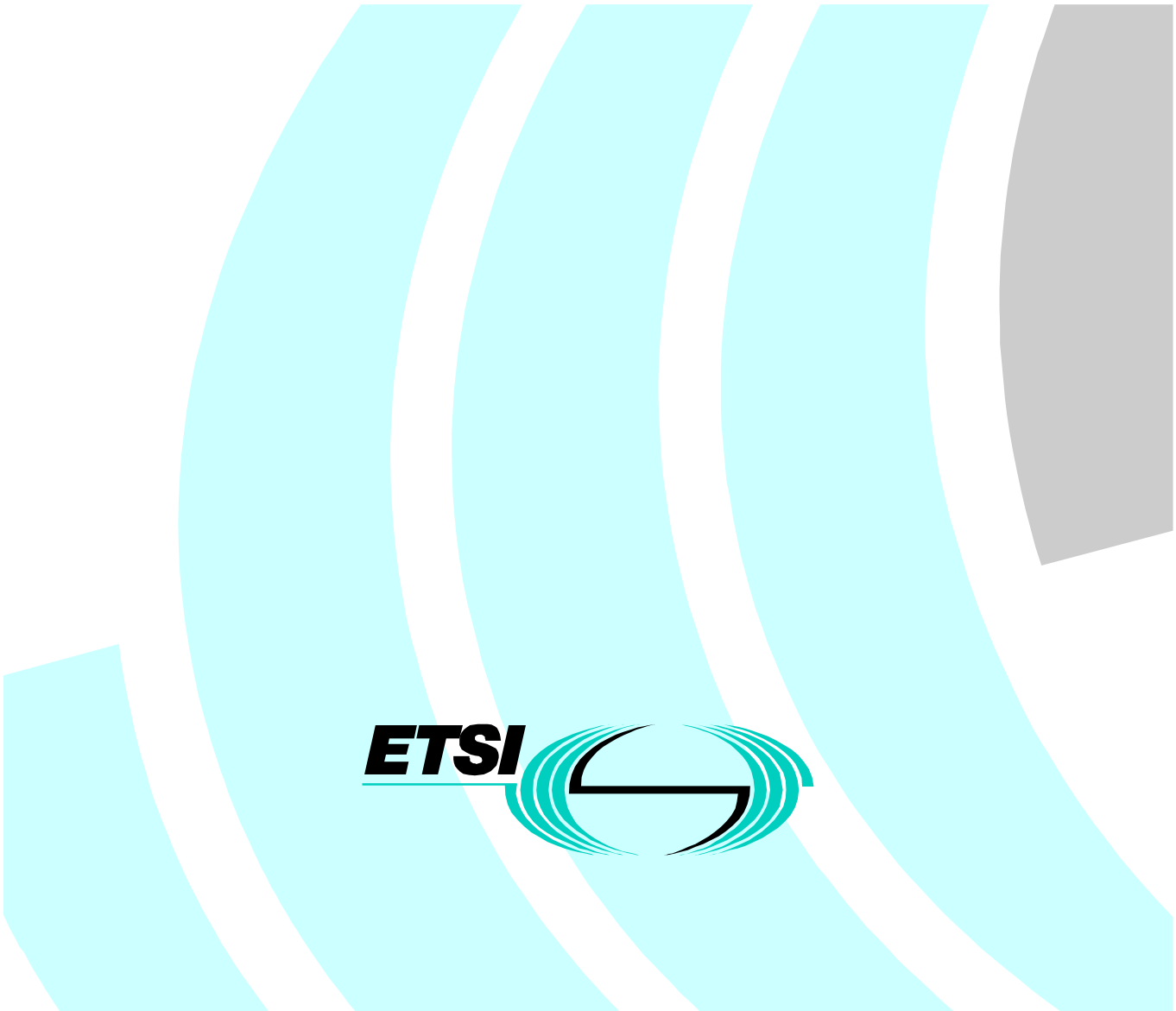
ETSI EN 300 443-4 V1.2.1 (2001-06)

European Standard (Telecommunications series)

**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 4: Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing (PIXIT)
proforma specification for the user**



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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 deliverable covering 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, as identified below:

Part 1: "Protocol specification [ITU-T Recommendation Q.2931 (1995), 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:	15 June 2001
Date of latest announcement of this EN (doa):	30 September 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 March 2002
Date of withdrawal of any conflicting National Standard (dow):	31 March 2002

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 [9]) of implementations conforming to the standards for the signalling user-network layer 3 specification for basic call/bearer control of the Digital Subscriber Signalling System No. two (DSS2) protocol for the pan-European Broadband Integrated Services Digital Network (B-ISDN), EN 300 443-1 [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 300 443-1 [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 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.

