

ü]fc_cdUgcj bc`X][]HJbc`ca fYy`Y`n`]bhY[f]fUb]a]`g]cf]hj Ua]`f6 !=G8 BŁ!`Dfchc_c`
X][]HJbY`bUfc b]y`Y`g][bU]nUWY`Y`y`h`&`f8 GG&Ł!`? UfU_hyf]gh_Y`nj YnY!`Df]U] UUb`Y`
hYa Ybg_Y`WY`] bY\]]fcgh]`df]`Ug]b]_i` `nj YnY!` ("XY. `5 VglfU_hb]`dfYg_i` yU]b]`b]n
f5 HGL]b`XY`bUXcXU]bU]bZ`fa UWY`U`nU`dfYg_i` yUb`Y`]nj YXVY`dfchc_c`U`fD`Ł`Ł!`
DfcZ`fa UgdYWY]`UWY`U`nU`i` dcfUWb]_U

Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user

[SIST EN 301 003-4 V1.2.1:2004](https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004)

<https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004>

Ta slovenski standard je istoveten z: EN 301 003-4 Version 1.2.1

ICS:

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

SIST EN 301 003-4 V1.2.1:2004 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 003-4 V1.2.1:2004

<https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004>

ETSI EN 301 003-4 V1.2.1 (2000-10)

European Standard (Telecommunications series)

**Broadband Integrated Services Digital Network (B-ISDN);
Digital Subscriber Signalling System No. two (DSS2) protocol;
Connection characteristics;
Peak cell rate modification by the connection owner;
Part 4: Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing (PIXIT)
proforma specification for the user**

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

[SIST EN 301 003-4 V1.2.1:2004](https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454fb461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004)

<https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454fb461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004>



Reference

REN/SPAN-05242-4

KeywordsATM, ATS, B-ISDN, broadband, DSS2, ISDN,
PIXIT, UNI, user**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 301 003-4 V1.2.1:2004<https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004>

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.....	7
3.1 Definitions	7
3.1.1 Definitions related to conformance testing	7
3.1.2 Definitions related to EN 301 003-1	7
3.2 Abbreviations	8
4 Abstract Test Method (ATM).....	8
5 Untestable test purposes	9
6 ATS to TP map.....	9
7 PCTR conformance	9
8 PIXIT conformance.....	9
9 ATS Conformance.....	10
Annex A (normative): Protocol Conformance Test Report (PCTR) proforma.....	11
A.1 Identification summary.....	11
A.1.1 Protocol conformance test report.....	11
A.1.2 IUT identification.....	11
A.1.3 Testing environment.....	11
A.1.4 Limits and reservations	12
A.1.5 Comments.....	12
A.2 IUT Conformance status	12
A.3 Static conformance summary	12
A.4 Dynamic conformance summary.....	13
A.5 Static conformance review report.....	13
A.6 Test campaign report.....	14
A.7 Observations.....	16
Annex B (normative): Partial PIXIT proforma	17
B.1 Identification summary.....	17
B.2 Abstract test suite summary	17
B.3 Test laboratory.....	17
B.4 Client (of the Test Laboratory).....	18
B.5 SUT	18
B.6 Protocol information.....	19
B.6.1 Protocol identification	19
B.6.2 Configuration to be tested	19
B.6.3 Test management timers.....	19
B.6.4 Parameter Values.....	20

Annex C (normative):	Abstract Test Suite (ATS)	21
C.1	The TTCN Graphical form (TTCN.GR)	21
C.2	The TTCN Machine Processable form (TTCN.MP).....	21
	Bibliography	22
	History	23

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 301 003-4 V1.2.1:2004](https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004)

<https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454f-b461-e30b2de358e2/sist-en-301-003-4-v1-2-1-2004>

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 standard covering the Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner, as identified:

- Part 1: "Protocol specification [ITU-T Recommendation Q.2963.1 [12] (1996), modified]";
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for the user";
- Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";**
- Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";
- Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

National transposition dates

Date of adoption of this EN:	29 September 2000
Date of latest announcement of this EN (doa):	31 December 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2001
Date of withdrawal of any conflicting National Standard (dow):	30 June 2001

1 Scope

The present document specifies the user Abstract Test Suite (ATS) for the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [11]) of implementations conforming to the standards for the signalling user-network layer 3 specification for Peak cell rate modification by the connection owner of the Digital Subscriber Signalling System No. two (DSS2) protocol for the pan-European Broadband Integrated Services Digital Network (B-ISDN), EN 301 003-1 [1].

A further part of the present document specifies the Test Suite Structure and Test Purposes (TSS&TP) related to this ATS and partial PIXIT proforma. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the Network side of the T_B reference point or coincident S_B and T_B reference point of implementations conforming to EN 301 003-1 [1].

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.

- ITC STANDARD PREVIEW
(Standard Not for Release)
- [1] ETSI EN 301 003-1 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 1: Protocol specification [ITU-T Recommendation Q.2963.1 (1996), modified]" <https://standards.iteh.ai/catalog/standards/sist/a16709c6-8c2b-454fb461-c862dc398c2/sist-en-301-003-4-v1-2-1-2004>
- [2] ETSI EN 301 003-2 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- [3] ETSI EN 301 003-3 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user".
- [4] ETSI EN 300 443-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 1: Protocol specification [ITU-T Recommendation Q.2931 (1995), modified]".
- [5] ETSI EN 300 443-2: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- [6] ISO/IEC 9646-1 (1994): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [7] ISO/IEC 9646-2 (1994): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [8] ISO/IEC 9646-3 (1998): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".

