



TECHNICAL SPECIFICATION

**Core Network and Interoperability Testing (INT);  
Terminating Identification Presentation (TIP) and Terminating  
Identification Restriction (TIR) using IP Multimedia (IM)  
Core Network (CN) subsystem;  
Conformance Test Specification;  
(3GPP™ Release 12);  
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

STANDARDS PREVIEW  
<https://standards.itec.ai/catalog/standards/sist/559745f-act6-40b2-9d7b-ec4775777b15/etsi-ts-101-596-2-v6-1-1-2018-01>

## Reference

---

 RTS/INT-00142-2

## Keywords

---

 conformance, IMS, testing, TIP, TIR, TSS&TP
**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/CommiteeSupportStaff.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.

© ETSI 2018.

All rights reserved.

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

**3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

**oneM2M** logo is protected for the benefit of its Members.

**GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

# Contents

Intellectual Property Rights .....	4
Foreword.....	4
Modal verbs terminology.....	4
1 Scope .....	5
2 References .....	5
2.1 Normative references .....	5
2.2 Informative references.....	5
3 Definitions, symbols and abbreviations .....	5
3.1 Definitions.....	5
3.2 Symbols.....	5
3.3 Abbreviations .....	6
4 Test Suite Structure (TSS).....	6
4.0 Table of Test suite Structure.....	6
4.1 Configuration .....	6
4.1.0 Introduction.....	6
4.1.1 Testing of the AS .....	6
4.1.2 Testing of the UE.....	7
5 Test Purposes (TP) .....	8
5.1 TP naming convention.....	8
5.2 Test strategy .....	8
5.3 TPs for Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR).....	9
5.3.1 Actions at the originating UE .....	9
5.3.2 Actions at the AS serving the originating UE .....	11
5.3.3 Actions at the AS serving the terminating UE .....	13
5.3.4 Actions at the terminating UE.....	16
5.4 Interaction with other services.....	18
5.4.1 Communication diversion services .....	18
History .....	20

---

# Intellectual Property Rights

## Essential patents

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.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

---

# Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

The present document is part 2 of a multi-part deliverable covering the Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Conformance Test Specification, as identified below:

Part 1: "Protocol Implementation Conformance Statement (PICS)";

**Part 2: "Test Suite Structure and Test Purposes (TSS&TP)".**

---

# 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.

---

# 1 Scope

The present document provides the Test suite structure and test purposes for the Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Conformance Test Specification (based on ETSI TS 124 608 (3GPP Release 12) [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 124 608: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.608 Release 12)".
- [2] ETSI TS 101 596-1: "IMS Network Testing (INT); Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) using IP Multimedia (IM) Core Network (CN) subsystem; Conformance Test Specification; Part 1: Protocol Implementation Conformance Statement (PICS)".

### 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.

Not applicable.

---

## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1] apply.

### 3.2 Symbols

For the purposes of the present document, the symbols given in [1] apply.

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in [1] and the following apply:

AS	Application Server
CDIV	Communication DIVersion
CN	Core Network
CSCF	Call Session Control Function
IM	IP Multimedia
IP	Internet Protocol
ISC	IP Multimedia Subsystem Service Control
IUT	Implementation Under Test
NNI	Network-Network Interface
P-CSCF	Proxy - CSCF
SIP	Session Initiation Protocol
SUT	System Under Test
TIP	Terminating Identification Presentation
TIR	Terminating Identification Restriction
TP	Test Purposes
TSS	Test Suite Structure
UA	User Agent
UE	User Equipment
URI	Universal Resource Identifier

## 4 Test Suite Structure (TSS)

### 4.0 Table of Test suite Structure

User	<b>OrigUserE</b>	<b>TIP_U01_xxx</b>
	<b>TermUserE</b>	<b>TIP_U02_xxx</b>
Network entity	<b>OrigAS</b>	<b>TIP_N01_xxx</b>
	<b>DestAS</b>	<b>TIP_N02_xxx</b>
Interaction	<b>CDIV</b>	<b>TIP_N03_xxx</b>

Figure 4.0-1: Test suite structure

### 4.1 Configuration

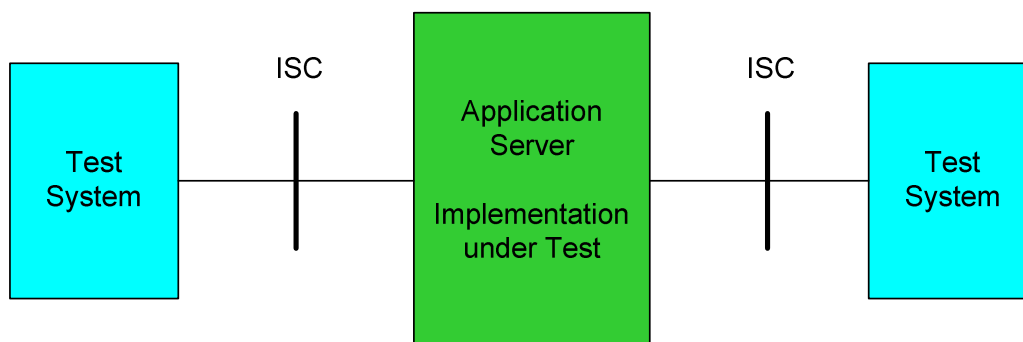
#### 4.1.0 Introduction

The scope of the present document is to test the signalling and procedural aspects of the stage 3 requirements as described in ETSI TS 124 608 [1]. The stage 3 description describes the requirements for several network entities and also the requirements regarding terminal devices. Therefore several interfaces (reference points) are addressed to satisfy the test of the different entities.

