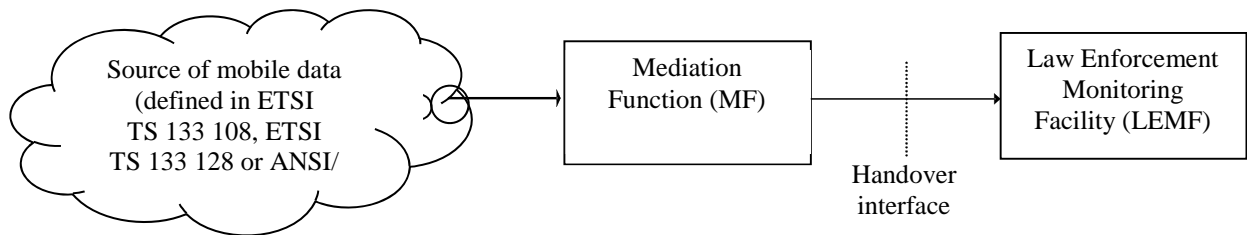


Figure 1: Reference model

5 3GPP handover 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 demonstrates how the header fields in ETSI TS 102 232-1 [2] can be populated in a direct and straightforward manner using the interception information available in 3GPP TS 33.108 [3] and 3GPP TS 33.128 [6].

5.2 Structures

IRI events from 3GPP TS 33.108 [3], for both circuit and packet switched services, are sent using the uMTSIRI element of IRIContents.

CC from CS domain delivery in IP are sent using the CSvoice-CC-PDU element of CCContent, which is the CSvoice-CC-PDU from 3GPP TS 33.108 [3], containing cSvoiceLIC-header and payload.

CC from packet switched services are sent using the uMTSCC element CCContent, which is an OCTET STRING.

Alternatively, subject to national agreement, CC from packet switched services are sent using the uMTSCC-CC-PDU element of CCContent, which is the CC-PDU from 3GPP TS 33.108 [3], containing the uLIC-header and payload.

CC and IRI PDUs formatted according to 3GPP TS 33.128 [6] are sent using the threeGPP33128DefinedCC and threeGPP33128DefinedIRI elements of CCContent and IRIContents respectively.

6 3GPP handover Intercept Related Information (IRI) and Content of Communication (CC)

6.1 Definition of IRI events and CC

IRI events are defined as per 3GPP TS 33.108 [3].

6.2 IRI format

IRI events are defined as per 3GPP TS 33.108 [3] for both circuit and packet switched services. They are sent using the uMTSIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

6.3 CC format

CC from packet switched services are sent using the uMTSCC element CCContents, which is an OCTET STRING. The OCTET STRING will be as defined in the payload element of the CC-PDU structure in 3GPP TS 33.108 [3], clause B.4.

Alternatively, subject to national agreement, CC from packet switched services are sent using the uMTSCC-CC-PDU element of CCContents, which is the CC-PDU from 3GPP TS 33.108 [3], containing the uLIC-header and payload.

CC from CS domain delivery in IP are sent using the CSvoice-CC-PDU element of CCContents, which is the CSvoice-CC-PDU from 3GPP TS 33.108 [3], containing cSvoiceLIC-header and payload.

The information in the cSvoiceLIC-header element of CSvoice-CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

The information in the uLIC-header element of CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

7 CDMA2000 Headers, data exchange and networks

7.1 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. It demonstrates how the ANSI/J-STD-025-B [4] data is to be carried in the corresponding CC and IRI payload fields of ETSI TS 102 232-1 [2] and how the header fields in ETSI TS 102 232-1 [2] shall be populated using the corresponding information from the ANSI/J-STD-025-B [4] data structures.

Permission has been given to ETSI/TC LI by TIA and ATIS to make use of Annex I of the TIA/ATIS joint standard ANSI/J-STD-025-B [4], which contains the ASN.1 code for that standard, in the present document. That Annex I contains the code as prepared in text form by the PTSC LAES committee of ATIS, and subsequently amended by the changes defined by ANSI/J-STD-025-B-1 [4] and by ANSI/J-STD-025-B-2 [4].

