

ETSI TS 186 014-1 V2.1.1 (2009-05)

Technical Specification

**Telecommunications and Internet converged Services and
Protocols for Advanced Networking (TISPAN);
PSTN/ISDN simulation services:
Communication Diversion (CDIV);
Part 1: Protocol Implementation
Conformance Statement (PICS)**



ReferenceDTS/TISPAN-06031-1-NGN-R2

KeywordsSIP, CDIV, PICS, testing

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 2009.
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.

Contents

Intellectual Property Rights	4
Foreword.....	4
Introduction	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	6
3 Definitions and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations	6
4 Protocol Implementation Conformance Statement proforma.....	7
4.1 Instructions for completing the PICS proforma.....	7
4.1.1 More detailed instructions are given at the beginning of the different subclauses of the PICS proforma.	7
4.1.1.1 Purposes and structure.....	7
4.1.2 Abbreviations and conventions.....	8
4.2 Identification of the implementation	8
4.2.1 Date of the statement	9
4.2.2 Implementation Under Test (IUT) identification.....	9
4.2.3 System Under Test (SUT) identification	9
4.2.4 Product supplier	9
4.2.5 Client	9
4.2.6 PICS contact person.....	10
4.3 PICS proforma tables	10
4.3.1 Global statement of conformance	10
4.3.2 Service capabilities	10
History	13

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 1 of a multi-part deliverable covering Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Communication Diversion (CDIV), 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 for the user".

Introduction

The Communications Diversion (CDIV) services enables the diverting user, to divert the communications addressed to diverting user to an other destination.

1 Scope

The present document specifies the Protocol Implementation Conformance Statement (PICS) for Communications Diversion (CDIV) services, TS 183 004 [1].

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

Within the TISPAN NGN Release 2 Next Generation Network (NGN) the stage 3 description is specified using the IP-Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP).

The Communications Diversion (CDIV) services enables diverting user, to divert the communications addressed to diverting user to an other destination.

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] ETSI TS 183 004: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Communication Diversion (CDIV); Protocol specification".
- [2] ETSI TS 183 028: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Common Basic Communication procedures; Protocol specification".
- [3] ETSI TS 183 007: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR); Protocol specification".
- [4] ETSI TS 183 008: "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".

- [5] ETSI TS 183 011: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Anonymous Communication Rejection (ACR) and Communication Barring (CB); Protocol specification".
- [6] ETSI TS 183 029: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Explicit Communication Transfer (ECT); Protocol specification".

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] ISO/IEC 9646-1: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".
- [i.2] ISO/IEC 9646-3: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [i.3] ISO/IEC 9646-7: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 7: Implementation Conformance Statements".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-1 [i.1] and ISO/IEC 9646-3 [i.2] apply.

3.2 Abbreviations

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

ACK	ACKnowledgement
ATS	Abstract Test Suite
CD	Communication Deflection
CDIV	Communication DIVersion
CFB	Communication Forwarding Busy
CFNL	Communication Forwarding on No Logged-in
CFNR	Communication Forwarding No Reply
CFU	Communication Forwarding Unconditional
ICB	Incoming Communications Barring
ICS	Implementation Conformance Statement
IFC	Initial Filter Criteria
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ISDN	Integrated Service Data Network
IUT	Implementation under Test
MCID	Malicious Communication IDentification
NGN	Next Generation Network
OCB	Outgoing Communication Barring
OIP	Originating Identification Presentation
OIR	Originating Identification Restriction
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PSTN	Public Switched Telephone Network
S-CSCF	Server-Call Session Control Function

SDP	Session Description Protocol
SIP	Session Initiation Protocol
SUT	System Under Test
TIP	Terminating Identification Presentation
TIR	Terminating Identification Restriction
TP	Test Purpose
UA	User Agent
UE	User Equipment
URI	Universal Resource Identifier

4 Protocol Implementation Conformance Statement proforma

4.1 Instructions for completing the PICS proforma

4.1.1 More detailed instructions are given at the beginning of the different clauses of the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. If necessary, the supplier may provide additional comments separately in clause 4.