Therefore to test the appropriate entities the configurations below are applicable.

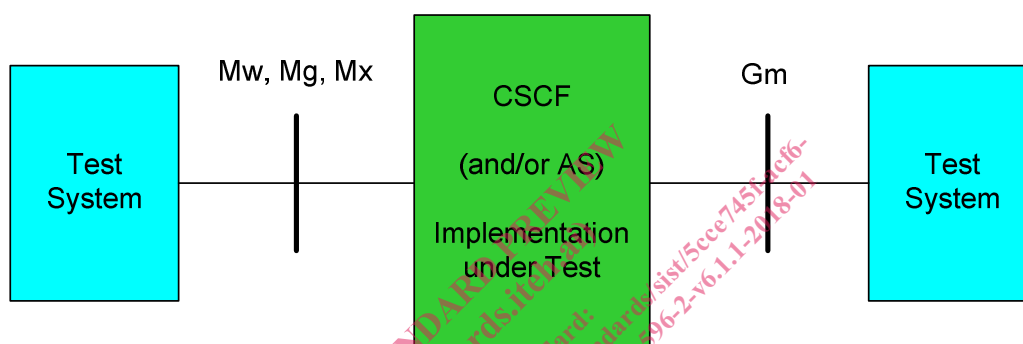
#### 4.1.1 Testing of the AS

The AS entity is responsible for performing and managing services. The ISC interface is the appropriate access point for testing.

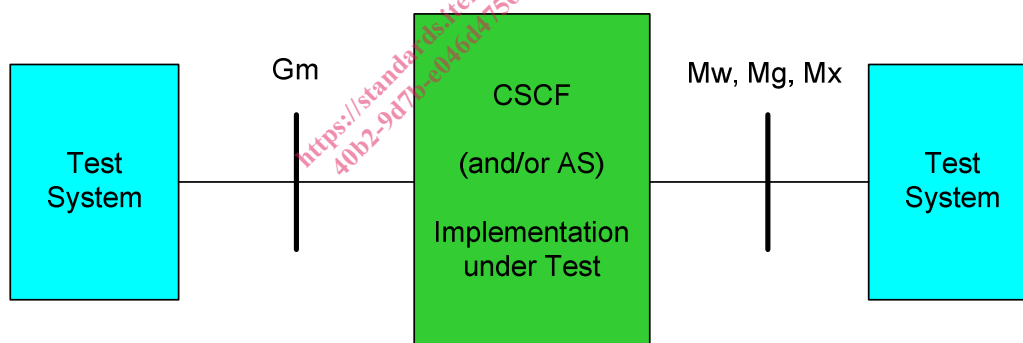


**Figure 4.1.1-1: Applicable interface to test AS functionalities**

If the ISC interface is not accessible it is also possible to perform the test of the terminating AS using any NNI (Mw, Mg, Mx,) interface (see figure 4.1.1-2) or originating AS using any NNI (Mw, Mg, Mx,) interface (see figure 4.1.1-3).



**Figure 4.1.1-2: Applicable interfaces for tests using a (generic) NNI interface for terminating AS**



**Figure 4.1.1-3: Applicable interfaces for tests using a (generic) NNI interface for originating AS**

## 4.1.2 Testing of the UE

There are special clauses in the protocol standard describing the procedures that apply at the originating and terminating user equipment. Therefore the test configuration in figure 4.1.2-1 has been chosen.

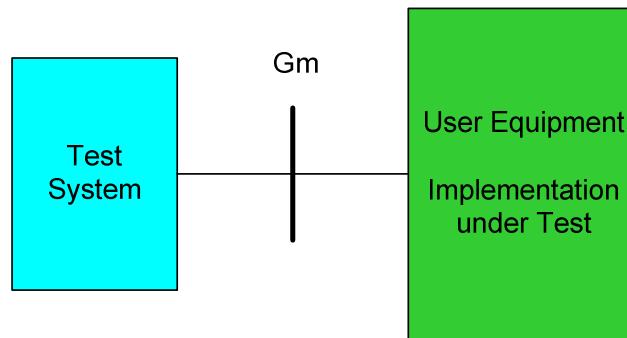


Figure 4.1.2-1: Applicable configuration to test UE functionalities

## 5 Test Purposes (TP)

### 5.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 5.1-1).

Table 5.1-1: TP identifier naming convention scheme

Identifier:	<ss>_<iut><group>_<nnn>
<ss> = supplementary service:	e.g. "TIP"
<iut> = type of IUT:	U User N Network entity, e.g. P-CSCF
<group> = group	2 digit field representing group reference according to TSS
<nnn> = sequential number	(001-999)

### 5.2 Test strategy

As the base standard ETSI TS 124 608 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 101 596-1 [2].