[1] ETSI EN 300 443-1 (2.0.1): "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]".

[2] ETSI EN 300 443-2 (V1.3.1): "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; Parts 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ETSI EN 300 443-3 (V1.2.1): "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 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user".

[4] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[5] ISO/IEC 9646-2 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".

[6] ISO/IEC 9646-3 (1998): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".

[7] ISO/IEC 9646-4 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework - Part 4: Test realization".

[8] 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".

[9] ITU-T Recommendation I.413 (1993): "B-ISDN user-network interface".

3 Definitions and abbreviations

3.1 Definitions

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

Implementation Under Test (IUT): see ISO/IEC 9646-1 [4]

System Under Test (SUT): see ISO/IEC 9646-1 [4]

Abstract Test Suite (ATS): see ISO/IEC 9646-1 [4]

Protocol Implementation Conformance Statement (PICS): see ISO/IEC 9646-1 [4]

PICS proforma: see ISO/IEC 9646-1 [4]

Protocol Implementation eXtra Information for Testing (PIXIT): see ISO/IEC 9646-1 [4]

PIXIT proforma: see ISO/IEC 9646-1 [4]

Lower Tester (LT): see ISO/IEC 9646-1 [4]

Upper Tester (UT): see ISO/IEC 9646-1 [4]

Point of Control and Observation (PCO): see ISO/IEC 9646-1 [4]

3.2 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
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
PTC	Parallel Test Component
SUT	System Under Test
TCP	Test Co-ordination Procedures
TP	Test Purpose
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester

4 Abstract Test Method

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.

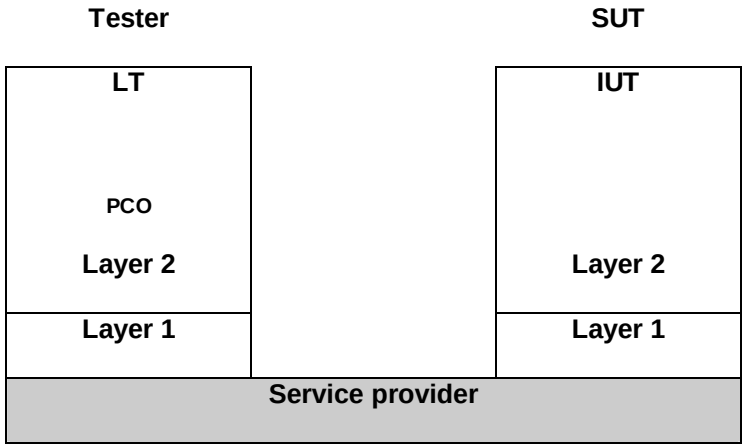

Figure 1: Remote test method

ISO/IEC 9646-2 [5] 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 300 443-3 [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 [8], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [8].

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 [7], 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 [8], 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.

9 ATS Conformance

The test realizer, producing a Means Of Testing (MOT) and Executable Test Suite (ExTS) for this Abstract Test Suite (ATS) specification, shall comply with the requirements of ISO/IEC 9646-4 [7]. In particular, these concern the realization of an Executable Test Suite (ExTS) based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

An ExTS which conforms to this ATS specification shall contain test groups and test cases which are technically equivalent to those contained in the ATS in annex C. All sequences of test events comprising an abstract test case shall be capable of being realized in the executable test case. Any further checking which the test system might be capable of performing is outside the scope of this ATS specification and shall not contribute to the verdict assignment for each test case.

Test laboratories running conformance test services using this ATS shall comply with ISO/IEC 9646-5 [8].

A test laboratory which claims to conform to this ATS specification shall use an MOT which conforms to this ATS.

Annex A (normative): Protocol Conformance Test Report (PCTR) proforma

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PCTR proforma in this annex so that it can be used for its intended purposes and may further publish the completed PCTR.

