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STANDARD

FINAL DRAFT

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March 1998

Broadband Integrated Services Digital Network (B-ISDN);
Digital Subscriber Signalling System No. two (DSS2) protocol;
Closed User Group (CUG) supplementary service;
Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification

ETSI

Contents

Foreword

This final draft European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Voting phase of the ETSI standards approval procedure.

This ETS is part 2 of a multi-part standard covering the Digital Subscriber Signalling System No. two (DSS2) protocol specification for the Broadband Integrated Services Digital Network (B-ISDN) Closed User Group (CUG) supplementary service, 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:   "TSS&TP specification for the network";

Part 6:   "ATS and partial PIXIT proforma specification for the network".

NOTE: The final structure of the parts containing the test specifications is currently under study.

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).

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

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1 Scope

This second part of ETS 300 770 is applicable to the stage three of the Closed User Group (CUG) supplementary service for the pan-European Broadband Integrated Services Digital Network (B-ISDN) as provided by European public telecommunications operators at the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [7]) by means of the Digital Subscriber Signalling System No. two (DSS2) protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunications service (see CCITT Recommendation I.130 [6]).

This ETS provides the Protocol Implementation Conformance Statement (PICS) proforma for the B-ISDN DSS2 CUG supplementary service protocol as specified in ETS 300 770-1 [3] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [5].

The supplier of a protocol implementation which is claimed to conform to ETS 300 770-1 [3] is required to complete a copy of the PICS proforma provided in annex A of this ETS and is required to provide the information necessary to identify both the supplier and the implementation.

2 Normative references

This 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 ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1]   ETS 300 443-1: "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]".

[2]   ETS 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".

[3]   ETS 300 770-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Closed User Group (CUG) supplementary service; Part 1: Protocol specification [ITU-T Recommendation Q.2955.1 (1996), modified]".

[4]   ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[5]   ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[6]   CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

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

3 Definitions

For the purposes of this ETS, the following definitions apply, in addition to those given in ETS 300 770-1 [3]:

Protocol Implementation Conformance Statement (PICS): A 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 [4]).

PICS proforma: A 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 [4]).

static conformance review: A review of the extent to which the static conformance requirements are met by the Implementation Under Test (IUT), accomplished by comparing the PICS with the static conformance requirements expressed in the relevant standard(s) (see ISO/IEC 9646-1 [4]).

4 Abbreviations

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

AND	Boolean "and"
B-ISDN	Broadband Integrated Services Digital Network
C	Conditional requirement (to be observed if the relevant conditions apply)
CUG	Closed User Group
DSS2	Digital Subscriber Signalling System No. two
IER	Information Elements Received
IET	Information Elements Transmitted
IUT	Implementation Under Test
M	Mandatory requirement (to be observed in all cases)
MC	Major Capabilities
N/A	Not applicable, not supported or the conditions for status are not met
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"
OSI	Open Systems Interconnection
P	Parameters
PICS	Protocol Implementation Conformance Statement
R	Role
SC	Subsidiary Capabilities
SCS	System Conformance Statement
SUT	System Under Test
TI	Type of Implementation
Yes	supported

5 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 ETS 300 770-1 [3];
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

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 SCS as defined in ISO/IEC 9646-1 [4] is a document supplied by the client or product supplier that summarizes which OSI International Standards, ITU-T (CCITT) Recommendations, ETSs or other standards are implemented and to which conformance is claimed. The PICS/SCS subclause 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 subclause is "Yes", all subsequent subclauses should be completed to facilitate selection of test cases for optional functions.

If the answer to the statement in this subclause is "No", all subsequent subclauses 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 sheets of paper.

A.1.3 Explanation of PICS proforma subclauses

The PICS proforma contains a Roles clause and thereafter is presented in two parts (for user and network) with the following subclauses, 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 subclause 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 [5].

The reference column contained in the tables gives reference to the appropriate part(s) of ETS 300 770-1 [3] 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 ETS 300 770-1 [3] 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 [5] 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 [5] 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:

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Hardware configuration:

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Operating system:

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A.2.4 Product supplier

Name:

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Address:

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....

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Telephone number:

....

Facsimile number:

....

