

ETSI TS 124 294 V9.1.0 (2010-04)

Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
IP Multimedia Subsystem (IMS) Centralized Services (ICS)
protocol via I1 interface
(3GPP TS 24.294 version 9.1.0 Release 9)**



iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/ba8c7bfe-d57d-4a14-a1db-047aeb68ae65/etsi-ts-124-294-v9.1.0-2010-04>



Reference

RTS/TSGC-0124294v910

Keywords

GSM, LTE, UMTS**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

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the 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

<http://portal.etsi.org/tb/status/status.asp>

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

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2010.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™**, **TIPHON™**, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

LTE™ is a Trade Mark of ETSI currently being 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.

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 (<http://webapp.etsi.org/IPR/home.asp>).

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 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

PRE-ETSI STANDARD
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/ba8c0bfe-d57d-4a14-a1db-047aeb68ae65/etsi-ts-124-294-v9.1.0-2010-04>

Contents

Intellectual Property Rights	2
Foreword.....	2
Foreword.....	7
1 Scope	8
2 References	8
3 Definitions and abbreviations.....	9
3.1 Definitions	9
3.2 Abbreviations	9
4 General description.....	9
4.1 General	9
4.2 Structure of the protocol.....	10
4.2.1 Introduction.....	10
4.2.2 Application level protocol	10
4.2.3 Transport level protocols	10
4.2.3.1 General.....	10
4.2.3.2 USSD as transport level protocol.....	10
5 Functional entities	11
5.1 User Equipment (UE).....	11
5.2 Application Server (AS).....	11
6 Communication between ICS UE and SCC AS via I1 interface.....	11
6.1 Introduction	11
6.2 Session control procedures.....	11
6.2.1 Session setup.....	11
6.2.1.1 General	11
6.2.1.2 Detailed behaviour of ICS UE	12
6.2.1.2.1 ICS UE CS Session Origination.....	12
6.2.1.2.2 ICS UE CS Session Termination without UE assisted T-ADS	14
6.2.1.2.3 ICS UE CS Session Termination with UE assisted T-ADS	15
6.2.1.2.4 Failure.....	15
6.2.1.3 Detailed behaviour of SCC AS	16
6.2.1.3.1 SCC AS CS Session Origination.....	16
6.2.1.3.2 SCC AS CS Session Termination without ICS UE assisted T-ADS	17
6.2.1.3.3 SCC AS CS Session Termination with ICS UE assisted T-ADS	19
6.2.1.3.4 Failure.....	19
6.2.2 Void	19
6.2.3 Session release	19
6.2.3.1 General	19
6.2.3.2 Detailed behaviour of ICS UE	20
6.2.3.3 Detailed behaviour of SCC AS	21
6.2.3.3.1 Sending I1 BYE to UE	21
6.2.3.3.2 Receipt I1 Success from UE.....	21
6.2.3.3.3 Receipt I1 BYE from UE.....	21
6.2.4 Adding I1 control to existing CS session (I1 Augmentation)	21
6.2.4.1 General	21
6.2.4.2 Detailed behaviour of ICS UE	22
6.2.4.3 Detailed behaviour of SCC AS	22
6.2.5 Service control transfer (Gm fallback to I1)	22
6.2.5.1 General	22
6.2.5.2 Service continuity while retaining the use of CS access for media	23
6.2.5.2.1 Detailed behaviour of ICS UE.....	23
6.2.5.2.2 Detailed behaviour of SCC AS	23
6.2.5.3 Service continuity when transferring from PS access to CS access	24