A.1 Identification summary

A.1.1 Protocol conformance test report

Table A.1

PCTR number:	
PCTR Date:	
Corresponding SCTR number:	
Corresponding SCTR date:	
Test Laboratory identification:	
Test Laboratory Manager:	
Signature:	

A.1.2 IUT identification

Table A.2

Name:	
Version:	
Protocol specification:	EN 300 443-1
PICS:	
Previous PCTRs (if any)	

A.1.3 Testing environment

Table A.3

PIXIT Reference number:	
ATS Specification:	EN 300 443-4 (the present document)
Abstract Test Method:	Remote test method (see ISO/IEC 9646-2)
Means of Testing identification:	
Dates of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

A.1.4 Limits and reservations

Additional information relevant to the technical contents or further use of the test report, or to the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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A.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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A.2 IUT Conformance status

This IUT has or has not been shown by conformance assessment to be non-conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause A.3 of the present document) and there are no "FAIL" verdicts to be recorded (in clause A.6) strike the words "has or", otherwise strike the words "or has not".

A.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

A.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause A.6 of the present document) strike the words "did or", otherwise strike the words "or did not".

Summary of the results of groups of tests:

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A.5 Static conformance review report

If clause A.3 indicates non-conformance, this clause itemizes the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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A.6 Test campaign report

Table A.4

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_01_01				
L3BU_01_02				
L3BU_01_03				
L3BU_01_04				
L3BU_02_01				
L3BU_03_01				
L3BU_03_02				
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L3BU_04_01				
L3BU_04_02				
L3BU_05_01				
L3BU_06_01				
L3BU_06_02				
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L3BU_07_03				
L3BU_07_04				
L3BU_08_01				
L3BU_08_02				
L3BU_08_03				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_08_04				
L3BU_09_01				
L3BU_09_02				
L3BU_09_03				
L3BU_09_04				
L3BU_10_01				
L3BU_10_02				
L3BU_10_03				
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L3BU_19_12				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_19_13				
L3BU_19_14				
L3BU_19_15				
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L3BU_21_09				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_21_10				
L3BU_21_11				
L3BU_21_12				
L3BU_21_13				
L3BU_21_14				
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L3BU_23_01				
L3BU_23_02				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_23_03				
L3BU_23_04				
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ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
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L3BU_27_04				
L3BU_27_05				
L3BU_27_06				
L3BU_27_07				
L3BU_27_08				
L3BU_27_09				
L3BU_27_10				
L3BU_27_11				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_27_12				
L3BU_27_13				
L3BU_27_14				
L3BU_27_15				
L3BU_27_16				
L3BU_27_17				
L3BU_27_18				
L3BU_27_19				
L3BU_27_20				
L3BU_27_21				
L3BU_27_22				
L3BU_27_23				
L3BU_27_24				
L3BU_27_25				
L3BU_27_26				
L3BU_27_27				
L3BU_27_28				
L3BU_27_29				
L3BU_27_30				
L3BU_27_31				
L3BU_27_32				
L3BU_27_33				
L3BU_27_34				
L3BU_27_35				
L3BU_27_36				
L3BU_27_37				
L3BU_27_38				
L3BU_27_39				
L3BU_28_01				
L3BU_28_02				
L3BU_28_03				
L3BU_28_04				
L3BU_28_05				
L3BU_28_06				
L3BU_28_07				
L3BU_28_08				
L3BU_28_09				
L3BU_28_10				
L3BU_28_11				
L3BU_28_12				
L3BU_28_13				
L3BU_28_14				
L3BU_28_15				
L3BU_28_16				
L3BU_28_17				
L3BU_28_18				
L3BU_28_19				
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L3BU_28_21				
L3BU_28_22				
L3BU_28_23				
L3BU_28_24				
L3BU_28_25				
L3BU_28_26				
L3BU_28_27				
L3BU_28_28				
L3BU_28_29				
L3BU_28_30				
L3BU_28_31				
L3BU_28_32				
L3BU_28_33				
L3BU_28_34				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_28_35				
L3BU_28_36				
L3BU_28_37				
L3BU_28_38				
L3BU_29_01				
L3BU_29_02				
L3BU_29_03				
L3BU_29_04				
L3BU_29_05				
L3BU_29_06				
L3BU_29_07				
L3BU_29_08				
L3BU_29_09				
L3BU_29_10				
L3BU_29_11				
L3BU_29_12				
L3BU_29_13				
L3BU_29_14				
L3BU_29_15				
L3BU_29_16				
L3BU_29_17				
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L3BU_29_27				
L3BU_29_28				
L3BU_29_29				
L3BU_29_30				
L3BU_29_31				
L3BU_29_32				
L3BU_30_01				
L3BU_30_02				
L3BU_30_03				
L3BU_30_04				
L3BU_30_05				
L3BU_30_06				
L3BU_30_07				
L3BU_30_08				
L3BU_30_09				
L3BU_30_10				
L3BU_30_11				
L3BU_30_12				
L3BU_30_13				
L3BU_30_14				
L3BU_30_15				
L3BU_30_16				
L3BU_30_17				
L3BU_30_18				
L3BU_30_19				
L3BU_30_20				
L3BU_30_21				
L3BU_30_22				
L3BU_30_23				
L3BU_30_24				
L3BU_30_25				
L3BU_30_26				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_30_27				
L3BU_30_28				
L3BU_30_29				
L3BU_30_30				
L3BU_30_31				
L3BU_31_01				
L3BU_31_02				
L3BU_31_03				
L3BU_31_04				
L3BU_31_05				
L3BU_31_06				
L3BU_31_07				
L3BU_31_08				
L3BU_31_09				
L3BU_31_10				
L3BU_31_11				
L3BU_31_12				
L3BU_31_13				
L3BU_31_14				
L3BU_31_15				
L3BU_31_16				
L3BU_31_17				
L3BU_31_18				
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L3BU_31_23				
L3BU_31_24				
L3BU_31_25				
L3BU_31_26				
L3BU_31_27				
L3BU_32_01				
L3BU_32_02				
L3BU_32_03				
L3BU_32_04				
L3BU_32_05				
L3BU_32_06				
L3BU_32_07				
L3BU_32_08				
L3BU_32_09				
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L3BU_32_13				
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L3BU_32_21				
L3BU_32_22				
L3BU_32_23				
L3BU_32_24				
L3BU_32_25				
L3BU_32_26				
L3BU_33_01				
L3BU_33_02				
L3BU_33_03				
L3BU_33_04				

