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European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Security tools (SET) procedures;
Digital Subscriber Signalling System No. one (DSS1) protocol;
Part 2: Protocol Implementation Conformance
Statement (PICS) proforma specification**



Reference

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Keywords

ISDN, DSS1, security, supplementary service,
PICS

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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 2 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Security tools (SET) procedures, as described below:

Part 1: "Protocol specification";

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".

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).

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 is applicable to the stage three of the Security tools (SET) procedures for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators at the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 see annex D) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunication service (see ITU-T Recommendation I.130 see annex D).

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for the ISDN DSS1 security tools protocol as specified in EN 301 002-1 [2] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4].

The supplier of a protocol implementation which is claimed to conform to EN 301 002-1 [2] is required to complete a copy of the PICS proforma provided in annex A of the present document and is required to provide the information necessary to identify both the supplier and the implementation.

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 300 196-2: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- [2] ETSI EN 301 002-1 (V1.3.1): "Integrated Services Digital Network (ISDN); Security tools (SET) procedures; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [3] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [4] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 002-1 [2] and the following apply.

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of an Open Systems Interconnection (OSI) implementation or system, stating which capabilities have been implemented for a given OSI protocol (see ISO/IEC 9646-1)

PICS proforma: document, in the form of a questionnaire, designed by the protocol specifier or conformance test suite specifier, which, when completed for an OSI implementation or system becomes the PICS (see ISO/IEC 9646-1)

static conformance review: review of the extent to which the static conformance requirements are met by the IUT, accomplished by comparing the PICS with the static conformance requirements expressed in the relevant standard(s) (see ISO/IEC 9646-1)

3.2 Symbols

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

AND	Boolean "and"
C	Conditional requirement (to be observed if the relevant conditions apply)
M	Mandatory requirement (to be observed in all cases)
N/A	Not applicable, not supported or the conditions for status are not meet
No	not supported
NOT	Boolean "not"
O	Option (may be selected to suit the implementation, provided that any requirements applicable to the option are observed)
O.n	Options, but support required for either at least one or only one of the options in the group labelled with the same numeral "n"
OR	Boolean "or"
Yes	supported

3.3 Abbreviations

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

AS	Auxiliary States
DSS1	Digital Subscriber Signalling System No. one
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
MC	Major Capabilities
MR	Messages Received
MT	Messages Transmitted
OSI	Open Systems Interconnection
P	Parameters
PICS	Protocol Implementation Conformance Statement
PIN	Personal Identification Number
R	Role
SC	Subsidiary Capabilities
SCS	System Conformance Statement
SET	Security Tools
SUT	System Under Test
TAN	Transaction Number
TM	Timers

4 Conformance

A PICS proforma which conforms to this PICS proforma specification shall be technically equivalent to annex A, and shall preserve the numbering and ordering of the items in annex A.

A PICS which conforms to this PICS proforma specification shall:

- a) describe an implementation which claims to conform to EN 301 002-1 [2];
- b) be a conforming ICS proforma which has been completed in accordance with the instructions for completion given in clause A.1;
- c) include the information necessary to uniquely identify both the supplier and the implementation.

Annex A (normative): PICS proforma for EN 301 002-1

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 PICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed PICS.
--

A.1 Instructions for completing the PICS proforma

A.1.1 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

The System Conformance Statement (SCS) as defined in ISO/IEC 9646-1 is a document supplied by the client or product supplier that summarizes which OSI standards are implemented and to which conformance is claimed. The PICS/SCS clause should describe the relationship of the PICS to the SCS.

A.1.2 Global statement of conformance

If the answer to the statement in this clause is "Yes", all subsequent clauses should be completed to facilitate selection of test cases for optional functions.

If the answer to the statement in this clause is "No", all subsequent clauses should be completed, and all non-supported mandatory capabilities should be identified and explained. Explanations may be entered in the comments field at the bottom of each table or on attached pages.

A.1.3 Explanation of PICS proforma clauses

The PICS proforma contains a Roles clause and thereafter is presented in two parts (for user and network) with the following clauses, as required:

- major capabilities;
- subsidiary capabilities;
- protocol data unit support;
- protocol data unit parameters;
- timers;
- call states.