6.2.5.3.1	Detailed behaviour of UE	25
6.2.5.3.2	Detailed behaviour of SCC AS	25
6.3	Supplementary services control procedures	26
6.3.1	Line ID Services (OIP, OIR, TIP, TIR)	26
6.3.1.1	Originating Identity Presentation (OIP)	26
6.3.1.2	Originating Identity Restriction (OIR)	26
6.3.1.3	Terminating Identity Presentation (TIP)	27
6.3.1.4	Terminating Identity Restriction (TIP)	27
6.3.2	Communication diversion services (CDIV)	27
6.3.2.1	Communication Forwarding Unconditional (CFU)	27
6.3.2.2	Communication Forwarding on Not Logged-in (CFNL)	27
6.3.2.3	Communication Forwarding Busy (CFB)	27
6.3.2.4	Communication Forwarding No Reply (CFNR)	27
6.3.2.5	Communication Forwarding on Subscriber Not Reachable (CFNRc)	27
6.3.2.6	Communication Deflection (CD)	28
6.3.2.7	Communication Diversion Notification (CDIVN)	28
6.3.4	Communication Hold (HOLD)/Resume	28
6.3.4.1	Actions at the ICS UE	28
6.3.4.2	Actions at the SCC AS	29
6.3.5	Consultative Explicit Communication Transfer	29
6.3.5.1	Actions at the ICS UE	29
6.3.5.2	Actions at the SCC AS	29
6.3.6	Conference calling (CONF)	30
6.3.6.1	Actions at the ICS UE	30
6.3.6.2	Actions at the SCC AS	30
6.3.7	Communication Waiting	30
6.4	SCC AS and ICS UE Time Synchronization	30
6.4.1	General	30
6.4.2	Generating Time	31
6.4.3	Detailed behaviour of ICS UE	31
6.4.3.1	ICS UE Synchronization Origination	31
6.4.4	Detailed behaviour of SCC AS	31
6.4.4.1	SCC AS Synchronization Termination	31
7	Protocol specification and implementation	32
7.1	Overview of I1 protocol functionality	32
7.2	I1-protocol messages and functional definition	33
7.2.1	I1-protocol messages	33
7.2.1.1	General	33
7.2.1.2	Session establishment messages	34
7.2.1.3	Stable session messages	34
7.2.1.4	Session clearing messages	35
7.2.1.5	Error messages	35
7.2.1.6	Supplementary Services Invocation related messages	35
7.2.1.7	Other messages	35
7.2.2	I1 message structure and common field encoding	35
7.2.2.1	General	35
7.2.2.1.1	Message Header structure	35
7.2.2.1.2	Protocol Version information	36
7.2.2.1.3	Message Type and Reason	36
7.2.2.1.4	Call Identifier	36
7.2.2.1.5	Sequence-ID	36
7.3	Messages	37
7.3.1	General Messages	37
7.3.2	I1 INVITE – ICS UE initiated	37
7.3.2.1	General	37
7.3.2.2	Message Type	38
7.3.2.3	To	38
7.3.2.4	From	38
7.3.2.5	Accept Contact	38
7.3.2.6	ERAccept Contact	38
7.3.2.7	Reject Contact	38

7.3.2.8	Timestamp.....	38
7.3.3	INVITE – SCC AS initiated	38
7.3.3.1	General.....	38
7.3.3.2	Message Type	39
7.3.3.3	From.....	39
7.3.3.4	To.....	39
7.3.3.5	SCC AS PSI DN	39
7.3.3.6	Timestamp.....	39
7.3.4	BYE – ICS UE initiated.....	39
7.3.4.1	General.....	39
7.3.4.2	Message Type	40
7.3.5	BYE – SCC AS initiated.....	40
7.3.5.1	General.....	40
7.3.5.2	Message Type	40
7.3.6	I1 PROGRESS – ICS UE initiated	40
7.3.6.1	General.....	40
7.3.6.2	Message Type	41
7.3.7	I1 PROGRESS – SCC AS initiated	41
7.3.7.1	General.....	41
7.3.7.2	Message Type	41
7.3.8	I1 FAILURE	41
7.3.8.1	General.....	41
7.3.8.2	Message Type	42
7.3.8.3	To.....	42
7.3.8.4	Reason Phrase	42
7.4	I1 information elements and functional definition	42
7.4.1	I1 information elements.....	42
7.4.2	I1 Information elements encoding	44
7.4.2.1	General.....	44
7.4.2.2	Error-code	45
7.4.2.3	Identity Information	45
7.4.2.4	Privacy	46
7.4.2.5	SCC-AS-id	47
7.4.2.6	Session-identifier	49
7.4.2.7	Void.....	50
7.4.2.8	Replaces	50
7.4.2.9	Accept Contact.....	51
7.4.2.10	ERAccept Contact.....	52
7.4.2.11	Reject Contact.....	53
7.4.2.12	Mid-Call.....	55
7.4.2.13	Reason-Phrase.....	55
7.4.2.14	Time Stamp.....	55
7.5	Session states and Session control procedures	56
7.5.1	General.....	56
7.5.2	Session states	56
7.5.2.1	Session originated by the ICS UE.....	56
7.5.2.1.1	Session states at ICS UE – ICS UE originated call	56
7.5.2.1.2	Session states at SCC AS – ICS UE originated call	56
7.5.2.2	Session terminated at the ICS UE	57
7.5.2.2.1	Session states at UE – ICS UE terminated call.....	57
7.5.2.2.2	Session states at SCC AS – ICS UE terminated session.....	57
7.5.2.3	Session release	57
7.5.2.3.1	Session states at ICS UE.....	57
7.5.2.3.2	Session states at SCC AS.....	58
7.5.3	Session control procedures	58
7.5.3.1	General.....	58
7.5.3.2	Session establishment.....	58
7.5.3.2.1	UE-originating case.....	58
7.5.3.2.1.1	Procedure at ICS UE.....	58
7.5.3.2.1.1.1	Session request	58
7.5.3.2.1.1.2	Session proceeding	59
7.5.3.2.1.1.3	Alerting indication.....	59