ATS Reference	Selected ? (Y/N)	Run ? (Y/N)	Verdict	Observations
L3BU_33_05				
L3BU_33_06				
L3BU_33_07				
L3BU_33_08				
L3BU_33_09				
L3BU_34_01				
L3BU_34_02				
L3BU_34_03				
L3BU_35_01				
L3BU_35_02				
L3BU_35_03				
L3BU_35_04				
L3BU_35_05				
L3BU_35_06				
L3BU_35_07				
L3BU_36_01				
L3BU_37_01				
L3BU_37_02				
L3BU_37_03				
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L3BU_37_19				
L3BU_37_20				
L3BU_37_21				
L3BU_38_01				
L3BU_38_02				
L3BU_38_03				
L3BU_38_04				
L3BU_38_05				
L3BU_38_06				
L3BU_38_07				
L3BU_38_08				
L3BU_38_09				
L3BU_39_01				
L3BU_39_02				
L3BU_40_01				
L3BU_41_01				
L3BU_41_02				
L3BU_42_01				
L3BU_42_02				
L3BU_42_03				
L3BU_42_04				

A.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex B (normative): Partial PIXIT proforma

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PIXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed PIXIT.

B.1 Identification summary

PIXIT Number:

.....

Test Laboratory Name:

.....

Date of Issue:

.....

Issued to:

.....

B.2 Abstract test suite summary

Protocol Specification:	EN 300 443-1
ATS Specification:	EN 300 443-4
Abstract Test Method:	Remote test method (see ISO/IEC 9646-2)

B.3 Test laboratory

Test Laboratory Identification:

.....

Accreditation status of the test service:

.....

Accreditation reference:

.....

Test Laboratory Manager:

.....

Test Laboratory contact:

.....

Means of Testing:

.....

Test Laboratory instructions for Completion:

.....

B.4 Client (of the Test Laboratory)

Client Identification:

.....

Client Test manager:

.....

Client contact:

.....

Test Facilities required:

.....

B.5 SUT

Name:

.....

Version:

.....

SCS Reference:

.....

Machine configuration:

.....

Operating System Identification:

.....

IUT Identification:

.....

PICS (all layers):

.....

.....

Limitations of the SUT:

.....

Environmental Conditions:

.....

B.6 Protocol information

B.6.1 Protocol identification

Specification reference: EN 300 443-1

Protocol Version:

PICS Reference:

.....

