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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)

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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 version 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 1 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

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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

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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 IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched 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
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CN	Core Network
CSCF	Call Session 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
TP	Test Purposes
TSS	Test Suite Structure
UA	User Agent
UE	User Equipment
URI	Universal Resource Identifier

4 Test Suite Structure (TSS)

Syntax	Term_P-CSCF TermUserE OrigUserE	TIP_N01_xxx TIP_U01_xxx TIP_U02_xxx
Signaling	DestNetw TIR CDIV OrigNetw OtherNetw	TIP_N02_xxx TIP_N03_xxx TIP_N04_xxx TIP_N05_xxx TIP_N06_xxx

Figure 1: Test suite structure

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

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
<group>	= group	2 digit field representing group reference according to TSS	
<nnn>	= sequential number	(001-999)	

5.2 User TPs for TIP

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

5.2.1 Syntax requirements

5.2.1.1 Terminating P-CSCF

TSS	TP	TIP/TIR reference	Selection expression
Syntax/Term_P-CSCF	TIP_N01_001	4.4	
Test purpose:			
<i>The P-CSCF sends a P-Asserted-Identity in a response as 'tel' or 'sip' URI in the international format.</i>			
Ensure that the IUT in order to present the identity of the terminating party upon receipt of a non - 100 response from the terminating user the IUT (P-CSCF) shall send in a non 100 response message defined as SIP_MESSAGE_VA the P-Asserted-Identity header containing valid 'tel' or/and sip URI in the international number format e.g. tel: global number.			
Comments:			
UA C	SUT	UA S	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
	Conversation		
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

Values for tests purposes TIP_N01_001

VA	Value
VA_01	180 Ringing
VA_02	183 Session progress
VA_03	200 OK

5.2.1.2 Terminating user equipment

TSS Syntax/TermUserE	TP TIP_U01_001	TIP/TIR reference Annex A	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the local number format.</i> Ensure that the Terminating UE in order to present a complete called party identity contained in the P-Preferred Identity header sends in a non 100 response message defined as SIP_MESSAGE_VA containing a valid 'tel' and/or sip URI in the local number format e.g. tel: local number.			
Comments:			
Test equipment	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

TSS Syntax/TermUserE	TP TIP_U01_002	TIP/TIR reference 4.4	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the international number format.</i> Ensure that the Terminating UE in order to present a complete called party identity contained in the P-Preferred Identity header sends in a non 100 response message defined as SIP_MESSAGE_VA containing a valid 'tel' and/or sip URI in the international number format e.g. tel: global number.			
Comments:			
Test equipment	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

TSS Syntax/TermUserE	TP TIP_U01_003	TIP/TIR reference 4.4	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the local number format; phone context=particular phone prefix.</i> Ensure that the Terminating UE in order to present a complete called party identity contained in the P-Preferred Identity header sends in a non 100 response message defined as SIP_MESSAGE_VA containing a valid 'tel' or/and sip URI in the format: tel: local number ; phone-context= particular phone prefix .			
Comments:			
Test equipment	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

TSS Syntax/TermUserE	TP TIP_U01_004	TIP/TIR reference 4.4	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the local number format; phone context=domain name</i>			
Ensure that the Terminating UE in order to present a complete called party identity contained in the P-Preferred Identity header sends in a non 100 response message defined as SIP_MESSAGE_VA a valid 'tel' URI in the format: tel: local number; phone-context= domain name e.g. tel: 4711; phone-context=example.com.			
Comments:			
Test equipment	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

TSS Syntax/TermUserE	TP TIP_U01_005	TIP/TIR reference 4.5	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the global number format; isup=ISDN subaddress.</i>			
Ensure that the Terminating UE in order to present a complete called party identity contained in the P-Preferred Identity header sends a in a non 100 response message defined as SIP_MESSAGE_VA containing a valid 'tel' URI in the format: tel: global number; isub= ISDN Subaddress.			
Comments:			
UA C	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)

TSS Syntax/TermUserE	TP TIP_U01_006	TIP/TIR reference 4.4	Selection expression PICS 1/2
Test purpose: <i>The Terminating UE sends a P-Preferred-Identity as 'tel' or 'sip' URI in the local number format; isup=ISDN subaddress.</i>			
Ensure that the Terminating UE in order to present a complete calling party identity contained in the P-Preferred Identity header sends a in a non 100 response message defined as SIP_MESSAGE_VA containing a valid 'tel' URI in the format: tel: local number; isub= ISDN Subaddress.			
Comments:			
Test equipment	SUT	User equipment	
INVITE	→	→	INVITE
SIP_MESSAGE_VA	←	←	SIP_MESSAGE_VA
Conversation			
BYE	→	→	BYE
200 OK (BYE)	←	←	200 OK (BYE)