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**Integrated Services Digital Network (ISDN);
Digital Subscriber Signalling System No. one (DSS1);
Partial Protocol Implementation eXtra Information for Testing
(PIXIT) proforma specification for signalling network layer
protocol for circuit-mode basic call control
(primary rate access, user)**

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Foreword

This Interim European Telecommunication Standard (I-ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

An ETSI standard may be given I-ETS status either because it is regarded as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited to three years after which it can be converted into an ETS, have its life extended for a further two years, be replaced by a new version or, be withdrawn.

This I-ETS forms part of a set of I-ETSs completing the documentation of ETS 300 102-1 (ISDN signalling network layer protocol) as specified in ISO/IEC 9646-1 (e.g. conformance testing) as follows:

I-ETS 300 314:	"Protocol Implementation Conformance Statement (PICS) proforma specification (basic access, user)";
I-ETS 300 315:	"PICS proforma specification (primary rate access, user)";
I-ETS 300 316:	"PICS proforma specification (basic access, network)";
I-ETS 300 317:	"PICS proforma specification (primary rate access, network)";
I-ETS 300 318:	"Partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification (basic access, user)";
I-ETS 300 319:	"Partial PIXIT proforma specification (primary rate access, user)";
I-ETS 300 322:	"Abstract test suite specification (user)".

Proposed announcement date	
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Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given Open Systems Interconnection (OSI) protocol. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

In addition to the PICS, it will be normal for the test laboratory to require a Protocol Implementation eXtra Information for Testing (PIXIT) statement based on a proforma, related to a specific abstract test suite and to the relevant means of testing. This PIXIT proforma will normally be provided by the test laboratory to the client with a request for its completion together with the PICS proforma.

The partial PIXIT proforma contained in annex A of this I-ETS is required to be augmented, as necessary, by the test realizer (who produces the executable test suite) and by the test laboratory in order to produce the (non-partial) PIXIT proforma.

The completed PIXIT will normally be used in conjunction with the completed PICS, as it adds precision to the information given in the PICS.

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1 Scope

This Interim European Telecommunication Standard (I-ETS) provides the partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the Integrated Services Digital Network (ISDN) D-channel, layer 3, circuit-mode (primary rate access, user) as specified in ETS 300 102-1 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-1 [4], ISO/IEC 9646-2 [5], ISO/IEC 9646-4 [6] and ISO/IEC 9646-5 [7].

2 Normative references

This I-ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 102-1 (1990): "Integrated Services Digital Network (ISDN); User-network interface layer 3 specifications for basic call control".
- [2] I-ETS 300 315 (1994): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1); Protocol Implementation Conformance Statement (PICS) proforma specification for signalling network layer protocol for circuit-mode basic call control (primary rate access, user)".
- [3] I-ETS 300 322 (1995): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1); Abstract Test Suite (ATS) specification for signalling network layer protocol for circuit-mode basic call control (user)".
- [4] ISO/IEC 9646-1 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [5] ISO/IEC 9646-2 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".
- [6] ISO/IEC 9646-4 (1991): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 4: Test realization".
- [7] ISO/IEC 9646-5 (1991): "Information processing systems - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this I-ETS, the following definitions apply:

client: Refer to ISO/IEC 9646-1 [4].

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

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

PICS proforma: Refer to ISO/IEC 9646-1 [4].

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

PIXIT proforma: Refer to ISO/IEC 9646-1 [4].

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

test laboratory: Refer to ISO/IEC 9646-1 [4].

user: The DSS1 protocol entity at the user side of the user-network interface.

3.2 Abbreviations

For the purposes of this I-ETS, the following abbreviations apply:

ATS	Abstract Test Suite
DSS1	Digital Subscriber Signalling System No. one
IUT	Implementation Under Test
MOT	Means Of Testing
OSI	Open Systems Interconnection
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SUT	System Under Test
TEI	Terminal Endpoint Identifier

4 Conformance

A test realizer, producing an executable test suite for the primary rate access Abstract Test Suite (ATS) specification contained in I-ETS 300 322 [3], is required, as specified in ISO/IEC 9646-4 [6], 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 A. 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 primary rate access ATS specification contained in I-ETS 300 322 [3], is required, as specified in ISO/IEC 9646-5 [7], to 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 A. The PIXIT proforma may contain additional questions that need to be answered in order to prepare the test laboratory for a particular IUT.