All PICS items referred to in this clause are as specified in ETSI TS 101 596-1 [2] unless indicated otherwise by another numbered reference.



## 5.3 TPs for Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR)

### 5.3.1 Actions at the originating UE

TSS User/OrigUserE	TP TIP_U01_001	TIP/TIR reference 4.5.2.1	Selection expression PICS 4.5.1/1
<b>Test purpose:</b> <i>The originating UE receives one P-Asserted-Identity in a sip URI.</i> Ensure that the Originating UE, receiving any non 100 response message defined as SIP_MESSAGE_VA containing a P-Asserted-Identity header with a valid <b>sip URI</b> accepts the call following the basic request handling procedures.			
<b>SIP message:</b> SIP_MESSAGE_VA P-Asserted-Identity: <sip:[any value]>			
<b>Comments:</b> User equipment		<b>Test equipment</b>	
		INVITE	
→		SIP_MESSAGE_VA	
←			

TSS User/OrigUserE	TP TIP_U01_002	TIP/TIR reference 4.5.2.1	Selection expression PICS 4.5.1/1
<b>Test purpose:</b> <i>The originating UE receives one P-Asserted-Identity in a tel URI.</i> Ensure that the Originating UE, receiving any non 100 response message defined as SIP_MESSAGE_VA containing a P-Asserted-Identity header with a valid <b>tel URI</b> , accepts the call following the basic request handling procedures.			
<b>SIP message:</b> SIP_MESSAGE_VA P-Asserted-Identity: <tel:[any value]>			
<b>Comments:</b> User equipment		<b>Test equipment</b>	
		INVITE	
→		SIP_MESSAGE_VA	
←			

TSS User/OrigUserE	TP TIP_U01_003	TIP/TIR reference 4.5.2.1	Selection expression PICS 4.5.1/1
<b>Test purpose:</b> <i>The originating UE receives two P-Asserted-Identity headers in a sip URI and a tel URI.</i> Ensure that the Originating UE, receiving any non 100 response message defined as SIP_MESSAGE_VA containing one P-Asserted-Identity header with a valid sip URI and one P-Asserted-Identity header with a valid tel URI, accepts the call following the basic request handling procedures.			
<b>SIP message:</b> SIP_MESSAGE_VA P-Asserted-Identity: <sip:[any value]> P-Asserted-Identity: <tel:[any value]>			
<b>Comments:</b> User equipment		<b>UA S</b>	
		INVITE	
→		SIP_MESSAGE_VA	
←			

<b>TSS</b> User/OrigUserE	<b>TP</b> TIP_U01_004	<b>TIP/TIR reference</b> 4.5.2.1	<b>Selection expression</b> PICS 4.5.1/1
<b>Test purpose:</b> The originating UE receives a Privacy header field value 'id' indicating the TIR service. Ensure that the Originating UE, receiving any non 100 response message defined as SIP_MESSAGE_VA with a Privacy header with privacy type of "id" and without P-Asserted-Identity headers, accepts the call following the basic request handling procedures.			
<b>SIP message:</b> SIP_MESSAGE_VA Privacy: id			
<b>Comments:</b> User equipment		<b>Test equipment</b>	
		INVITE	
		SIP_MESSAGE_VA	

Values for tests purposes TIP_U01_001 to TIP_U02_004	
VA_01	180 Ringing
VA_02	183 Session progress
VA_03	200 OK

<b>TSS</b> User/OrigUserE	<b>TP</b> TIP_U01_005	<b>TIP/TIR reference</b> 4.5.2.1	<b>Selection expression</b> PICS 4.5.1/1 AND PICS 4.6.1/1
<b>Test purpose:</b> The originating user is able to send the "from-change" tag in the Supported header in the initial INVITE. Ensure that the Originating UE sends a "from-change" tag in the Supported header in the initial INVITE.			
<b>SIP message:</b> INVITE Supported "from-change"			
<b>Comments:</b> User equipment		<b>Test equipment</b>	
		INVITE with "from-change" tag	

<b>TSS</b> Syntax/OrigUserE	<b>TP</b> TIP_U01_006	<b>TIP/TIR reference</b> 4.5.2.1	<b>Selection expression</b> PICS 4.5.1/1 AND PICS 4.6.1/1
<b>Test purpose:</b> The originating user is able to receive a connected identity in the From header of an UPDATE request. Ensure that the Originating UE is able to receive a second identity in the From header of an UPDATE request if the UE indicates the support of this procedure by sending the "from-change" tag in the Supported header in the initial INVITE and this identity is displayed to the user.			
<b>SIP message:</b> INVITE Supported "from-change" UPDATE From <second identity>			
<b>Comments:</b> User equipment		<b>Test equipment</b>	
		SUT	
		INVITE with "from-change" tag	
		180 Ringing	
		200 OK INVITE	
		ACK	
		UPDATE with new URI in From header	
		200 OK UPDATE	