7.2 Structures

Call-identifying information in ANSI/J-STD-025-B [4], clauses 6.3 and 6.4 for circuit switched services is sent by carrying the imported LAESProtocol element of Laesp-j-std-025-b as LAESProtocol in IRIContents. This contains the LAESMessage parameter that defines the LAES messages.

CII events from ANSI/J-STD-025-B [4], clause 6.5 for packet switched services are sent by carrying the imported CDMA2000LAESMessage element of CDMA2000CIIModule as cDMA2000LAESMessage in IRIContents.

CC for ANSI/J-STD-025-B [4], clause 6.6.2.1 packet switched services is sent by carrying the imported CCIPPacketHeader element of CDMA2000CCModule in CCContents.

8 CDMA2000 Communication-Identifying Information (CII), Call-Identifying Information and Call Content (CC)

ETSI TS 102 232-1 [2] fields in PSHeader shall be populated using the corresponding fields from the ANSI/J-STD-025-B [4] data structures as shown in table 1.

Table 1: Populating the PSHeader

ETSI TS 102 232-1 [2] element	Source from ANSI/J-STD-025-B [4]	Comments
pSHeader.lawfulInterceptionIdentifier	casIdentity	Same value
pSHeader.communicationIdentifier.networkIdentifier.networkElementIdentifier	iapSystemIdentity	Same value
pSHeader.timeStamp	timeStamp (see note)	Same value
NOTE: The source timestamp is in generalized time format. The optional use of MicroSecondTimeStamp does not apply.		

9 EPS Headers, data exchange and networks

9.1 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 demonstrates how the header fields in ETSI TS 102 232-1 [2] can be populated in a direct and straightforward manner using the interception information available in 3GPP TS 33.108 [3].

9.2 Structures

IRI events from 3GPP TS 33.108 [3], for EPS services, are sent using the ePSIRI element of IRIContents.

CC from EPS services is sent using the ePSCC element of CCContents, which is an OCTET STRING.

Alternatively, subject to national agreement, CC from EPS services are sent using the ePSCC-CC-PDU element of CCContents, which is the CC-PDU from 3GPP TS 33.108 [3], containing the uLIC-header and payload.

10 EPS Intercept Related Information (IRI) and Content of Communication (CC)

10.1 Definition of IRI events and CC

IRI events are defined as per 3GPP TS 33.108 [3].

10.2 IRI format

IRI events for EPS services are defined as per clause 10 of 3GPP TS 33.108 [3]. They are sent using the ePSIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

10.3 CC format

CC from EPS is sent using the ePSCC element of CCContent, which is an OCTET STRING. The OCTET STRING will be as defined in the payload element of the CC-PDU structure in 3GPP TS 33.108 [3], clause B.10.

Alternatively, subject to national agreement, CC from EPS services are sent using the ePSCC-CC-PDU element of CCContent, which is the CC-PDU from 3GPP TS 33.108 [3], containing the uLIC-header and payload.

The information in the uLIC-header element of CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

11 IMS Conference Intercept Related Information (IRI) and Content of Communication (CC)

11.1 Definition of IRI events and CC

IRI events are defined as per 3GPP TS 33.108 [3].

11.2 IRI format

IRI events for IMS Conference services are defined as per clause 11 of 3GPP TS 33.108 [3]. They are sent using the confIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

11.3 CC format

CC from IMS Conference services are sent using the Conf-CC-PDU element of CCContent, which is the Conf-CC-PDU from 3GPP TS 33.108 [3], containing the confLIC-header and payload.

The information in the confLIC-header element of Conf-CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

NOTE: Octet string is not provided as it will break evidential use.

12 IMS-based VoIP Intercept Related Information (IRI) and Content of Communication (CC)

12.1 Definition of IRI events and CC

IRI events are defined as per 3GPP TS 33.108 [3].

12.2 IRI format

IRI events for IMS-based VoIP services are defined as per clause 12 of 3GPP TS 33.108 [3]. They are sent using the ePSIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

12.3 CC format

CC from IMS-based VoIP services are sent using the Voip-CC-PDU element of CCContent, which is the Voip-CC-PDU from 3GPP TS 33.108 [3], containing the voipLIC-header and payload.