7.5.3.2.1.1.4 Session connected59

7.5.3.2.1.2 Procedure at SCC AS.....59

7.5.3.2.1.2.1 Session request59

7.5.3.2.1.2.2 Session progressing60

7.5.3.2.1.2.3 Alerting indication.....60

7.5.3.2.1.2.4 Session connected60

7.5.3.2.2 UE-terminating case60

7.5.3.2.2.1 Procedure at ICS UE.....60

7.5.3.2.2.1.1 Session request60

7.5.3.2.2.1.2 Session progressing61

7.5.3.2.2.1.3 Alerting indication.....61

7.5.3.2.2.1.4 Session connected61

7.5.3.2.2.2 Procedure at SCC AS.....61

7.5.3.2.2.2.1 Session request61

7.5.3.2.2.2.2 Call proceeding62

7.5.3.2.2.2.3 Alerting indication.....62

7.5.3.2.2.2.4 Session connected62

7.5.3.3 I1 service control signalling release62

7.5.3.3.1 Initiating release of I1 service control signalling.....62

7.5.3.3.2 Responding to release of I1 service control signalling63

Annex A (normative): Data structure associating keys with values64

A.1 General64

A.2 Associating keys with values.....64

A.2.1 Associating keys with public user identities.....64

Annex B (informative): Change history65

History67

PREVIEW
 iTech STANDARD
 (standards.iteh.ai)
 Full standard:
<https://standards.iteh.ai/catalog/standards/sist/ba8c7bfc-d57d-4a14-a1db-047aeb68ae65/etsi-ts-124-294-9.1.0-2010-04>

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
<https://standards.iteh.ai/catalog/standards/sist/b0c7bfe-d57d-4a14-a1db-047aeb68ae65/etsi-ts-124-294-v9.1.0-2010-04>

1 Scope

The present document describes the I1 interface between IMS Centralized Services (ICS) UE and Service Centralization and Continuity (SCC) Application Server (AS).

This specification defines a new application layer protocol over I1 interface, specifies the interaction between the ICS UE and the SCC AS including session control procedures and supplementary services control procedures.

The protocol is intended to be independent of the transport protocol used so it can be applied to a number of technologies that need different transport protocols.

The overall ICS architecture is specified in 3GPP TS 23.292 [2].

The procedures for delivery of IMS Service Continuity that do not use the I1 protocol are specified in the document 3GPP TS 24.237 [13].

The present document is applicable to User Equipment (UE) and Application Servers (AS) which are intended to support the IMS centralized services.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.292: "IP Multimedia Subsystem (IMS) Centralized Services; Stage 2".
- [3] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core Network protocols; Stage 3".
- [4] 3GPP TS 24.090: "Unstructured Supplementary Service Data; Stage 3".
- [5] 3GPP TS 24.292: "IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Stage 3".
- [6] RFC 3261 (June 2002): "SIP: Session Initiation Protocol".
- [7] 3GPP TS 23.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 2".
- [8] RFC 3323 (November 2002): "A Privacy Mechanism for the Session Initiation Protocol (SIP)".
- [9] RFC 3325 (November 2002): "Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks".
- [10] 3GPP TS 23.009: "Handover Procedures".
- [11] 3GPP TS 25.413: "UTRAN Iu interface Radio Access Network Application Part (RANAP) signalling".
- [12] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [13] 3GPP TS 24.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 3".