Annex A (normative): Partial PIXIT proforma

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

A.1 Identification summary

PIXIT number:

.....

Test laboratory name:

.....

Date of issue:

.....

Issued to:

.....

A.2 Abstract test suite summary

Protocol specification: ETS 300 102-1 [1]
ATS specification: I-ETS 300 322 [3]
Abstract test method: remote test method (see ISO/IEC 9646-2 [5])

A.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:

.....

A.4 Client (of the test laboratory)

Client identification:

.....

Client test manager:

.....

Client contact:

.....

Test facilities required:

.....

A.5 System Under Test (SUT)

Name:

.....

Version:

.....

SCS reference:

.....

Machine configuration:

.....

Operating system identification:

.....

IUT identification:

.....

PICS (all layers):

.....

.....

Limitations of the SUT:

.....

Environmental conditions:

.....

A.6 Protocol information

PICS items referenced in the tables in the remaining parts of this proforma are those contained in I-ETS 300 315 [2].

NOTE: PIXIT items which are empty and noted as "Item not used" are required to maintain identical item numbering between the basic access and primary rate access PIXIT documents.

A.6.1 Protocol identification

Specification reference: ETS 300 102-1 [1]

Protocol version: primary rate access, user

PICS reference:

NOTE: The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in I-ETS 300 315 [2].

A.6.2 Parameter values - information element codings

Table A.1: Codings of information elements

Item	Provide, if possible, ...	Supported (Y/N)	Value
1.1	a coding of a Bearer Capability information element, which the IUT is compatible with, for the purpose of accepting incoming calls and which may be used in outgoing SETUP messages		
1.2	a coding of a Bearer Capability information element, which the IUT is NOT compatible with, for the purpose of accepting incoming calls (to generate error)		
1.3	a coding of a High layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls and which, if the inclusion of this element is supported (PICS IET 14), may be used in outgoing SETUP messages		
1.4	a coding of an High layer compatibility information element, which the IUT is NOT compatible with, for the purpose of accepting incoming calls (to generate error)		
1.5	a coding of a Low layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls and which, if the inclusion of this element is supported (PICS IET 16), may be used in outgoing SETUP messages		
1.6	a Called party number information element, which the IUT is compatible with		
1.7	an incomplete party number for use in Called party number information element received by IUT (only required if IUT = PTNX (to generate PROGRESS message))		
1.8	a coding of the location field of Cause information element (sent by IUT)		
1.9	preferred channel number (used in Channel identification information element) to be used for Incoming calls		

A.6.3 Timer values

Table A.2: Timer values

Item	Timer name	PICS reference	Default value (s)	Value implemented (s)
2.1	T301	TM 1	180 (minimum)	
2.2	T302	TM 2	15	
2.3	T303	TM 3	4	
2.4	T304	TM 4	30	
2.5	T305	TM 5	30	
2.6	T308	TM 8	4	
2.7	T310	TM 10	>40	
2.8	T313	TM 12	4	
2.9	T316	TM 14	120	
2.10	T317	TM 15	<T316	
2.11				(note)
2.12				(note)
2.13	T322	TM 19	4	

NOTE: Item not used.

A.6.4 Sending of messages by IUT

Table A.3: Actions required to stimulate IUT to send messages

Item	What actions, if possible, have to be taken to cause the IUT to send a ...	PICS reference	Supported(Y/N)	Stimulus (action taken)
3.1	CONNECT	MT 4		
3.2	DISCONNECT	MT 6		
3.3	INFORMATION	MT 8		
3.4	NOTIFY	MT 9		
3.5	PROGRESS	MT 10		
3.6	RESTART	MT 13		
3.7				(note)
3.8	SETUP containing Bearer Capability information element as specified in item 1.1 and, if included, the High layer compatibility information element and Low layer compatibility information element as specified in items 1.3 and 1.5, respectively	MT 19		
3.9	STATUS ENQUIRY	MT 22		
3.10				(note)

NOTE: Item not used.

A.6.5 Call states stability

Table A.4: Ability to remain in call states

Item	Is the IUT able to remain, for at least 3 seconds, in ...	PICS reference	Supported (Y/N)
4.1	Call received call state (U7)	CS 7	
4.2	Incoming call proceeding call state (U9)	CS 9	

History

Document history	
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