The information in the voipLIC-header element of Voip-CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

NOTE: Octet string is not provided as it will break evidential use.

13 Proximity Services Intercept Related Information (IRI)

13.1 Definition of IRI

IRI events are defined as per 3GPP TS 33.108 [3].

13.2 IRI format

IRI events for Proximity Services (PROSE) are defined as per clause 13 of 3GPP TS 33.108 [3]. They are sent using the proseIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

14 Group Communications System Enablers Intercept Related Information (IRI) and Content of Communication (CC)

14.1 Definition of IRI events and CC

IRI events are defined as per 3GPP TS 33.108 [3].

14.2 IRI format

IRI events for Group Communications System Enablers (GCSE) services are defined as per clause 14 of 3GPP TS 33.108 [3]. They are sent using the gcseIRI element of IRIContents.

Fields which are duplicated in the 3GPP TS 33.108 [3] and ETSI TS 102 232-1 [2] structures should be populated consistently in both structures. Clause A.1 gives guidance on mapping between 3GPP TS 33.108 [3] elements and ETSI TS 102 232-1 [2] elements for IRI.

14.3 CC format

CC from Group Communications System Enablers (GCSE) services are sent using the Gcse-CC-PDU element of CCContents, which is the Gcse-CC-PDU from 3GPP TS 33.108 [3], containing the gcseLIC-header and payload.

The information in the gcseLIC-header element of Gcse-CC-PDU will be used to populate the header information in the LI-PS-PDU structure of ETSI TS 102 232-1 [2]. Clause A.1 gives guidance on the mapping between these elements.

NOTE: Octet string is not provided as it will break evidential use.

15 IRI and CC for services defined in 3GPP TS 33.128

15.1 Definition of IRI events and CC

IRI and CC events are defined as per 3GPP TS 33.128 [6].

15.2 IRI and CC format

3GPP TS 33.128 [6] defines the format for the contents of the threeGPP33128DefinedIRI and threeGPP33128DefinedCC elements for each IRI and CC event.

Annex A (normative): ASN.1 for IRI and CC

A.1 Note on integrating ASN.1 structures

A.1.1 Header field mappings

Table A.1 shows how elements of the ETSI TS 102 232-1 [2] PSHeader structure should be populated from information in the 3GPP TS 33.108 [3] IRI-Parameters structure.

Table A.1: 3GPP TS 33.108 [3] to ETSI TS 102 232-1 [2] PSHeader mapping

ETSI TS 102 232-1 [2] PSHeader element	Source from 3GPP TS 33.108 [3]
lawfulInterceptionIdentifier	Copied directly from IRI-Parameters.lawfulInterceptionIdentifier
authorizationCountryCode	Supplied directly by the MF
communicationIdentifier	See below for individual elements
networkIdentifier	See below for individual elements
operatorIdentifier	Copied directly from IRI-Parameters.networkIdentifier.operatorIdentifier
eTSI671NEID	Copied directly from IRI-Parameters.networkIdentifier Network-Element-Identifier
communicationIdentityNumber	See clause A.1.2
deliveryCountryCode	Supplied directly by the MF
sequenceNumber	Supplied directly by the MF
timeStamp	Copied from IRI-Parameters.timeStamp. This requires a conversion from HI2Operations.TimeStamp to GeneralizedTime

Table A.2 shows how elements of the ETSI TS 102 232-1 [2] IRIPayload structure should be populated from information in the 3GPP TS 33.108 [3] structures.

