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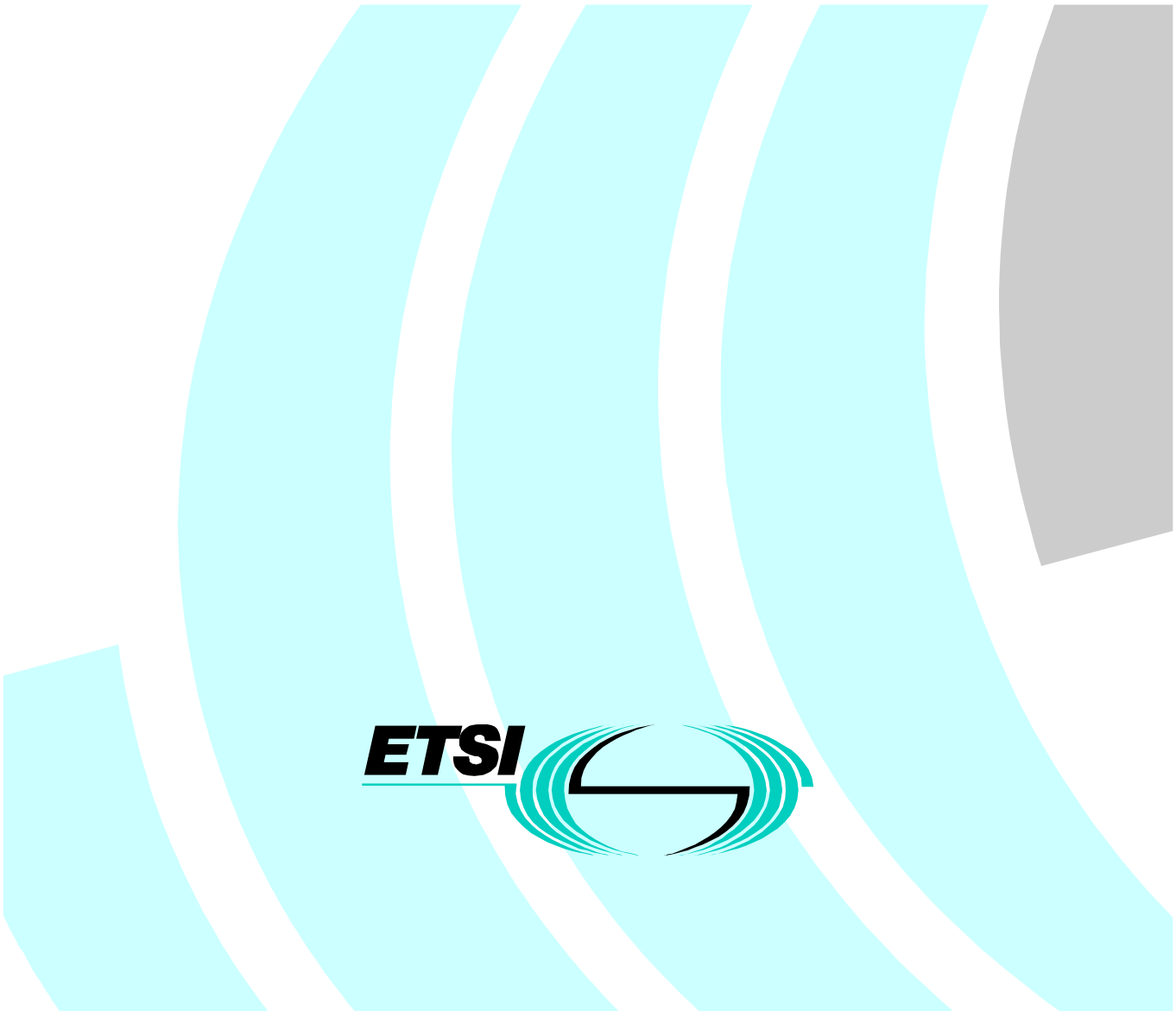
European Standard (Telecommunications series)

Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Modification procedures for sustainable cell rate parameters; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification



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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document 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 Connection Modification - Sustainable Cell Rate Modification by the Connection Owner), 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). The Protocol Specification, part 1 of this EN, extends the Connection Modification procedures in EN 301 003-1 by supporting the modification of additional ATM traffic descriptors. This PICS provides additional statements of conformance to EN 301 003-2.

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

1 Scope

This second part of EN 301 276 provides the Protocol Interface Conformance Statement (PICS) proforma for the signalling protocol for ATM traffic descriptor modification for the Broadband-Integrated Services Digital Network (B-ISDN) by means of the Digital Subscriber Signalling System No. 2 (DSS 2) as specified in EN 301 276-1 [2]. It is the second EN in a family of ENs that concern the modification of ATM traffic parameters in B-ISDN connections.

The supplier of a protocol implementation which is claimed to conform to EN 301 276-1 [2] is required to complete a copy of the PICS proforma provided in annex A of the present document in addition to the PICS proforma in EN 301 003-2 and is required to provide the information necessary to identify the supplier and the implementation.