NOTE: The PICS Reference should reference a completed PICS which is conformant with the PICS proforma contained in EN 300 443-2.

B.6.2 Configuration to be tested

Table B.1: Configuration to be tested

Item	Configuration The access to be tested ...	Supported Y/N
1.1	releases the layer 2 connection after entering the Null call state N0?	
Call/connection states		
1.2	is stable in the Call Received call/connection state U7 (i.e. CONNECT messages are not sent automatically)?	
1.3	is stable in the Incoming Call Proceeding call/connection state U9 (i.e. ALERTING and CONNECT messages are not sent automatically)?	
Compatibility checking		
1.4	checks the compatibility of the contents of the AAL parameters information element in incoming SETUP messages?	
1.5	checks the compatibility of the contents of the high layer compatibility information element in incoming SETUP messages?	
1.6	checks the compatibility of the contents of the low layer compatibility information element in incoming SETUP messages?	
1.7	has a number assigned to it?	
1.8	has a sub-address assigned to it?	
Associated signalling at the originating side (only, if PICS MCu 1,1 is supported)		
1.97	can be configured so that a specific VCI (given in PIXIT 4,21) in the VPC carrying the signalling VC is not available for switched connections.	
1.10	Can be configured so that all VCIs in the VPC carrying the signalling VC are not available for switched connections.	
Non-associated signalling at the originating side		
1.11	Can be configured so that a specific VCI (given in PIXIT 4,22) in a specific VPC (given in PIXIT 4,17) is not available for switched connections.	
1.12	can be configured so that a specific VPC (given in PIXIT 4,23) is not available for switched connections.	

Item	Configuration The access to be tested ...	Supported Y/N
1.13	can be configured so that no VCI is available.	
	Restart procedures	
1.14	sends a RESTART message on the second expiry of timer T308 (no answer to RELEASE message).	
1.15	sends a RESTART message with the coding "indicated virtual channel" in the class field of the Restart indicator information element on the second expiry of timer T308. (only, if PIXIT 1,14 is supported)	
1.16	can be stimulated to send RESTART messages in incoming (answer YES) or outgoing calls (answer NO). This PIXIT item affects the preamble to all tests in the test groups 18 and 32. (only, if PIXIT 1,14 is supported, note)	
NOTE: If RESTART messages can be stimulated for both incoming and outgoing calls, answer "both" to that question. The relevant test groups have to be run twice then, once with this PIXIT item set to "YES" (incoming call) and once set to "NO" (outgoing call).		

B.6.3 Stimuli for the IUT

Table B.2: Actions required to stimulate the IUT

Item	Action What actions, if possible, have to be taken to ...?	Supported Y/N	Stimulus (action taken)
	Non-associated signalling at the origination side		
2.1	cause the IUT to send SETUP messages with the coding "exclusive VPCI, any VCI" in the preferred/exclusive field of the Connection identifier information element?		
2.2	cause the IUT to send SETUP messages with the coding "exclusive VPCI, exclusive VCI" in the preferred/exclusive field of the Connection identifier information element?		
	Call refusal/clearing		
2.3	cause the IUT to refuse a compatible SETUP message by sending a RELEASE COMPLETE message indicating the cause value 21 "call rejected"?		
2.4	cause the IUT to be busy and to refuse a compatible SETUP message by sending a RELEASE COMPLETE message indicating the cause value 17 "user busy"?		
2.5	cause the IUT to send a RELEASE message in call/connection state U3?		
2.6	cause the IUT to send a RELEASE message in call/connection state U4?		
2.7	cause the IUT to send a RELEASE message in call/connection state U7?		
2.8	cause the IUT to send a RELEASE message in call/connection state U8?		
2.9	cause the IUT to send a RELEASE message in call/connection state U9?		
2.10	cause the IUT to send a RELEASE message in call/connection state U10?		
	Notification procedure		
2.11	cause the IUT to send a NOTIFY message in call/connection state U10?		