Table A.2: 3GPP TS 33.108 [3] to ETSI TS 102 232-1 [2] IRIPayload mapping

ETSI TS 102 232-1 [2] IRIPayload element	Source from 3GPP TS 33.108 [3]
iRIType	Inferred from UmtsIRIContent or EpsIRIContent or ConfIRIContent or ProSelIRIContent or GcseIRIContent or UmtsCS-IRIsContent
timeStamp	Copied from IRI-Parameters.timeStamp (assuming no aggregation of PDUs) This requires a conversion from HI2Operations.TimeStamp to GeneralizedTime
iRIContents	See below for individual elements
uMTSIRI	See below for individual elements
iRI-Parameters	Copied directly from IRI-Parameters, if handing over packet domain IRI
iRI-CS-Parameters	Copied directly from IRI-Parameters, if handing over circuit switched IRI
ePSIRI	See below for individual elements
iRI-EPS-Parameters	Copied directly from IRI-Parameters, if handing over EPS IRI See note
confIRI	See below for individual elements
iRI-Conf-Parameters	Copied directly from IRI-Parameters, if handing over CONF IRI
proseIRI	See below for individual elements
iRI-ProSe-Parameters	Copied directly from IRI-Parameters, if handing over PROSE IRI
gcseIRI	See below for individual elements
iRI-Gcse-Parameters	Copied directly from IRI-Parameters, if handing over GCSE IRI
NOTE:	EPS IRI is also used for IMS-based VoIP services.

Table A.3 shows how elements of the ETSI TS 102 232-1 [2] PSHeader structure should be populated from information in the 3GPP TS 33.108 [3] CC-PDU structure.

Table A.3: 3GPP TS 33.108 [3] to ETSI TS 102 232-1 [2] PSHeader mapping

ETSI TS 102 232-1 [2] PSHeader element	Source from 3GPP TS 33.108 [3]
lawfulInterceptionIdentifier	Copied from CC-PDU.uLIC-header.IIID or Conf-CC-PDU.confLIC-header.IIID or Voip-CC-PDU.voipLIC-header.IIID or Gcse-CC-PDU.gcseLIC-header.IIID or CSvoice-CC-PDU.cSvoiceLIC-header.IIID
authorizationCountryCode	Supplied directly by the MF
communicationIdentifier	See below for individual elements
networkIdentifier	See below for individual elements
operatorIdentifier	Supplied directly by the MF (see 3GPP TS 33.108 [3], clause 5.2.4)
eTSI671NEID	Supplied directly by the MF (see 3GPP TS 33.108 [3], clause 5.2.4)
communicationIdentityNumber	See clause A.1.2
deliveryCountryCode	Supplied directly by the MF
sequenceNumber	Supplied directly by the MF
timeStamp	Copied from CC-PDU.uLIC-header.timeStamp or Conf-CC-PDU.confLIC-header.timeStamp or Voip-CC-PDU.voipLIC-header.timeStamp or Gcse-CC-PDU.gcseLIC-header.timeStamp or CSvoice-CC-PDU.cSvoiceLIC-header.timeStamp This requires a conversion from HI2Operations.TimeStamp to GeneralizedTime

Table A.4 shows how elements of the ETSI TS 102 232-1 [2] CCPayload structure should be populated from information in the 3GPP TS 33.108 [3] structures.

Table A.4: 3GPP TS 33.108 [3] to ETSI TS 102 232-1 [2] CCPayload mapping

ETSI TS 102 232-1 [2] CCPayload element	Source from 3GPP TS 33.108 [3]
payloadDirection	Copied from CC-PDU.uLIC-header.t-PDU-direction or Conf-CC-PDU.confLIC-header.t-PDU-direction or Voip-CC-PDU.voipLIC-header.t-PDU-direction or Gcse-CC-PDU.gcseLIC-header.t-PDU-direction or CSvoice-CC-PDU.cSvoiceLIC-header.t-PDU-direction This requires a trivial translation between TPDU-direction and PayloadDirection enumerated types
timeStamp	Copied from CC-PDU.uLIC-header.timeStamp or Conf-CC-PDU.confLIC-header.timeStamp or Voip-CC-PDU.voipLIC-header.timeStamp or Gcse-CC-PDU.gcseLIC-header.timeStamp or CSvoice-CC-PDU.cSvoiceLIC-header.timeStamp This requires a conversion from HI2Operations.TimeStamp to GeneralizedTime
ccContents	See below for individual elements
uMTSCC	Bytes copied from CC-PDU.payload
uMTSCC-CC-PDU	Copied directly from UMTS CC-PDU (that is UMTS CC-PDU.uLIC-header plus UMTS CC-PDU.payload)
ePSCC	Bytes copied from CC-PDU.payload
ePSCC-CC-PDU	Copied directly from EPS CC-PDU (that is EPS CC-PDU.uLIC-header plus EPS CC-PDU.payload)
confCC-CC-PDU	Copied directly from Conf-CC-PDU (that is Conf-CC-PDU.confLICheader plus Conf-CC-PDU.payload)
voipCC-CC-PDU	Copied directly from Voip-CC-PDU (that is Voip-CC-PDU.voipLIC-header plus Voip-CC-PDU.payload)
gcseCC-CC-PDU	Copied directly from Gcse-CC-PDU (that is Gcse-CC-PDU.gcseLIC-header plus Gcse-CC-PDU.payload)
cSvoice-CC-PDU	Copied directly from CSvoice-CC-PDU (that is CSvoice-CC-PDU.cSvoiceLIC-header plus CSvoice-CC-PDU.payload)