Additional information:

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A.2.5 Client

Name:

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Address:

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Telephone number:

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Facsimile number:

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Additional information:

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A.2.6 PICS contact person

Name:

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Address:

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Telephone number:

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Facsimile number:

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Additional information:

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A.3 PICS/System Conformance Statement (SCS)

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

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A.4 Identification of the protocol

This PICS proforma applies to the following standard:

ETS 300 770-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Closed User Group (CUG) supplementary service; Part 1: Protocol specification [ITU-T Recommendation Q.2955.1 (1996), modified]".

A.5 Global statement of conformance

The implementation described in this PICS meets all the mandatory requirements of the referenced standard?

[ ] **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.

In the tabulations which follow, all references are to ETS 300 770-1 [3] unless another numbered reference is explicitly indicated.

A.6 Roles

Table A.1: Roles

Item	Major role: Does the implementation...	Conditions for status	Status	Reference	Support
	Type of implementation				
R 1	not used				
R 2.1	support user requirements?		O.1	1.9, 1.10	[ ]Yes [ ]No
R 2.2	support network requirements?		O.1	1.9, 1.10	[ ]Yes [ ]No
R 3.1	support requirements at the coincident S_B and T_B reference point?		O.2	1.9, 1.10	[ ]Yes [ ]No
R 3.2	support requirements for the interworking with private networks at the T_B reference point?		O.2	1.9, 1.10	[ ]Yes [ ]No
R 4.1	support user requirements at the interface of the calling user?	R 2.1 NOT R 2.1	O.3 N/A	1.9, 1.10	[ ]Yes [ ]No [ ]N/A
R 4.2	support user requirements at the interface of the called user?	R 2.1 NOT R 2.1	O.3 N/A	1.9, 1.10	[ ]Yes [ ]No [ ]N/A
R 4.3	support network requirements at the interface of the calling user?	R 2.2 NOT R 2.2	M N/A	1.9, 1.10	[ ]Yes [ ]No [ ]N/A
R 4.4	support network requirements at the interface of the called user?	R 2.2 NOT R 2.2	M N/A	1.9, 1.10	[ ]Yes [ ]No [ ]N/A
O.1	Support of one and only one of these options is required.				
O.2	Support of one and only one of these options is required.				
O.3	Support of at least 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 in table A.1 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
MC 1	the explicit request of CUG?		M	1.9.2.1	[ ]Yes [ ]No
Comments:					

A.7.2 Subsidiary capabilities

No items requiring response.

A.7.3 Protocol data units

No items requiring response.

A.7.4 Protocol data unit parameters

Table A.3: Information elements in SETUP received by the user

Item	Information element	Conditions for status	Status	Reference	Support
IERu 1	CUG information element	R 3.1 R 3.2	O M	1.9.2.2 1.10	[ ]Yes [ ]No
Comments:					

Table A.4: CUG information element contents received by the user

Item	Does the implementation support the information element field and values	Conditions for status	Status	Reference	Support
IERu 1.1	OA requested (Octet 5)	IERu 1 NOT IERu 1	M N/A	1.9.2.2 1.10	[ ]Yes [ ]No
IERu 1.2	CUG index	R 3.1 R 3.2	O M	1.9.2.2 1.10	[ ]Yes [ ]No
Comments:					

Table A.5: Information elements in SETUP transmitted by the user

Item	Information element	Conditions for status	Status	Reference	Support
IETu 1	CUG information element	R 4.1 NOT R 4.1	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
Comments:					

Table A.6: CUG Information element contents transmitted by the user

Item	Does the implementation support the information element field and values	Conditions for status	Status	Reference	Support
IETu 1.1	OA requested (Octet 5)	IETu 1 NOT IETu 1	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
IETu 1.2	CUG index	IETu 1 NOT IETu 1	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
Comments:					

A.7.5   Timers

No items requiring response.

A.7.6   Call states

No items requiring response.

A.8 Network

The tables provided in this clause need only to be completed for network implementations, where item R 2.2 in table A.1 is supported.

