ETSI TS 186 005-2 V2.2.1 (2009-07)

Technical Specification

Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR); Part 2: Test Suite Structure and Test Purposes (TSS&TP)

ETSI

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/chaircor/ETSI_support.asp

Copyright Notification

ETSI

Contents

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 Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 2 of a multi-part deliverable covering Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) as identified below:

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

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

Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

The present document updates the references to the basic call specifications.

NOTE: Some new parts will be developed in the future.

1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) of the Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) services. Within the TISPAN NGN Release 2 Next Generation Network (NGN) the TS 183 008 [3] Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) PSTN/ISDN simulation services is specified.

A further part of the present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on the present document.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:

  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;

  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at http://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.

2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] IETF RFC 2396: "Uniform Resource Identifiers (URI): Generic Syntax".

[2] IETF RFC 3261: "SIP: Session Initiation Protocol".

[3] ETSI TS 183 008 (V2.8.0): "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN) PSTN/ISDN simulation services Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR) Protocol specification".

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

[5] IETF RFC 2806: "URLs for Telephone Calls".

[6] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[7] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".

[8] ETSI TS 186 005-1: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); Terminating Identification Presentation (TIP) and Terminating Identification Restriction (TIR); Part 1: Protocol Implementation Conformance Statement (PICS)".

[9]   ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".

[10]   ITU-T Recommendation Q.9: "Vocabulary of switching and signalling terms".

2.2   Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

[i.1]   ETSI TS 186 009-2: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); SIP-ISUP Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks; Part 2: Test Suite Structure and Test Purposes (TSS&TP)".

3   Definitions and abbreviations

3.1   Definitions

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

abstract test case: Refer to ISO/IEC 9646-1 [6].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [6].

address identity: See Recommendation E.164 or/and RFC 2806 [5].

call: See ITU-T Recommendation Q.9 [10], definition 2201.

dialog: Refer to RFC 3261 [2].

final response: Refer to RFC 3261 [2].

header: Refer to RFC 3261 [2].

header field: Refer to RFC 3261 [2].

identity information: includes all the information (RFC 2806 [5]/RFC 2396 [1]/E.164 [4]) identifying a user, including trusted (network generated) and/or untrusted (user generated) addresses

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [6].

implicit send event: Refer to ISO/IEC 9646-3 [7].

lower tester: Refer to ISO/IEC 9646-1 [6].

method: Refer to RFC 3261 [2].

option-tag: Refer to RFC 3261 [2].

PICS proforma: Refer to ISO/IEC 9646-1 [6].

PIXIT proforma: Refer to ISO/IEC 9646-1 [6].

point of control and observation: Refer to ISO/IEC 9646-1 [6].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [6].

Protocol Implementation eXtra Information for Testing (PIXIT): Refer to ISO/IEC 9646-1 [6].

provisional response: Refer to RFC 3261 [2].

proxy, proxy server: Refer to RFC 3261 [2].

request: Refer to RFC 3261 [2].

response: Refer to RFC 3261 [2].

session: Refer to RFC 3261 [2].

(SIP) transaction: Refer to RFC 3261 [2].

system under test: Refer to ISO/IEC 9646-1 [6].

tag: Refer to RFC 3261 [2].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [6].

trusted identity: network generated user address information

untrusted identity: user generated user address information

voice session: existing voice connection between two terminal equipments

> NOTE: example via RTP.

3.2   Abbreviations

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

AS	Application Server
ATM	Abstract Test Method
ATS	Abstract Test Suite
CDIV	Communication DIVersion
CN	Core Network
CSCF	Call Session Control Function
IBCF	Interconnection Border Control Function
IM	IP Multimedia
IP	Internet Protocol
ISDN	Integrated Service Data Network
NGN	Next Generation Network
P-CSCF	Proxy - CSCF
PSTN	Public Switched Telephone Network
RTP	Real time Transport Protocol
SDP	Session Description Protocol
SIP	Session Initiation Protocol
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)

User		
	TermUserE	**TIP_U01_xxx**
	OrigUserE	**TIP_U02_xxx**
Network entity		
	DestAS	**TIP_N01_xxx**
	OrigAS	**TIP_N02_xxx**
	CDIV	**TIP_N03_xxx**
	OtherNetw	**TIP_N04_xxx**

Figure 1: Test suite structure

4.1 Configuration

The scope of the current specification is to test the signalling and procedural aspects of the stage 3 requirements as described in TS 183 008 [3]. The stage 3 description describes the requirements for several network entities and also the requirements regarding for 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.
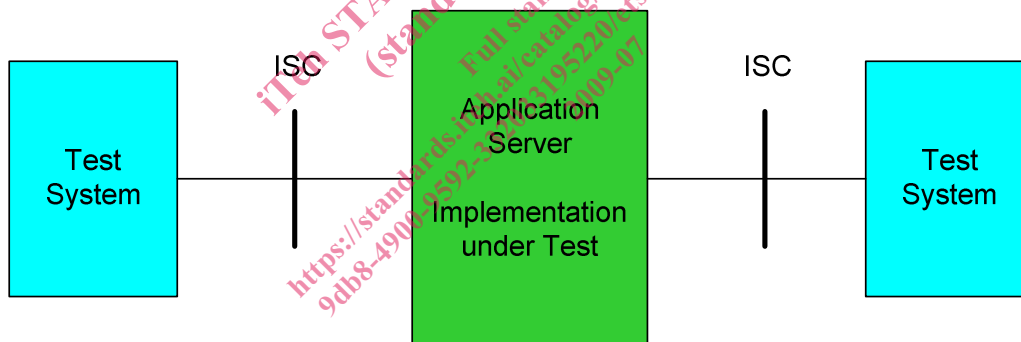

