

8 [[]HJbc`ca fYy`Y`n`]bhY[f]fUb]a]g]c]f]h]j Ua]`f]G8 B!`G][bU]nUW`U`yH`+`!`8 [[]HJb] WY] b]h`Y`Y`_ca i b]_UW`g`_]g]ghYa `fZUnU&Z!`5 d`]_UW`U`f`Y`h`Y`f`U`h`]W`-G8 B! i dcfUVb]y`_Y[UX`Y`U`f`G] D`L`n`U`g][bU]nUW`g`_]j a Ygb]_`-G8 B!`Uj bc`_cdYbg_c a cV]bc`ca fYy`Y`fD@A B!`(`"XY.`5 VgfU`fb]dfYg_i yUb]b]n`f5 HGL]b`XY`b`U`X`c`X`U`b`U]bZ`fa UW`U`n`U`df`Yg_i yUb`Y`]nj YXVY`df`c`c`_c`U`f`D`-L`+L!`D`f`c`Z`fa UgdYWZ]_UW`Y

Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); Digital cellular telecommunications system (Phase 2+); Application of ISDN User Part (ISUP) version 3 for the ISDN-Public Land Mobile Network (PLMN) signalling interface; Part 4: Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification

<https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000>

Ta slovenski standard je istoveten z: EN 302 646-4 Version 7.0.1

ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
--------	---	--

SIST EN 302 646-4:2000 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 302 646-4:2000

<https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000>

ETSI EN 302 646-4 V7.0.1 (2000-11)

European Standard (Telecommunications series)

**Integrated Service Digital Network (ISDN);
Signalling System No.7 (SS7);
Digital cellular telecommunications system (Phase 2+);
Application of ISDN User Part (ISUP) version 3 for the
ISDN-Public Land Mobile Network (PLMN)
signalling interface;
Part 4: Abstract Test Suite (ATS) and Protocol
Implementation eXtra Information for Testing (PIXIT)
proforma specification**

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[SIST EN 302 646-4:2000](https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000)

<https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000>



Reference

REN/SPAN-01047-4

KeywordsATS, ISDN, ISUP, PICS, PLMN, PIXIT, SS7,
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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 302 646-4:2000<https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000>

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://www.etsi.org/tb/status/>

If you find errors in the present document, send your comment to:
editor@etsi.fr

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 2000.
All rights reserved.

Contents

Intellectual Property Rights	5
Foreword	5
1 Scope.....	6
2 References	6
3 Definitions and abbreviations.....	8
3.1 Definitions	8
3.2 Abbreviations.....	9
Annex A (normative): PIXIT proforma for Application of ISDN User Part (ISUP) v 3 for the ISDN-Public Land Mobile Network (PLMN) signalling interface	10
A.1 Identification summary	10
A.2 Abstract test suite summary	10
A.3 Test laboratory.....	10
A.4 Client identification	10
A.5 System Under Test.....	11
A.6 Ancillary protocols	11
A.7 Protocol information for ISUP	11
A.7.1 Protocol identification	11
A.7.2 IUT information - PIXIT proforma tables	11
A.7.2.1 General configuration.....	11
A.7.2.2 Parameter values.....	12
A.7.2.3 Timer values.....	12
A.7.2.4 Procedural information.....	13
Annex B (normative): Protocol Conformance Test Report (PCTR) Proforma for ISDN User Part (ISUP) v 3 - Public Land Mobile Network (PLMN) signalling interface.....	14
B.1 Identification summary	14
B.1.1 Protocol conformance test report.....	14
B.1.2 IUT identification.....	14
B.1.3 Testing environment.....	14
B.1.4 Limits and reservation	15
B.1.5 Comments.....	15

B.2	IUT Conformance status	15
B.3	Static conformance summary	15
B.4	Dynamic conformance summary	15
B.5	Static conformance review report	16
B.6	Test campaign report	16
B.7	Observations	19
Annex C (normative):	ATS for ISDN User Part (ISUP) v3 - Public Land Mobile Network (PLMN) signalling interface	20
C.1	The TTCN Graphical form (TTCN.GR)	20
C.2	The TTCN Machine Processable form (TTCN.MP)	20
	Bibliography	21
	History	22

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 302 646-4:2000](https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000)

<https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000>

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://www.etsi.org/ipr>).

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 European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 4 of a multi-part EN covering the Integrated Service Digital Network (ISDN); Signalling System No.7 (SS7); Digital cellular telecommunications system (Phase 2+); Application of ISDN User Part (ISUP) version 3 for the ISDN-Public Land Mobile Network (PLMN) signalling interface, as identified below:

- Part 1: "Protocol specification" (GSM 09.14 version 7.0.2 Release 1998);
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";
- Part 4: "Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".**

[SIST EN 302 646-4:2000](https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000)

[https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-](https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000)

[7b1445ba9c91/sist-en-302-646-4-2000](https://standards.iteh.ai/catalog/standards/sist/9bfd80f4-17e3-4147-a6a2-7b1445ba9c91/sist-en-302-646-4-2000)

National transposition dates

Date of adoption of this EN:	3 November 2000
Date of latest announcement of this EN (doa):	28 February 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2001
Date of withdrawal of any conflicting National Standard (dow):	31 August 2001

1 Scope

The present document contains the validation (conformance) test specification defined in EN 302 646-1 [1]. The present document applies only to exchanges having implemented the ISUP v3 protocol specification.

The present document presents the Protocol Implementation extra information for testing (PIXIT), protocol conformance test report (PCTR) and the abstract test suite for the ISDN-Public Land Mobile Network (PLMN) signalling interface defined in compliance with the relevant requirements and in accordance with the guidance given in ISO/IEC 9646-7 [18].

