SLOVENSKI STANDARD
SIST EN 301 486-4 V1.1.1:2005

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ü]fc_cdUgcj bc˙X][ ]HˇU˙bc˙ca fYÿ^Y˙n˙]bhY[f]fUb]a]˙ghcf]hj Ua]˙f6 !=G8 BŁˇË˙Dfchc_c˙ X][ ]HˇU˙bYˇbUfc b]ý_Y˙g][bUˇ]nUWÝ^Yˇ ýH˜&ˇfB GG&ŁˇË˙?UfU_hYf]gh]_Y˙nj YnY˙Ëˇ GdfYa Ya VU dfca YľbY[UˇXYg_f]dhcfˆ'U˙5HAˇg˙dc[UˇUbˆYa ˙n˙Ugľb]_ca ˙nj YnY˙Ëˇ(˜XYˇ˙5Vgľf U_Ib] dfYg_i ýUˇb]˙b]nˇf5HGŁˇ]bˇXYˇbUˇXcXUhbUˇ]bЪcfa UWÝ^UˇnUˇdfYg_i ýUb^]˙nj YXVY dfchc_c`UˇfD=L=HŁˇË˙DfcЪfa UˇgdYW]Ъ]_UWÝ^Uˇi dcfUVb]_U

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

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Digital Subscriber Signalling System No. two (DSS2) protocol;
Connection characteristics;
ATM traffic descriptor modification with negotiation
by the connection owner;
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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 the Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM traffic descriptor modification with negotiation by the connection owner, as identified below:

Part 1:   "Protocol specification [ITU-T Recommendation Q.2963.3, 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".

<table>
<tr><td colspan="2" align="center">National transposition dates</td></tr>
<tr><td>Date of adoption of this EN:</td><td>1 February 2002</td></tr>
<tr><td>Date of latest announcement of this EN (doa):</td><td>31 May 2002</td></tr>
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or endorsement of this EN (dop/e):</td><td>30 November 2002</td></tr>
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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 ATM traffic descriptor modification with negotiation 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 301 486-1 [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 301 486-1 [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 301 486-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM traffic descriptor modification with negotiation by the connection owner; Part 1: Protocol specification [ITU-T Recommendation Q.2963.3, modified]".

[2]   ETSI EN 301 486-2: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM traffic descriptor modification with negotiation by the connection owner; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3]   ETSI EN 301 486-3: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; ATM traffic descriptor modification with negotiation by the connection owner; 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:

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

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

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

Point of Control and Observation (PCO): 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].

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

Upper Tester (UT): 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.

Tester		SUT
LT PCO Layer 2		IUT Layer 2
Layer 1		Layer 1
Service provider		

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 301 486-3 [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.