Figure 2: Applicable interface to test AS functionalities

If the ISC interface is not accessible it is also possible to perform the test of the AS using any NNI (Mw, Mg, Mx) interface (see figure 3). In case only the Gm interface is accessible this interface can be used instead for testing, but the verification of all requirements may not be possible.
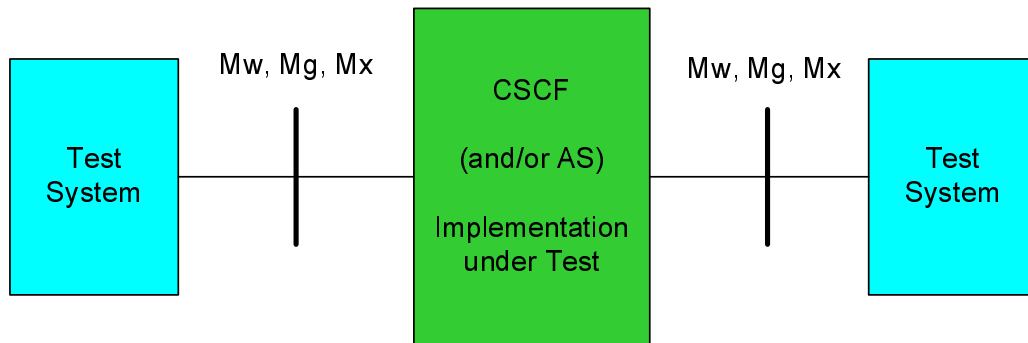
Figure 3: Applicable interfaces for tests using a (generic) NNI interface

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 has been chosen.
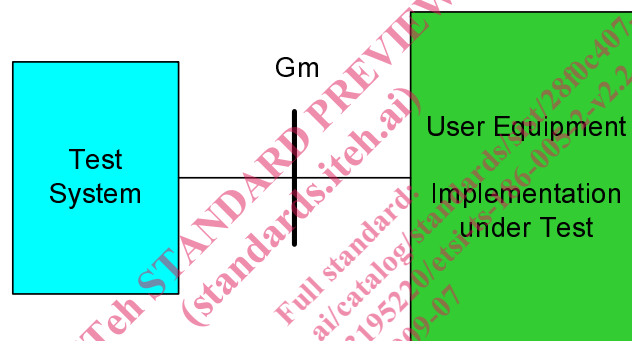

Figure 4: Applicable configuration to test UE functionalities

4.1.3   Testing of the IBCF

The IBCF is the separation point between trusted and entrusted IMS networks and can be tested with the test configuration in figure 5.
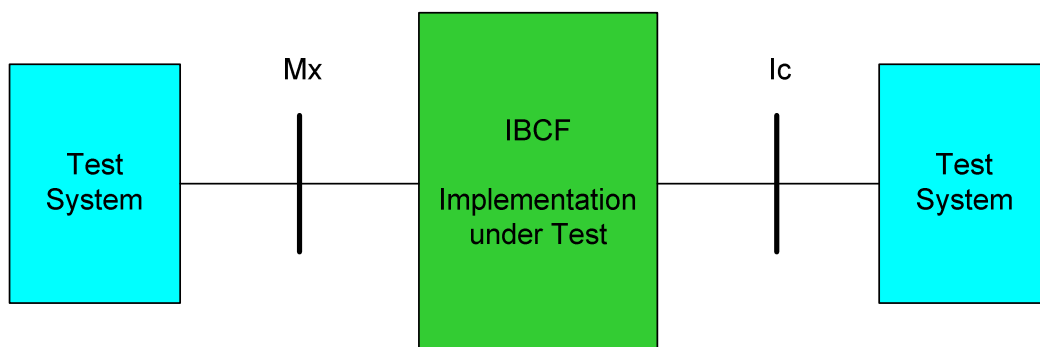

Figure 5: Applicable configuration to test IBCF functionalities

If the ISC interface is not accessible it is also possible to perform the test of the AS using any NNI (Mw, Mg, Mx) interface (see figure 3). In case only the Gm interface is accessible this interface can be used instead for testing, but the verification of all requirements may not be possible.

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

All PICS items referred to in this clause are as specified in TS 186 005-1 [8] unless indicated otherwise by another numbered reference.

5.1.1 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 1).

Table 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 User TPs for TIP

5.2.1 Terminating user equipment

Selection expression for group U01: PICS 1/2.

TSS User/TermUserE	TP TIP_U01_001	TIP/TIR reference 4.5.2.12	Selection expression PICS 2/6, 1/2
Test purpose: *The Terminating UE supports the "from-change" tag in the Supported header.* Ensure that the Terminating UE supports the "from-change" tag in the Supported header. If the UE receives a "from-change" tag in a Supported header in an initial INVITE, the UE sends the "from-change" tag in the Supported header in any provisional or final response message (e.g. 180, 183, 200).			
SIP messages: INVITE: Supported: from-change 18x/200: Supported: from-change			
Comments:			

Test equipment		User equipment
INVITE with "from-change" tag	→	
Provisional or final response	←	
with "from-change" tag		