Further ENs (or further parts of this EN) provide the method of testing and detailed application specific requirements to determine conformance to this EN.

The provision of this service requires the support of the protocol for the basic point-to-point call/bearer connections as defined in 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, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, subsequent revisions do apply.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] EN 300 443-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. Two (DSS2) protocol; B-ISDN interface layer 3 specification for basic call/bearer control; Part 1: Protocol Specification [ITU-T Recommendation Q.2931 (1995) modified]".

[2] EN 301 276-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Modification procedures for sustainable cell rate; Part 1: Protocol specification [ITU-T Recommendation Q.2963.2]".

[3] EN 301 003-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 1: Protocol Specification [ITU-T Recommendation Q.2963.1 (1996), modified]".

[4] EN 301 003-2: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[5] 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".

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

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

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

[9] ITU-T Recommendation Q.2963.1 (1996): "Peak cell rate modification by the connection owner".

[10] ITU-T Recommendation Q.2963.2 (date): "Digital Subscriber Signalling Systems No.2; Connection modification: Modification procedures for sustainable cell rate parameters".

3 Definitions

For the purposes of the present document, the definitions contained in EN 301 003-2 [4] apply.

4 Symbols and abbreviations

For the purposes of the present document, the symbols and abbreviations contained in EN 301 003-2 [4] apply.

5 Conformance

A PICS proforma that 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 proforma that conforms to this PICS proforma specification shall:

a) describe an implementation which conforms to EN 301 276-1 [2];

b) be a conforming PICS proforma, which has been completed in accordance with the instructions for completion given in clause A.1; and

c) include the information necessary to uniquely identify both the supplier and the implementation.

Annex A (normative): PICS proforma for EN 301 276-1

A.1 Guidance for completing the PICS proforma

A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in EN 301 276-1 [2] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into subclauses for the following categories of information:

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the <reference specification type>;
- global statement of conformance;
- <further subclauses>.

A.1.2 Abbreviations and conventions

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 [7].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Status column

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

m	mandatory - the capability is required to be supported.
o	optional - the capability may be supported or not.
n/a	not applicable - in the given context, it is impossible to use the capability.
x	prohibited (excluded) - there is a requirement not to use this capability in the given context.
o.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table.
ci	conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table.

i irrelevant (out-of-scope) - capability outside the scope of the reference specification. No answer is requested from the supplier.

NOTE 1: This use of "i" status is not to be confused with the suffix "i" to the "o" and "c" statuses above.

c:o conditional optional - the capability may be supported or not if the hierarchically preceding capability is supported.

c:m conditional mandatory - the capability is required to be supported if the hierarchically preceding capability is supported.

Reference column

The reference column makes reference to EN 300 443-1 [1], except where explicitly stated otherwise.

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [7], are used for the support column:

Y or y supported by the implementation.

N or n not supported by the implementation.

N/A, n/a or - no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status).

If this PICS proforma is completed in order to describe a multiple-profile support in a system, it is necessary to be able to answer that a capability is supported for one profile and not supported for another. In that case, the supplier shall enter the unique reference to a conditional expression, preceded by "?" (e.g. ?3). This expression shall be given in the space for comments provided at the bottom of the table. It uses predicates defined in the SCS, each of which refers to a single profile and which takes the value TRUE if and only if that profile is to be used.

EXAMPLE 1: ?3: IF prof1 THEN Y ELSE N

NOTE 2: As stated in ISO/IEC 9646-7 [7], support for a received PDU requires the ability to parse all valid parameters of that PDU. Supporting a PDU while having no ability to parse a valid parameter is non-conformant. Support for a parameter on a PDU means that the semantics of that parameter are supported.

Values allowed column

The values allowed column contains the type, the list, the range, or the length of values allowed. The following notations are used:

- range of values: <min value> .. <max value>
  example: 5 .. 20

- list of values: <value1>, <value2>, ..., <valueN>
  example: 2 ,4 ,6 ,8, 9
  example: '1101'B, '1011'B, '1111'B
  example: '0A'H, '34'H, '2F'H

- list of named values: <name1>(<val1>), <name2>(<val2>), ..., <nameN>(<valN>)
  example: reject(1), accept(2)

- length: size (<min size> .. <max size>)
  example: size (1 .. 8)

Values supported column

The values supported column shall be filled in by the supplier of the implementation. In this column, the values or the ranges of values supported by the implementation shall be indicated.

References to items

For each possible item answer (answer in the support column) within the PICS proforma a unique reference exists, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

EXAMPLE 2: A.5/4 is the reference to the answer of item 4 in table 5 of annex A.

EXAMPLE 3: A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table 6 of annex A.

Prerequisite line

A prerequisite line takes the form: Prerequisite: <predicate>.

A prerequisite line after a clause or table title indicates that the whole clause or the whole table is not required to be completed if the predicate is FALSE.

A.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided, using the notation described in subclause x.1.2.

However, the tables containing in "user role" subclause shall only be completed for user implementations, and the tables containing in "network role" subclause shall only be completed for network implementations.