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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- iTeh STANDARD PREVIEW**
(standards.iteh.ai)
- [1] ETSI EN 302 646-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Digital cellular telecommunications system (Phase 2+); Application of ISDN User Part (ISUP) version 3 for the ISDN-Public Land Mobile Network (PLMN) signalling interface; Part 1: Protocol specification (GSM 09.14 version 7.0.2 Release 1998)".
- [2] ETSI EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".
<https://standards.iteh.ai/catalog/standards/sist/9bfd180f4-17e3-4147-a6a2-b12c2ba9c975/sist-en-302-646-4-2000>
- [3] ETSI EN 300 356-2 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 2: ISDN supplementary services [ITU-T Recommendation Q.730 (1997), modified]".
- [4] ETSI EN 300 356-3 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 3: Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993), modified]".
- [5] ETSI EN 300 356-4 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 4: Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993), modified]".
- [6] ETSI EN 300 356-5 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 5: Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993), modified]".
- [7] ETSI EN 300 356-6 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 6: Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993), modified]".

- [8] ETSI EN 300 356-8 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 8: User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1997), modified]".
- [9] ETSI EN 300 356-11 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 11: Malicious Call Identification (MCID) supplementary service [ITU-T Recommendation Q.731, clause 7 (1997), modified]".
- [10] ETSI EN 300 356-12 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 12: Conference Call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993), modified]".
- [11] ETSI EN 300 356-14 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 14: Explicit Call Transfer (ECT) supplementary service [ITU-T Recommendation Q.732, clause 7 (1996), modified]".
- [12] ETSI EN 300 356-17 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 17: Call Waiting (CW) supplementary service [ITU-T Recommendation Q.733, clause 1 (1992), modified]".
- [13] ETSI EN 300 356-18 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 18: Completion of Calls to Busy Subscriber (CCBS) supplementary service [ITU-T Recommendation Q.733, clause 3 (1997), modified]".
- [14] ETSI EN 300 356-19 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 19: Three-Party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1996), modified]".
- [15] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [16] ISO/IEC 9646-3 (1996): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [17] ISO/IEC 9646-5 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process".
- [18] ISO/IEC 9646-7 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [19] ITU-T Recommendation Q.763 (1993): "Signalling System No. 7 - ISDN user part formats and codes".

3 Definitions and abbreviations

3.1 Definitions

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

- terms defined in ISDN User Part (ISUP) reference specification EN 300 356-1 [2], EN 300 356-2 [3], EN 300 356-3 [4], EN 300 356-4 [5], EN 300 356-5 [6], EN 300 356-6 [7], EN 300 356-8 [8], EN 300 356-11 [9], EN 300 356-12 [10], EN 300 356-14 [11], EN 300 356-17 [12], EN 300 356-18 [13] and EN 300 356-19 [14];
- terms defined in ISO/IEC 9646-1 [15], ISO/IEC 9646-3 [16] and in ISO/IEC 9646-7 [18].

In particular, the following terms apply:

Abstract Test Case (ATC): complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state (see ISO/IEC 9646-1 [15], subclause 3.3.3)

Abstract Test Method (ATM): description of how an IUT is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this method (see ISO/IEC 9646-1 [15], subclause 3.3.5)

Abstract Test Suite (ATS): test suite composed of abstract test cases (see ISO/IEC 9646-1 [15], subclause 3.3.6)

Implementation Under Test (IUT): implementation of one or more OSI protocols in an adjacent user/provider relationship, being part of a real open system which is to be studied by testing (see ISO/IEC 9646-1 [15], subclause 3.3.43)

Means of Testing (MOT): combination of equipment and procedures that can perform the derivation, selection, parameterization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see ISO/IEC 9646-1 [15], subclause 3.3.54)

PICS proforma: document in the form of a questionnaire, which when completed for an implementation or system becomes the PICS

PIXIT proforma: document in the form of a questionnaire, which when completed for the IUT becomes the PIXIT

Point of Control and Observation: point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method (see ISO/IEC 9646-1 [15], subclause 3.3.64)

Pre-test condition: setting or state in the IUT which cannot be achieved by providing stimulus from the test environment

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see ISO/IEC 9646-1 [15], subclause 3.3.39 and subclause 3.3.80)

Protocol Implementation eXtra Information for Testing (PIXIT): statement made by a supplier or implementor of an IUT (protocol) which contains or references all of the information related to the IUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the IUT (see ISO/IEC 9646-1 [15], subclause 3.3.41 and subclause 3.3.81)

System Under Test (SUT): real open system in which the IUT resides (see ISO/IEC 9646-1 [15], subclause 3.3.103)

3.2 Abbreviations

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

3PTY	Three-Party
ACM	Address Complete Message
ATC	Abstract Test Case
ATM	Abstract Test Method
ATP	Access Transport Parameter
ATS	Abstract Test Suite
CCBS	Completion of Calls to Busy Subscriber
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFNRc	Call Forwarding on Mobile Subscriber Not Reachable
CFU	Call Forwarding Unconditional
CIC	Circuit Identification Code
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CONF	Conference calling
ECT	Explicit Call Transfer
GSM	Global System for Mobile communications
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IUT	Implementation Under Test
MAP	Mobile Application Part
MCID	Malicious Call Identification
MOT	Means Of Testing
MPTY	MultiParty
MSRN	Mobile Station Roaming Number
MTP	Message Transfer Part
NI	Network Indicator
PCTR	Protocol Conformance Test Report
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PLMN	Public Land Mobile Network
SCS	System Conformance Statement
SP	Signalling Point
TP	Test Purpose (context dependent)
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester
UUS	User-to-User signalling

The ISUP message acronyms can be found in table 2 of ITU-T Recommendation Q.763 [19].