- [14] 3GPP TS 29.002: "Mobile Application Part specification; Stage 3".
- [15] 3GPP TS 23.003: "Numbering, addressing and identification".
- [16] RFC 3629 (2003): "UTF-8, a transformation format of ISO 10646".
- [17] 3GPP TS 23.218: "IP Multimedia (IM) session handling IM Call model, Stage 2".
- [18] 3GPP TS 24.173: "IMS Multimedia Telephony Communication Service and Supplementary Services; Stage 3".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.292 [2] apply:

ICS UE

SCC AS

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.237 [7] apply

Access Transfer

Service Control Signalling Path

Session Transfer Identifier (STI)

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.292 [5] apply:

PSI DN

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.229 [12] apply:

default public user identity

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ICS	IMS Centralized Services
SCC AS	Service Centralization and Continuity Application Server
STI	Session Transfer Identifier
USSD	Unstructured Supplementary Service Data

4 General description

4.1 General

For the current version of the specification the application layer protocol is run over Unstructured Supplementary Service Data (USSD) transport as defined in 3GPP TS 24.090 [4], however the application layer protocol is not restricted to USSD transport.

4.2 Structure of the protocol

4.2.1 Introduction

The I1 protocol is a message based point to point protocol. The I1 protocol messages are transported within a point-to-point transport layer connection protocol and are exchanged between the ICS UE and SCC AS.

The I1 protocol is a transport-independent protocol, i.e. the I1 session control entities can exchange the I1 protocol messages over any transport-layer connection that connects the ICS UE and the SCC AS.

The I1 protocol's notation maintains a format of two parts, i.e. I1 message common part and I1 information elements. The I1 message common part is included in every I1 message. The I1 information elements those are included in an I1 message depend on a type of I1 message being sent.

4.2.2 Application level protocol

Overall descriptions with application level protocol are specified as following:

- 1) it is used to access IMS services (e.g., IMS session origination);
- 2) it is a point to point protocol between the ICS UE and the SCC AS;
- 3) its protocol does not support authentication;
- 4) it does not support segmentation of messages;
- 5) its messages are self-identifying; and
- 6) it runs over any point-to-point transport-layer connection (e.g. USSD).

4.2.3 Transport level protocols

4.2.3.1 General

The transport-layer connection that is used to transfer the I1 protocol messages is a bi-directional point-to-point connection between the ICS UE and the SCC AS. This transport-layer connection is a symmetric connection, i.e. the source-point on the transport-layer connection that is used to send the I1 protocol messages is also a destination-point for the incoming I1 protocol messages.

4.2.3.2 USSD as transport level protocol

The USSD provides a point-to-point transport layer connection between the I1 protocol entities. The USSD supports a two-way alternative interactive communication (i.e. semi-duplex communication). At any given time, only one I1 protocol entity (either the ICS UE or the SCC AS) with its turn may send the I1 messages, while at the same time its peer is permitted only to receive the I1 messages. If the receiving I1 protocol entity (either the ICS UE or the SCC AS) wants to send an I1 message to its peer, it has to buffer the I1 message until it has its turn.

When the USSD is used as the transport layer connection, overall descriptions are specified as following:

- 1) the I1 messages shall be buffered until the USSD layer (in the ICS UE or CS network) gets its turn to send the buffered messages over the USSD connection;
- 2) if the USSD connection is still in maintenance and the USSD layer (in the ICS UE or CS network) hasn't sent an I1 message for a specific time, an I1-Dummy message shall be delivered to the peer to transfer the turn with the consideration of not delaying the transmission of the I1 message; and
- 3) if the I1 session is established, the USSD connection will be released.

5 Functional entities

5.1 User Equipment (UE)

To be compliant with this specification, a UE shall implement the role of ICS UE capabilities defined in subclauses 6.2.1.2, 6.2.3.2, 6.2.4.2, 6.2.5.2.1, 7.5.3.2.1.1, and 7.5.3.2.2.1

5.2 Application Server (AS)

To be compliant with this specification, a AS shall implement the role of SCC AS capabilities defined in subclauses 6.2.1.3, 6.2.3.3, 6.2.4.3, 6.2.5.2.2, 7.5.3.2.1.2, and 7.5.3.2.2.2.