4.1.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in specifications [1] to [6] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the PICS proforma;
- identification of the implementation;
- product supplier;
- client;
- PICS contact person;
- PICS proforma tables (containing the global statement of conformance).

4.1.2 Abbreviations and conventions

The PICS proforma is composed of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [i.1].

Item column

- It contains a number that identifies the item in the table.

Item description column

- It describes each respective item (e.g. parameters, timers, etc.).

Reference column

- It gives reference to the CDIV specification [1], except where explicitly stated otherwise.

Status column

- The following notations, defined in ISO/IEC 9646-7 [i.1], are used for the status column:
 - m mandatory - the capability is required to be supported.
 - n/a not applicable - in the given context, it is impossible to use the capability. No answer in the support column is required.
 - o optional - the capability may be supported or not.
 - o.i qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table.
 - ci conditional - the requirement on the capability ("m", "o" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression that is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." shall be used to avoid ambiguities. If an ELSE clause is omitted, "ELSE n/a" shall be implied.

NOTE: Support of a capability means that the capability is implemented in conformance to the specification(s) [1] to [6].

Support column

- The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [i.1], are used for the support column:
 - Y or y supported by the implementation.
 - N or n not supported by the implementation.
 - N/A or n/a no answer required (allowed only if the status is N/A, directly or after evaluation of a conditional status).

4.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides - the System Under Test (SUT) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

4.2.1 Date of the statement

Date of the statement:	
-------------------------------	--

4.2.2 Implementation Under Test (IUT) identification

IUT name:	
IUT version:	

4.2.3 System Under Test (SUT) identification

SUT name:	
Hardware configuration:	
Operating system:	

4.2.4 Product supplier

Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	

4.2.5 Client

Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	

4.2.6 PICS contact person

Name:	
Telephone number:	
Facsimile number:	
Additional information:	

4.3 PICS proforma tables

4.3.1 Global statement of conformance

	(Yes/No)
Are all mandatory capabilities implemented?	

4.3.2 Service capabilities

Table 1: Communication DIVersion services

Item	Item description	Reference	Status	Support
1	Communication Forwarding Unconditional (CFU) is supported?	4.2.1	o	
2	Communication Forwarding on Busy user (CFB) is supported?	4.2.1	o	
3	Communication Forwarding on No Reply (CFNR) is supported?	4.2.1	o	
4	Communication Deflection immediate response (CDi) is supported?	4.2.1	o	
5	Communication Deflection during alerting (CDa) is supported?	4.2.1	o	
6	Communication Forwarding on Not Logged-in (CFNL) is supported?	4.2.1	o	
7	Communication Forwarding on Subscriber Not Reachable (CFNRc)	4.2.1	o	

Table 2: Network capabilities

Item	Item description	Reference	Status	Support
1	Is the served user notified by sending a MESSAGE request after a period of time according to the timer value T_{CDIV_IND} as defined in clause 4.8.3 that can be provided by the user?	4.5.2.6.5	o	
2	The AS initiates an announcement to be included towards the originating user in order to inform about the diversion?	4.5.2.6.4	o	
3	The Communication Diversion Notification (CDIVN) procedure of the served user is supported?	4.5.2.6.5.1	o	
4	Is a diverting user informed periodically with a MESSAGE request the information where the call is diverted to?	4.5.2.6.5	o	
5	[1/3] Is the served user in case of CFNR furthermore alerted if the alerting indication is received from the diverted-to user (ringing continues)?	4.5.2.6.3	o	
6	Served user communication retention on invocation of diversion (CFNR). Retain call to the served user until alerting begins at the diverted-to user?	Table 4.3.1.2	o	
7	Served user communication retention on invocation of diversion (CFNR). Clear call to the served user on invocation of call diversion	Table 4.3.1.2	o	
8	Served user communication retention when forwarding is rejected at forwarded-to user. Continue to alert the forwarding user	Table 4.3.1.2	o	
9	Served user communication retention when forwarding is rejected at forwarded-to user. No action at the forwarding user	Table 4.3.1.2	o	
10	Served user communication retention on invocation of diversion (CFNR). Clear call to the served user when the diverted-to-user has accepted the communication request	4.5.2.6.3	o	