The User clause shall only be completed for user implementations (including private network implementations) while the Network clause shall only be completed for network implementations. The Roles clause shall be completed for all implementations.

The relationship between this PICS proforma and other related PICS proforma (e.g. the basic call PICS proforma) is expressed in the requirements list contained in annex B. This provides the additional restrictions placed on the related proforma (different conditions, different status, etc.).

A.1.4 Symbols, abbreviations and terms

The PICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7.

The reference column contained in the tables gives reference to the appropriate part(s) of EN 301 002-1 (unless another numbered reference is explicitly indicated) describing the particular item. Note, however, that a reference merely indicates the place where the core of a description of an item can be found. Any additional information contained in EN 301 002-1] (or any other possibly used reference) has to be taken into account when making a statement about the conformance of that particular item.

The following common notations, defined in ISO/IEC 9646-7, are used for the status column:

M	mandatory
O	optional
N/A	not applicable
O.<integer>	for mutually exclusive or selectable options from a set

The following common notations, defined in ISO/IEC 9646-7, are used for the support column:

Y	for supported/implemented
N	for not supported/not implemented

A.2 Identification of the implementation

A.2.1 Date of the statement

.....

A.2.2 Implementation Under Test (IUT) identification

IUT name:

.....

IUT version:

.....

A.2.3 System Under Test (SUT) identification

SUT name:

.....

Hardware configuration:

.....

Operating system:

.....

.....

A.2.4 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

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.....

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A.2.5 Client

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

.....

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.....

A.2.6 PICS contact person

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

.....

.....

.....

A.3 PICS/SCS relationship

Provide the relationship of the PICS with the SCS for the system:

.....

.....

.....

.....

A.4 Identification of the protocol

This PICS proforma applies to the following standard:

EN 301 002-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Security tools (SET) procedures; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

A.5 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No)

NOTE: Answering "No" to this question indicates non-conformance to the protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming. Explanations may be entered in the comments field at the bottom of each table or on attached pages.

A.6 Roles

Table A.1: Type of Implementation

Item	Major role: Does the implementation...	Conditions for status	Status	Reference	Support
R 1.1	Support SET Service		O		[]Yes []No
R 1.2	Support SET PIN		M		[]Yes []No
R 1.3	Support SET TAN		O		[]Yes []No
R 2.1	Support user requirements?		O.1	9, 10	[]Yes []No
R 2.2	Support network requirements?		O.1	9, 10	[]Yes []No
R 3.1	Support requirements at the coincident S and T reference point?	R 2.2 R 2.1	O.2 O.3	9	[]Yes []No
R 3.2	Support procedures for inter-working with private ISDNs at the T reference point?	R 2.2 R 2.1	O.2 O.3	10	[]Yes []No
R 4.1	Support user requirements at the interface of the served user?	R 2.1 NOT R 2.1	M N/A	9, 10	[]Yes []No []N/A
R 4.2	Support network requirements at the interface of the served user?	R 2.2 NOT R 2.2	M N/A	9, 10	[]Yes []No []N/A
O.1	Support of one and only one of these options is required.				
O.2	Support of at least one of these options is required.				
O.3	Support of one and only one of these options is required.				
Comments:					

A.7 User

The tables provided in this clause need only to be completed for user implementations, where item R 2.1 above is supported.

A.7.1 Major capabilities

Table A.2: Major capabilities - user

Item	Major capability: Does the implementation support...	Conditions for status	Status	Reference	Support
MCu.1	The request for the registration of the PIN security tool?	R 4.1 NOT R 4.1	M N/A	9.3, 10	☐ Yes ☐ No ☐ N/A
Comments:					

A.7.2 Subsidiary capabilities

Table A.3: Subsidiary capabilities - user

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference	Support
SCu.1	The use of the TAN security tool?	R 1.3 NOT R 1.3	M N/A	9.3, 10	☐ Yes ☐ No ☐ N/A
Comments:					

A.7.3 Protocol data units

No items requiring response.