Item	Action What actions, if possible, have to be taken to ...?	Supported Y/N	Stimulus (action taken)
Provision of 64 kbit/s circuit mode-services (only, if PICS MCu 9 is supported)			
2.12	initiate a call originating in the N-ISDN towards the tester?		
2.13	initiate a call originating in the N-ISDN that carries high layer compatibility information towards the tester?		
2.14	initiate a call originating in the N-ISDN that carries low layer compatibility information towards the tester?		
AAL type selection and negotiation procedures			
2.15	cause the IUT to send SETUP messages with two AAL parameters information elements?		
Indication of using the recovered clock for transmission			
2.16	cause the IUT to send SETUP messages with the coding "Recovered clock of the receiver used for transmit (TX) clock" in the Broadband report type information element?		
2.17	cause the IUT to send ALERTING or CONNECT messages with the coding "Recovered clock of the receiver used for transmit (TX) clock" in the Broadband report type information element?		
End-to-end connection completion indication			
2.17	cause the IUT to send SETUP messages with the coding "End-to-end connection completion capability available" in the Broadband report type information element?		
2.19	cause the IUT to send CONNECT messages with the coding "End-to-end connection completion indication requested" in the Broadband report type information element?		

B.6.4 Test management timers

Table B.3: Timer values

Item	Timer Give a value for the timer that is used ...?	Value (in seconds)
3.1	as network side value for T308 (default value 4 seconds).	
3.2	as network side value for T310 (default value 10 seconds).	
3.3	to wait for the IUT to respond to a stimulus sent by the tester (TAC).	
3.4	to control that the IUT does not respond to a stimulus sent by the tester (TNOAC).	
3.5	to wait for the test operator to perform an implicit send action or to wait for a PTC to react (TWAIT).	
NOTE: The IUT provider may fill in a value range rather than a fixed value for the test management timers. During test execution the test laboratory will choose specific values for the timers dependant on the means of testing used. These specific values may even be beyond the range given by the IUT provider, if this is necessary for achieving satisfactory test results.		

B.6.5 Parameter Values

Table B.4: Parameter values

Item	Parameter values Give ...?	Value
	ATM adaption layer parameters	
4.1.1	a coding of an AAL parameters information element indicating an AAL type, which the IUT does not support, for the purpose of rejecting incoming calls (see note).	
4.1.2.1	a coding of an acceptable forward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, for the purpose of acceptance when received in SETUP or CONNECT messages.	
4.1.2.2	a coding of an acceptable backward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, for the purpose of acceptance when received in SETUP or CONNECT messages.	
4.1.3.1	a coding of an unusable (e.g. too small) forward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, for the purpose of rejection when received in CONNECT messages (see note).	
4.1.3.2	a coding of an unusable (e.g. too small) backward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, for the purpose of rejection when received in CONNECT messages (see note).	
4.1.4.1	a coding of a forward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, that is greater than the value sent by the IUT in a SETUP message, for the purpose of rejection when received in CONNECT messages.	
4.1.4.2	a coding of a backward maximum CPCS-SDU size in AAL 3/4 or AAL5 type AAL parameter information elements, that is greater than the value sent by the IUT in a SETUP message, for the purpose of rejection when received in CONNECT messages.	
4.1.5	a coding of an acceptable MID range in AAL 3/4 type AAL parameter information elements, for the purpose of acceptance when received in SETUP or CONNECT messages.	
4.1.6	a coding of an unacceptable MID range in AAL 3/4 type AAL parameter information elements, for the purpose of rejection when received in CONNECT messages (see note).	
4.1.7	a coding of a MID range in AAL 3/4 type AAL parameter information elements, that is greater than the value sent by the IUT in a SETUP message, for the purpose of rejection when received in CONNECT messages.	
4.1.8	a coding of an unusable maximum CPS-SDU size in AAL2 type AAL parameter information elements, for the purpose of rejection when received in CONNECT messages (see note).	
	Broadband bearer capability	
4.2	a coding of a Broadband bearer capability information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.3	a coding of a Broadband bearer capability information element for the provision of 64 kbit/s circuit mode services (BCOB-A, susceptible to clipping), which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.4	a coding of a Broadband bearer capability information element indicating a service that is not supported, for the purpose of rejecting incoming calls (see note).	
	Narrowband bearer capability	
4.5	a coding of a Narrowband bearer capability information element, which the IUT is compatible with, for the purpose of accepting incoming calls (only, if PICS MCu 9 is supported).	