A.1.2 CIN allocation

CIN allocation follows ETSI TS 102 232-1 [2], clause 5.2.4. The CIN extension field may be used, if required, using the CorrelationValues field as described in 3GPP TS 33.108 [3].

Annex B (informative): Change request history

Status of the present document: ETSI TS 102 232-7 Service-specific details for Mobile Services		
TC LI approval Date	Version	Remarks
January 2008	2.1.1	First publication of the TS after approval by ETSI/TC LI#17 (22-24 January 2008, Como)
February 2011	2.2.1	Included Change Request: ETSI TS 102 232-07 CR001 (Cat B) Addition of Service-Specific Details for CDMA2000 This CR was approved by TC LI#26 (15-17 February 2011, Sophia Antipolis) Version 2.2.1 prepared by the Rapporteur
May 2012	3.1.1	Included Change Request: ETSI TS 102 232-07 CR002 (Cat B) Introduce changes to accommodate EPS This CR was approved by TC LI#30 (14-16 May 2012, Amsterdam) Version 3.3.1 prepared by the Rapporteur
June 2013	3.2.1	Included Change Request: ETSI TS 102 232-07 CR003 (Cat B) to preserve the uLIC header This CR was approved by TC LI #33 (11-13 June 2013, Joensuu) Version 3.2.1 prepared by the Rapporteur
February 2016	3.3.1	Included Change Request: ETSI TS 102 232-07 004r3 (Cat B) to accommodate the delivery of the 3GPP IMS-based VoIP and IMS Conference Services and Proximity Services (ProSe) and Group Communications System Enablers specified in 3GPP TS 33.108 [3], clauses 11, 12, 13 and 14 This CR was approved by TC LI #41 (10-12 Feb 2016, Sophia Antipolis) Version 3.3.1 prepared by the Rapporteur
February 2017	3.4.1	Included Change Request: ETSI 102 232 CR005r1 (Cat F). Table A.4 modified in order to be aligned with clause 12.3 C.C. format This CR was approved by TC LI#44 (30 Jan – 1 Feb, Sophia Antipolis)
February 2018	3.5.1	Included Change Request: ETSI 102 232 CR006r3 (Cat B). modification to take account of changes from SA3LI#67 to have an IP-based CC handover interface This CR was approved by TC LI#47 (5-7 February 2018, New Delhi), version prepared by the Rapporteur
February 2019	3.6.1	Included Change Request: ETSI TS 102232 CR007 (Cat B): Inclusion of 33.128 services in part 7 This CR was approved by TC LI#50 (5-7 February 2019, Dubai), version prepared by the Rapporteur.
October 2019	3.7.1	Included Change Request: ETSI TS 102232-7 CR008 (Cat B): Adapt the introduction and scope. This CR was approved by TCLI#52 (15-17 October 2019, Turin), version prepared by the Rapporteur.
July 2020	3.8.1	Included Change Request: ETSI TS 102232-7 CR009 (Cat F): Correcting reference. This CR was approved by TCLI#54-e (June 2020, online), version prepared by the Rapporteur.

History

Document history		
V2.1.1	March 2008	Publication (Historical)
V2.2.1	March 2011	Publication (Historical)
V3.1.1	June 2012	Publication
V3.2.1	July 2013	Publication
V3.3.1	March 2016	Publication
V3.4.1	March 2017	Publication
V3.5.1	April 2018	Publication
V3.6.1	April 2019	Publication
V3.7.1	December 2019	Publication
V3.8.1	August 2020	Publication