- [9] ISO/IEC 9646-4 (1994): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 4: Test realization".
- [10] 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".
- [11] ITU-T Recommendation I.413 (1993): "Overview of Recommendations on Layer 1 for ISDN and B-ISDN customer accesses".
- [12] ITU-T Recommendation Q.2963.1 (1999): "Digital Subscriber Signalling System No. 2 - Connection modification: peak cell rate modification by the connection owner".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply, in addition to those given in EN 301 003-1 [1] and EN 300 443-1 [4].

3.1.1 Definitions related to conformance testing

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

Abstract Test Method (ATM): refer to ISO/IEC 9646-1 [6]

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

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

System Under Test (SUT): see ISO/IEC 9646-1 [6]

Upper Tester (UT): see ISO/IEC 9646-1 [6]

Lower Tester (LT): refer to ISO/IEC 9646-1 [6]

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

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

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

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

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

Point of Control and Observation (PCO): see ISO/IEC 9646-1 [6]

3.1.2 Definitions related to EN 301 003-1

user: DSS2 protocol entity at the User side of the user-network interface where a T_B reference point or coincident S_B and T_B reference point applies

user (S_B/T_B): DSS2 protocol entity at the User side of the user-network interface where a coincident S_B and T_B reference point applies

user (T_B): DSS2 protocol entity at the User side of the user-network interface where a T_B reference point applies (user is a private ISDN)

3.2 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
B-ISDN	Broadband Integrated Services Digital Network
DSS2	Digital Subscriber Signalling System No. two
ExTS	Executable Test Suite
IUT	Implementation Under Test
LT	Lower Tester
MOT	Means Of Testing
PCO	Point of Control and Observation
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
U0	Null link state
U7	Call Received link state
UT	Upper Tester
VCI	Virtual Channel Identifier
VP	Virtual Path
VPCI	Virtual Path Connection Identifier

iTech STANDARD PREVIEW
(standards.iteh.ai)

4 Abstract Test Method (ATM)

The remote test method is applied for the user ATS. The Point of Control and Observation (PCO) resides at the service access point between layers 2 and 3. This PCO is named "L0" (for Lower). The L0 PCO is used to control and observe the behaviour of the Implementation Under Test (IUT) and test case verdicts are assigned depending on the behaviour observed at this PCO.

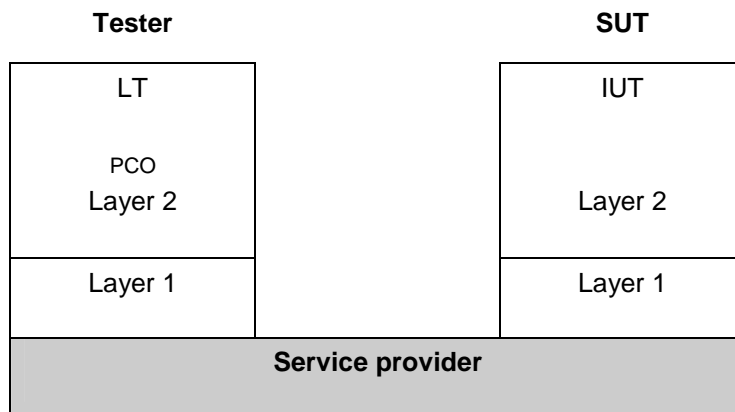


Figure 1: Remote test method

ISO/IEC 9646-2 [7] allows the informal expression of Test Co-ordination Procedures (TCP) between the System Under Test (SUT) upper layer(s) and the Lower Tester (LT). In the ATS contained in annex C, TCP is achieved by use of a second "informal" PCO, called "O" (for Operator). This PCO is used to specify control but not observation above the IUT and consequently, events at this PCO are never used to generate test case verdicts. The use of this O PCO is regarded as a preferred alternative to the use of the implicit send event, in that it allows the ATS to specify in a clear and meaningful way what actions are required to be performed on the IUT.

5 Untestable test purposes

There are no untestable test purposes associated with this ATS.

6 ATS to TP map

The identifiers used for the TPs (see EN 301 003-3 [3]) are reused as test case names. Thus there is a straightforward one-to-one mapping.

7 PCTR conformance

A test laboratory, when requested by a client to produce a PCTR, is required, as specified in ISO/IEC 9646-5 [10], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [10].

Furthermore, a test laboratory, offering testing for the ATS specification contained in annex C, when requested by a client to produce a PCTR, is required to produce a PCTR conformant with the PCTR proforma contained in annex A of the present document.

A PCTR which conforms to this PCTR proforma specification shall preserve the content and ordering of the clauses contained in annex A. Clause A.6 of the PCTR may contain additional columns. If included, these shall be placed to the right of the existing columns. Text in italics may be retained by the test laboratory.

8 PIXIT conformance

A test realizer, producing an executable test suite for the Abstract Test Suite (ATS) specification contained in annex C, is required, as specified in ISO/IEC 9646-4 [9], to produce an augmented partial PIXIT proforma conformant with this partial PIXIT proforma specification.

An augmented partial PIXIT proforma which conforms to this partial PIXIT proforma specification shall, as a minimum, have contents which are technically equivalent to annex B. The augmented partial PIXIT proforma may contain additional questions that need to be answered in order to prepare the Means Of Testing (MOT) for a particular Implementation Under Test (IUT).

A test laboratory, offering testing for the ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-5 [10], to further augment the augmented partial PIXIT proforma to produce a PIXIT proforma conformant with this partial PIXIT proforma specification.

A PIXIT proforma which conforms to this partial PIXIT proforma specification shall, as a minimum, have contents which are technically equivalent to annex B. The PIXIT proforma may contain additional questions that need to be answered in order to prepare the test laboratory for a particular IUT.