Item	Parameter values Give ...?	Value
	Called party number	
4.6.1	a coding of the Type of number and the Addressing/Numbering plan identification fields of the Called party number information elements to be sent to the IUT.	
4.6.2	a coding of valid number digits.	
4.7	a coding of an incomplete set of number digits for the purpose of rejecting incoming calls.	
4.8	a coding of an invalid or mis-matching set of number digits for the purpose of rejecting incoming calls.	
	Called party sub-address	
4.9	a coding of an invalid or mis-matching set of sub-address information for the purpose of rejecting incoming calls.	
	ATM traffic descriptor	
4.10	a coding of an ATM traffic descriptor information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.11	a coding of an ATM traffic descriptor information element indicating a peak cell rate that can not be not provided, for the purpose of rejecting incoming calls (see note).	
	Quality of service	
4.12.1	a coding of a Quality of service information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.12.2	a coding of a Quality of service information element indicating a QOS class that is not supported, for the purpose of rejecting incoming calls (see note).	
4.12.3	a coding of a Quality of service information element indicating a QOS class that can not be provided in combination with the other traffic parameters(given in PIXIT item 4.1 and 4.2), for the purpose of rejecting incoming calls (see note).	
	En-to-end transit delay	
4.13.1.1	a coding of the cumulative end-to-end transit delay (octet 6 of the End-to-end transit delay information element), that can not be provided in combination with the QOS class (given in PIXIT item 4.12.1), for the purpose of rejecting incoming calls (see note).	
4.13.1.2	a coding of the maximum end-to-end transit delay (octet 8 of the End-to-end transit delay information element) to be sent together with PIXIT item 4.13.1.1 (see note).	
4.13.2.1	a coding of the cumulative end-to-end transit delay (octet 6 of the End-to-end transit delay information element), that can not be provided in combination with the other traffic parameters(given in PIXIT item 4.1, 4.2 and 4.12.1), for the purpose of rejecting incoming calls (see note).	
4.13.2.2	a coding of the maximum end-to-end transit delay (octet 8 of the End-to-end transit delay information element), that can not be provided in combination with the other traffic parameters(given in PIXIT item 4.1, 4.1 and 4.12.1), for the purpose of rejecting incoming calls (see note).	
	High layer compatibility	
4.14	a coding of an incompatible High layer compatibility information element for the purpose of rejecting incoming calls (see note).	
	Low layer compatibility	
4.15	a coding of an incompatible Low layer compatibility information element for the purpose of rejecting incoming calls (see note).	
	Notification indicator	
4.16	a coding of a Notification indicator information element to be sent to the IUT.	
4.17	an invalid coding of a Notification indicator information element to be sent to the IUT for the purpose of testing the IUT's reaction on the receipt of an information element with content error (see note).	

Item	Parameter values Give ...?	Value
	Connection identifier	
4.18	a value for the preferred VPCI.	
4.19	a value for the preferred VCI.	
4.20	the value for the VPCI carrying the signalling VCI	
4.21	the value for the signalling VCI	
4.22	a value for a VCI in the VPCI carrying the signalling VCI that has been made unavailable (Associated signalling, only if PIXIT 1,9 is supported).	
4.23	a value for a VCI in the VPCI given by PIXIT item 4.17 that has been made unavailable (Non-associated signalling, only if PIXIT 1,10 is supported).	
4.24	a value for a VPCI that has been made unavailable (Associated signalling, only if PIXIT 1,12 is supported).	
4.25	a value for a VPCI that is not recogn*iz*ed by the IUT when received in a RESTART messages (see note).	
	Error values	
4.26	a value for an unrecogn*iz*ed message type.	
4.27	a value for an unrecogn*iz*ed information element identifier.	
4.28	a value for an unrecogn*iz*ed protocol discriminator.	
NOTE: These fields need only be completed, if the specified coding exists.		

Annex C (normative): Abstract Test Suite (ATS)

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [6].

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the table of contents. The ATS itself contains a test suite overview part which provides additional information and references.

C.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (4td013c.PDF contained in archive en_30044304v010102p0.ZIP) which accompanies the present document.

C.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (4td013b.MP contained in archive en_30044304v010102p0.ZIP) which accompanies the present document.

NOTE: Where an ETSI Abstract Test Suite (in TTCN) is published in both .GR and .MP format these two forms shall be considered equivalent. In the event that there appears to be syntactical or semantic differences between the two then the problem shall be resolved and the erroneous format (whichever it is) shall be corrected.

History

Document history		
V1.1.2	June 2000	Publication
V1.2.1	February 2001	One-step Approval Procedure OAP 20010615: 2001-02-14 to 2001-06-15
V1.2.1	June 2001	Publication