If necessary, the supplier may provide additional comments in space at the bottom of the tables or separately.

More detailed instructions are given at the beginning of the different subclauses of the PICS proforma.

A.2 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.

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:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.5 Client (if different from product supplier)

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

A.2.6 PICS contact person

(A person to contact if there are any queries concerning the content of the PICS)

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.3 Identification of the protocol to which this PICS proforma applies

This PICS proforma applies to the following standard:

EN 301 276-1 (V1.1) [2]: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Modification procedures for sustainable cell rate; Part 1: Protocol specification [ITU-T Recommendation Q.2963.2]".

A.4 The PICS proforma tables

A.4.1 Correspondence to physical interface

The "implementation" (IUT) about which the PICS proforma asks questions corresponds to a layer 3 implementation on top of ONE physical interface. If the SUT implements more than one configuration, then a layer 3 PICS shall be created for each type of interface (and for each configuration of each interface) provided by the SUT.

A.4.2 Structure of the tables

The supplier shall provide the PICS contained in EN 300 003-2 [4].

A.4.3 Support for received PDU parameters

In the PDU parameter tables (A.10), the PICS proforma asks questions about the information elements (parameters) supported in messages (PDUs) received by the IUT. This subclause explains, in the content of EN 301 276-1 [2] what "to support a received PDU parameter" means.

The requirement that an IUT is able to parse an information element in a received message is already implied by claiming support for the receipt of that received message. This means that "to support a received PDU parameter" implies more.

Information elements in a received message are regarded as either transparent or non-transparent.

A non-transparent information element is one that causes the protocol control entity to vary its behaviour in accordance with the content of the information element. To support a non-transparent information element means an IUT can process the received parameter and behave according to the procedures described in EN 301 276-1 [2].

An information element is transparent if the actions taken according to its contents are not detectable in the subsequent behaviour of the protocol (i.e. EN 301 276-1 [2] does not specify the behaviour). To support a transparent information element means an IUT can receive the information element concerned and pass it to an appropriate processing entity; the information element is not discarded by the protocol control entity. Non-support of a transparent information element means the IUT discards it.

Transparent parameters are marked by a "(T)" in the PDU parameter tables.

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

The roles are provided in EN 300 003-2 [4].

A.7 Major Capabilities

Replace table A.2 in EN 300 003-2 [4] with the table A.2 below:

Table A.2: Major Capabilities

Item	Major Capability: Does the implementation ...	Conditions for status	Status	Reference	Support
MC 1.1	support increasing and decreasing the PCR?		M	5.3 of [3]	[ ] Yes [ ] No
MC 1.2	support increasing and decreasing the SCR?		M	5. of [2]	[ ] Yes [ ] No
MC 1.3	support increasing and decreasing the MBS?		M	5. of [2]	[ ] Yes [ ] No
Comments:					

A.8 Requesting entity protocol data units

A.8.1 Messages received

Replace table A.3 in EN 300 003-2 [4] with table A.3 below:

Table A.3: Messages received

Item	Messages received: Does the implementation support the interpretation of...	Conditions for status	Status	Reference	Support
MR 1	MODIFY ACKNOWLEDGE	MC 1.1 OR MC 1.2 OR MC 1.3	M	8.1	[ ] Yes [ ] No
MR 2	MODIFY REJECT	MC 1.1 OR MC 1.2 OR MC 1.3	M	8.1	[ ] Yes [ ] No
Comments:					

A.8.2 Messages transmitted

Replace table A.4 in EN 300 003-2 [4] with table A.4 below:

Table A.4: Messages transmitted

Item	Messages transmitted: Does the implementation support the inclusion of...	Conditions for status	Status	Reference	Support
MT 1	MODIFY REQUEST	MC 1.1 OR MC 1.2 OR MC 1.3	M	8.1	[ ] Yes [ ] No
MT 2	CONNECTION AVAILABLE	MC 1.1 OR MC 1.2 OR MC 1.3	M	8.1	[ ] Yes [ ] No
Comments:					

A.8.2.1 Responding entity protocol data unit parameters received

Replace table A.11 in EN 300 003-2 [4] with table A.11 below:

Table A.11: Modify Request PDU parameters received

Item	Modify Request PDU parameters: Does the implementation support the...	Conditions for status	Status	Reference	Support
IER 1.1	Protocol Discriminator?	MC 1.1	M	8.1.1	[ ] Yes [ ] No
IER 1.2	Call reference?	MC 1.1	M	8.1.1	[ ] Yes [ ] No
IER 1.3	ATM traffic descriptor?	MC 1.1 OR MC 1.2 OR MC 1.3	M (note)	8.1.1	[ ] Yes [ ] No
IER 1.4	Notification indicator	MC 1.1	O	8.1.1	[ ] Yes [ ] No
NOTE: All 12 ATM traffic descriptor Parameters are optional, but at least one shall be present.					
Comments:					

History

Document history			
V1.1.1	June 1998	Public Enquiry	PE 9843: 1998-06-03 to 1998-10-30