A.7.4 Protocol data unit parameters

Table A.4: Facility information element components received by the user

Item	Facility information element components: Does the implementation support...	Conditions for Status	Status	Reference	Support
Pu.1.1	ModifyPin return result?	R 4.1 NOT R 4.1	M N/A	7.1, 9.3, 10	[]Yes []No []N/A
Pu.1.2	ModifyPin return error?	R 4.1 NOT R 4.1	M N/A	7.1, 9.3, 10	[]Yes []No []N/A
Pu.2	PossibleFraudulentPinUse invoke?	R 4.1 NOT R 4.1	M N/A	7.1, 9.7, 10	[]Yes []No []N/A
Pu.3	PossibleFraudulentTanUse invoke?	R 4.1 NOT R 4.1	M N/A	7.1, 9.8, 10	[]Yes []No []N/A
Comments:					

Table A.5: Facility information element components transmitted by the user

Item	Facility information element components: Does the implementation support...	Conditions for Status	Status	Reference	Support
Pu.4	ModifyPin invoke?	R 4.1 NOT R 4.1	M N/A	7.1, 9.3, 10	[]Yes []No []N/A
Comments:					

A.7.5 Timers

Table A.6: Timers - user

Item	Timers: Does the implementation support...	Conditions for status	Status	Reference	Support
TMu.1	T-REGISTRATE? (value 4 s)	R 4.1 NOT R 4.1	M N/A	13	[]Yes []No []N/A
Comments:					

A.7.6 Call states

Table A.7: Call states - auxiliary states - user

Item	Auxiliary call states: Does the implementation support...	Conditions for status	Status	Reference	Support
ASu.1	Registrare Request state?	R 4.1 NOT R 4.1	M N/A	8	[]Yes []No []N/A
Comments:					

A.8 Network

The tables provided in this clause need only to be completed for network implementations, where item R 2.2 above is supported.

A.8.1 Major capabilities

Table A.8: Major capabilities - network

Item	Major capability: Does the implementation support...	Conditions for status	Status	Reference	Support
MCn.2	The procedures for registration of the PIN security tool?	R 4.2 NOT R 4.2	M N/A	9.3, 10	☐ Yes ☐ No ☐ N/A
MCn.3	The procedures for notification of possible fraudulent PIN use?	R 4.2 NOT R 4.2	O N/A	9.7, 10	☐ Yes ☐ No ☐ N/A
MCn.4	The procedures for notification of possible fraudulent TAN use?	R 4.2 NOT R 4.2	O N/A	9.8, 10	☐ Yes ☐ No ☐ N/A
Comments:					

A.8.2 Subsidiary capabilities

Table A.9: Subsidiary capabilities - network

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference	Support
SCn.2	The use of the TAN security tool?	R 1.3 NOT R 1.3	M N/A	9.3, 10	☐ Yes ☐ No ☐ N/A
Comments:					

A.8.3 Protocol data units

No items requiring response.

A.8.4 Protocol data unit parameters

Table A.10: Facility information element components received by the network

Item	Facility information element components: Does the implementation support...	Conditions for Status	Status	Reference	Support
Pn.5	ModifyPin invoke?	R 4.2 NOT R 4.2	M N/A	7.1, 9.3, 10	☐ Yes ☐ No ☐ N/A
Comments:					

Table A.11: Facility information element components transmitted by the network

Item	Facility information element components: Does the implementation support...	Conditions for Status	Status	Reference	Support
Pn.6.1	ModifyPin return result?	R 4.2 NOT R 4.2	M N/A	7.1, 9.3, 10	☐ Yes ☐ No ☐ N/A
Pn.6.2	ModifyPin return error?	R 4.3 NOT R 4.3)	M N/A	7.1, 9.3, 10	☐ Yes ☐ No ☐ N/A
Pn.7	PossibleFraudulentPinUse invoke?	R 4.2 AND MC 3 NOT (R 4.2 AND MC 3)	M N/A	7.1, 9.7, 10	☐ Yes ☐ No ☐ N/A
Pn.8	PossibleFraudulentTanUse invoke?	R 4.2 AND MC 4 NOT (R 4.2 AND MC 4)	M N/A	7.1, 9.8, 10	☐ Yes ☐ No ☐ N/A
Comments:					

A.8.5 Timers

No items requiring response.