6 Communication between ICS UE and SCC AS via I1 interface

6.1 Introduction

The ICS UE and SCC AS use the I1 interface to setup, control, maintain and release an I1 session control channel and associated media over the CS bearer.

If an ICS UE capable of using the I1 interface registers with the IM-CN Subsystem (IMS), it shall associated keys with public user identities in the format of a SIP URI in accordance with annex A. A public user identity can be derived if a key is associated with the public user identity.

6.2 Session control procedures

6.2.1 Session setup

6.2.1.1 General

The ICS UE setups the I1 session with CS media and the service control signalling via the I1 reference point. I1 is used to control services in the IM CN subsystem.

The I1 sessions can only be created by I1 session setup messages. The I1 Invite message is an I1 session setup message. The I1 sessions can be torn down by I1 session release messages. The I1 Bye message is an I1 session release message.

The following subclauses describe the procedures of the ICS UE and the SCC AS for I1 session setup:

- subclause 6.2.1.2.1 describes the procedures of ICS UE I1 session origination;
- subclause 6.2.1.2.2 describes the procedures of ICS UE I1 session termination without UE assisted T-ADS function;
- subclause 6.2.1.2.3 describes the procedures of ICS UE I1 session termination with UE assisted T-ADS function;
- subclause 6.2.1.3.1 describes the procedures of SCC AS I1 session origination;
- subclause 6.2.1.3.2 describes the procedures of SCC AS I1 session termination without UE assisted T-ADS function; and
- subclause 6.2.1.3.3 describes the procedures of SCC AS I1 session termination with UE assisted T-ADS function.

6.2.1.2 Detailed behaviour of ICS UE

6.2.1.2.1 ICS UE CS Session Origination

6.2.1.2.1.1 General

The following subclauses describe the procedures at the ICS UE for session origination.

6.2.1.2.1.2 Sending an I1 Invite

When the ICS UE originates an I1 session using the I1 reference point, the UE shall:

- 1) generate an I1 Invite message that includes:
 - a) a Message Type Value and a Reason Value set to indicate the message is a Mobile Originated I1 Invite message, accordance with table 7.3.1;
 - b) a new value in the Call-Identifier (Part-1) IE, as specified in subclause 7.2.2.1.4. The Call-Identifier will uniquely identify this I1 session between the ICS UE and the SCC AS;
 - c) an allocated Message sequence number;
 - d) a From information element that
 - if the UE has previously SIP registered and the public user identity is to be a SIP URI and the public user identity can be derived (see annex A) then:
 - i) if the public identity indicates the default public user identity, the Identity Information IE (see table 7.3.2.2) Code Specific Information element is set to "Unspecified" (see table 7.4.2.3.1-2) and the length IE is set to 0;
 - ii) if the public identity is not the default public user identity and the public user identity indicated can be derived (see annex A), the Identity Information IE (see table 7.3.2.2) Code Specific Information element is set to "Identifier" (see table 7.4.2.3.1-2) and the length IE is set to 4.
 - otherwise Identity Information IE (see table 7.3.2.2) Code Specific Information element set to:
 - i) a "SIP URI" (see table 7.4.2.3.1-2) if the public user identity is a SIP URI and the Information body (see table 7.3.2.2) containing the SIP URI;
 - ii) an "International number" (see table 7.4.2.3.1-2), if the public user identity is a Tel URI or SIP URI with URI parameter user=phone and the Information body (see table 7.3.2.2) containing the digit string contained in the URI.
 - e) a To information element that includes either a SIP URI or an E.164 number, and will be used by the SCC AS to determine the identity of the called user;
 - f) a Privacy information element that indicates the ICS UE's privacy preferences. The SCC AS will apply these preferences to the SIP session that the SCC AS will establish on behalf of the UE;
 - g) a CS access network type indicator;
 - h) optionally include any feature tags in the:
 - i) Accept-Contact IE, as specified in subclause 7.3.2.5 if the parameter tag "explicit" or "require" as specified in RFC 3841 [14] are not required;
 - ii) ERAccept Contact IE, as specified in subclause 7.3.2.6 if the parameter tag "explicit" or "require" as specified in RFC 3841 [14] are required; and
 - iii) Reject Contact IE as specified in subclause 7.3.2.7; and
 - i) a Timestamp information element that includes current local time measured in seconds. The element will be used by the SCC AS to determine the staleness of the message.