A.8.1 Type of implementation

Table A.7: Type of implementation

Item	Type of implementation: Does the implementation support...	Conditions for status	Status	Reference	Support
TIn 1	emulated N-ISDN services?		O	1.6.1	[ ]Yes [ ]No
Comments:					

A.8.2 Major capabilities

Table A.8: Major capabilities - network

Item	Major capability: Does the implementation...	Conditions for status	Status	Reference	Support
MC 1	allow for a service dependent control of the CUG supplementary service in case of an emulated N-ISDN service?	TIn 1 NOT TIn 1	M N/A	1.6.1	[ ]Yes [ ]No [ ]N/A
MC 2	support the explicit request of CUG?	R 4.3 NOT R 4.3	M N/A	1.9.2	[ ]Yes [ ]No [ ]N/A
MC 3	support the default request of CUG?	R 4.3 NOT R 4.3	M N/A	1.9.2	[ ]Yes [ ]No [ ]N/A
MC 4	offer the additional restriction of incoming calls barred within a CUG?	R 4.4 NOT R 4.4	O N/A	1.6.1	[ ]Yes [ ]No [ ]N/A
MC 5	offer the additional restriction of outgoing calls barred within a CUG?	R 4.3 NOT R 4.3	O N/A	1.6.1	[ ]Yes [ ]No [ ]N/A
MC 6	allow the subscription to several CUGs (the maximum has to be defined)?		O	1.6.1	[ ]Yes [ ]No
MC 7	support the option of outgoing access?	R 4.3 NOT R 4.3	O N/A	1.6.1	[ ]Yes [ ]No [ ]N/A
MC 8	support the option of incoming access?	R 4.4 NOT R 4.4	O N/A	1.6.1	[ ]Yes [ ]No [ ]N/A
Comments:					

A.8.3 Subsidiary capabilities

Table A.9: Subsidiary capabilities - network

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference	Support
SC 1	response to SETUP message before completion of CUG checks?	R 4.3 NOT R 4.3	O N/A	1.9.2.1.1	[ ]Yes [ ]No [ ]N/A
Comments:					

A.8.4 Protocol data units

No items requiring response.

A.8.5 Protocol data unit parameters

Table A.10: Information elements in SETUP received by the network

Item	Information element	Conditions for status	Status	Reference	Support
IERn 1	CUG information element	R 4.3 NOT R 4.3	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
Comments:					

Table A.11: CUG Information element contents received by the network

Item	Does the implementation support the information element field and values	Conditions for status	Status	Reference	Support
IERn 1.1	OA requested (Octet 5)	R 4.3 NOT R 4.3	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
IERn 1.2	CUG index	R 4.3 NOT R 4.3	M N/A	1.9.2.1	[ ]Yes [ ]No [ ]N/A
Comments:					

Table A.12: Information elements in SETUP transmitted by the network

Item	Information element	Conditions for status	Status	Reference	Support
IETn 1	CUG information element	R 4.4 NOT R 4.4	M N/A	1.9.2.2	[ ]Yes [ ]No [ ]N/A
Comments:					

Table A.13: Information element contents transmitted by the network

Item	Does the implementation support the information element field and values	Conditions for status	Status	Reference	Support
IETn 1.1	OA requested (Octet 5)	R 4.4 NOT R 4.4	M N/A	1.9.2.2	[ ]Yes [ ]No [ ]N/A
IETn 1.2	CUG index	R 4.4 NOT R 4.4	M N/A	1.9.2.2	[ ]Yes [ ]No [ ]N/A
Comments:					

Table A.14: Cause information element values transmitted by the network

Item	Cause information element values: Does the implementation support...	Conditions for status	Status	Reference	Support
IETn 2.1	#29 "Facility rejected"?		M	1.9.2.1.1.2	[ ]Yes [ ]No
IETn 2.2	#50 "Requested facility not subscribed"?	R 4.3 NOT R 4.3	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
IETn 2.3	#53 "Outgoing calls barred within CUG"?	R 4.3 NOT R 4.3	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
IETn 2.4	#55 "Incoming calls within CUG"?	R 4.4 NOT R 4.4	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
IETn 2.5	#62 "Inconsistency in designated outgoing access information and subscriber class"?	R 4.3 NOT R 4.3	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
IETn 2.6	#87 "User not member of CUG"?	R 4.4 NOT R 4.4	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
IETn 2.7	#90 "Non-existent CUG"?	R 4.3 NOT R 4.3	M N/A	1.9.2.1.1.2	[ ]Yes [ ]No [ ]N/A
Comments:					

A.8.6   Timers

No items requiring response.

A.8.7   Call states

No items requiring response.

Annex B (normative): Requirements list

This annex repeats in the form of a requirements list some items of the basic call PICS proforma required for support of ETS 300 770-1 [3]. 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 this ETS. "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.2 Network

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

No additional requirements.

History

Document history			
October 1996	Public Enquiry	PE 116:	1996-10-21 to 1997-02-14
March 1998	Vote	V 9820:	1998-03-17 to 1998-05-15