Table 3: Subscription options

Item	Item description	Reference	Status	Support
1	Served user receives notification that a communication has been forwarded (indication of communication diversion to the diverting user)?	Table 4.3.1.1	o	
2	Served user receives reminder notification on outgoing communication that CDIV is currently activated?	Table 4.3.1.1	o	
3	Originating user receives notification that his communication has been diverted (forwarded or deflected)?	Table 4.3.1.1	o	
4	Served user allows the presentation of diverted to URI to originating user in diversion notification?	Table 4.3.1.1	o	
5	Served user allows the presentation of his/her URI to originating user in diversion notification?	Table 4.3.1.1	o	
6	Served user allows the presentation of his/her URI to diverted-to user?	Table 4.3.1.1	o	

Table 4: Simulation services

Item	Item description	Reference	Status	Support
1	Does the served user subscribes to the OIR service in permanent mode?	4.5.2.4/ [3]	o	
2	Does the terminating user subscribe the override category for the OIR service?	4.5.2.9/ [3]	o	
3	Does the served user subscribe the TIR service?	4.5.2.9/ [4]	o	
4	Does the originating user subscribe the override category for the TIR service?	4.5.2.4/ [4]	o	
5	The Outgoing Communications Barring (OCB) service is supported?	4.5.2.4.1/ [5]	o	
6	The Incoming Communications Barring (ICB) service is supported?	4.5.2.6.1/ [5]	o	
7	The Explicit Communication Transfer simulation service is supported?	4.2.1/ [6]	o	

Table 5: User Equipment capabilities

Item	Item description	Reference	Status	Support
1	Is the UE able to receive a 181 Call is being Forwarded response and able to display the information of the History-Info header if included?	4.5.2.1/ [1]	o	
2	Is the UE able to receive a 180 Ringing response and able to display the information of the History-Info header if included?	4.5.2.7/ [1]	o	
3	Is the UE able to receive a 200 OK INVITE final response and able to display the information of the History-Info header if included?	4.5.2.7/ [1]	o	
4	Is the User Equipment able to receive a History-Info header in an INVITE request and able to display the information of the History-Info header?	4.5.2.15/ [1], 4.5.2.6.2/ [1]	o	
5	Is the User Equipment able to sent the previously stored History-Info header in a 180 Ringing provisional response?	4.5.2.7/ [1]	o	
6	Is the User Equipment able to sent the previously stored History-Info header in a 200 OK INVITE final response?	4.5.2.7/ [1]	o	
7	Is the User Equipment able to receive communication diversion notification information for the served user in a MESSAGE request and able to display the notification information	4.5.2.6.4/ [1]	o	
8	Is the User Equipment able to subscribe the receive communication diversion notification information for the served user in a MESSAGE request and able to display the notification information	4.5.2.6.5/ [1]	o	

Table 6: Values

Item	Item description	Reference	Status	Support	Values	
					allowed	supported
1	CFNR timer	Table 4.3.1.2	m		service provider option	[sec]
2	CDIVN Buffer Timer; Timer Value for AS to store CDIVN, if it cannot be delivered as per CDIVN Configuration	Table 4.3.1.2	c1		service provider option	[sec]
3	Maximum number of diverted connections	Table 4.3.1.2	m		service provider option	[number]

NOTE: c1: IF 2/10 THEN m ELSE n/a.

History

Document history		
V2.1.1	May 2009	Publication