A.8.6 Call states

Table A.12: Call states - auxiliary states - network

Item	Auxiliary call states: Does the implementation support...	Conditions for status	Status	Reference	Support
ASn.2	Registrare Request state?	R 4.2 not R 4.2	M N/A	8	☐ Yes ☐ No ☐ N/A
Comments:					

Annex B (normative): Requirements list

This annex repeats in the form of a requirements list some items of the basic call, generic functional protocol and supplementary service interactions PICS proforma required for support of EN 301 002-1 [2]. No support column is provided as the answers are to be entered in the relevant base PICS proforma.

In the tables which follow in this annex, the status of the base PICS proforma is indicated as "C" (conditional) or "O" (optional). The "C" status is used where the base PICS proforma contains a number of interdependent items which need not be repeated in the present document. "O" indicates that the item in the base PICS proforma is dependent on one or more other items, at least one of which has an optional status. The exact interdependency is fully specified in the base PICS proforma specification.

B.1 User

B.1.1 Requirements on items used in the basic call PICS

No additional requirements.

B.1.2 Requirements on items used in the generic functional protocol PICS

In the tabulations which follow all item numbers are as contained in EN 300 196-2 [1]. All references are to EN 301 002-1 [2] unless otherwise stated.

Table B.1: Major capabilities - user

Item	Major capability: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MCu 2	The functional protocol (common information element category) for the control of supplementary services?	O	R 4.1 NOT R 4.1	M N/A	9, 10; [1] 6.3, 8
MCu 2.2	Bearer independent supplementary services procedure?	O	R 4.1 NOT R 4.1	M N/A	9.3, 10; [1] 8.3.2
MCu 5	Generic procedures for the supplementary services management?	O	R 4.1 NOT R 4.1	M N/A	9.7, 9.8, 10; [1] 10.2
MCu 5.4	Status notification?	C	R 4.1 NOT R 4.1	M N/A	9.7, 9.8, 10; [1] 10.2.5

Table B.2: Messages transmitted - user

Item	Message: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MTu 1	The inclusion of FACILITY?	O	R 2.1 NOT R 2.1	M N/A	9, 10; [1] 8.3, 11.1.1.1

Table B.3: Messages received - user

Item	Message: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MRu 1	The interpretation of FACILITY?	O	R 2.1 NOT R 2.1	M N/A	9, 10; [1] 8.3, 11.1.1.1

B.1.3 Requirements on items used in the supplementary services interactions PICS

No additional requirements.

B.2 Network

B.2.1 Requirements on items used in the basic call PICS

No additional requirements.

B.2.2 Requirements on items used in the generic functional protocol PICS

In the tabulations which follow all item numbers are as contained in EN 300 196-2 [1]. All references are to EN 301 002-1 [2] unless otherwise stated.

Table B.4: Major capabilities - network

Item	Major capability: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MCn 2	The functional protocol (common information element category) for the control of supplementary services?	O	R 4.2 NOT R 4.2	M N/A	9, 10; [1] 6.3, 8
MCn2.2	Bearer independent supplementary services procedure?	O	R 4.2 NOT R 4.2	M N/A	9.3, 10; [1] 8.3.2
MCn 5	Generic procedures for the supplementary services management?	O	R 4.2 AND MC 3 NOT (R 4.2 AND MC 4)	M N/A	9.7, 9.8, 10; [1] 10.2
MCn 5.4	Status notification?	C	R 4.2 AND MC 3 NOT (R 4.2 AND MC 4)	M N/A	9.7, 9.8, 10; [1] 10.2.5

Table B.5: Messages transmitted - network

Item	Message: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MTn 1	The inclusion of FACILITY?	O	R 2.2 NOT R 2.2	M N/A	9, 10; [1] 8.3, 11.1.1.1

Table B.6: Messages received - network

Item	Message: Does the implementation support...	Status base	Supplementary service conditions for status	SS status	Reference
MRn 1	The interpretation of FACILITY?	O	R 2.2 NOT R 2.2	M N/A	9, 10; [1] 8.3, 11.1.1.1

B.2.3 Requirements on items used in the supplementary service interactions PICS

No additional requirements.

Annex C (informative): Changes from previous edition

This annex lists the main changes compared to edition 1 of the present document:

- ETS to EN
- Addition of TAN
- Replacement of CCITT by ITU-T

Annex D (informative): Bibliography

ITU-T Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".

ETSI EN 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

History

Document history		
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