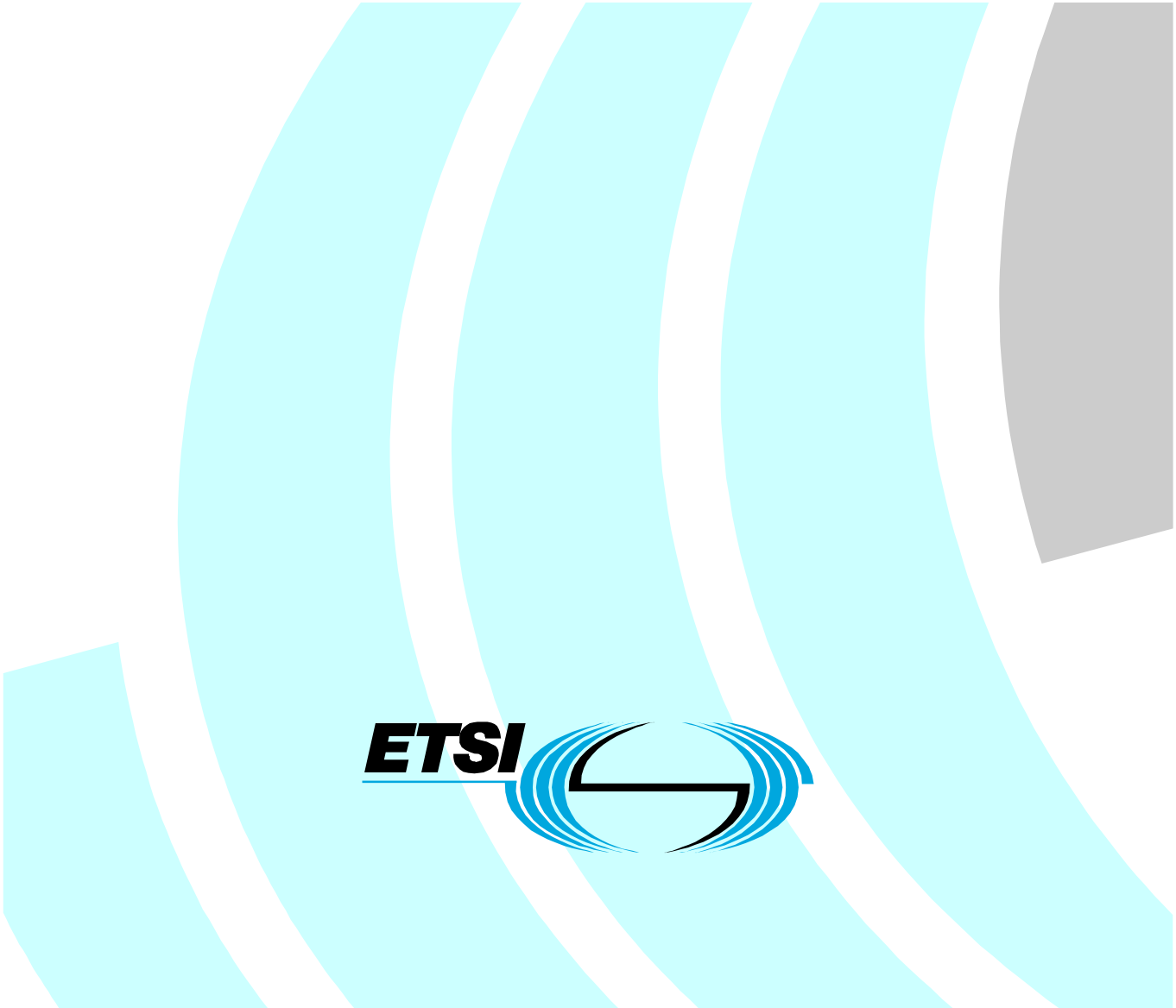
ETSI TS 101 852-2-1 V1.2.1 (2003-07)

Technical Specification

Broadband Radio Access Networks (BRAN);
HIPERLAN Type 2;
Conformance testing for the Cell based Convergence Layer;
Part 2: UNI Service Specific Convergence Sublayer (SSCS);
Sub-part 1: Procotol Implementation Conformance Statement (PICS) proforma



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Contents

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Foreword

This Technical Specification (TS) has been produced by ETSI Project Broadband Radio Access Networks (BRAN).

The present document is part 2, sub-part 1 of a multi-part deliverable. Full details of the entire series can be found in part 1, sub-part 1 [5].

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 telecommunication specification. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for the TS 101 763-2 [1] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4] and ETS 300 406 [2].

It details in tabular form the implementation options, i.e. the optional functions additional to those which are mandatory to implement.

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.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI TS 101 763-1 (V1.1.1): "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Cell based Convergence Layer; Part 1: Common Part".

[2] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[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".

[5] ETSI TS 101 852-1-1 (V1.2.1): "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Conformance testing for the Cell based Convergence Layer; Part 1: Common part; Sub-part 1: Protocol Implementation Conformance Statement (PICS) proforma".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 101 763-2 [1], ISO/IEC 9646-1 [3] and in ISO/IEC 9646-7 [4] and the following apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

Protocol ICS (PICS): ICS for an implementation or system claimed to conform to a given protocol specification

3.2 Abbreviations

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

AP	Access Point
CL	Convergence Layer
DLC	Data Link Control
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
MAC	Medium Access Control
MT	Mobile Terminal
PDU	Protocol Data Unit
PICS	Protocol ICS
RLC	Radio Link Control
SCS	System Conformance Statement
SUT	System Under Test

4 Conformance to this PICS proforma specification

If it claims to conform to the present document, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma given in annex A, and shall preserve the numbering/naming and ordering of the proforma items.

An PICS which conforms to the present document shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause A.1.

Annex A (normative): Protocol ICS proforma for TS 101 763-2

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 TS 101 763-2 may provide information about the implementation in a standardized manner.

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

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the TS 101 763-2 ;
- global statement of conformance;
- roles;
- major capabilities;
- PDUs;
- PDU parameters.

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.

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, 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.

Reference column

The reference column makes reference to TS 101 763-2 , 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, 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, 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 clause A.1.2.

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 clauses 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 TS 101 763-2

This PICS proforma applies to the following standard:

TS 101 763-2: "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Cell based Convergence Layer; Part 2 UNI Service Specific Convergence Sublayer (SSCS)".

A.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No) .....

NOTE: Answering "No" to this question indicates non-conformance to the TS 101 763-2 specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming, on pages attached to the PICS proforma.

A.5 Roles

Table A.1: Roles

Item	Role	Reference	Status	Support
1	Mobile Terminal MT	4	o.1	
2	Access Point AP	4	o.1	
o.1: It is mandatory to support at least one of these items.				

Comments: According to the answer to items of table A.1 of this proforma, the completed PICS becomes a PICS relative to an AP or to an MT. If you want to describe both AP and MT, then two copies of this PICS proforma must be filled in, one copy for MT, another one for AP.

A.6 PICS for Mobile Terminal MT or Access Point AP

This clause contains the PICS proforma tables describing the protocol related either to the Mobile Terminal (MT) or to the Access Point (AP). They need to be completed according to the type of implementation declared in table A.1.

A.6.1 Service Specific Convergence Sublayer procedures

Table A.2: SSCS procedures

Item	Capabilities	Reference	Status	Support
1	Association	5.2.1	m	
2	Connection Control	5.2.1	m	
3	Network handover	6.3	m	
4	Disassociation	5.2.1	m	

A.6.2 SSCS_PDUs involved

The following tables list the SSCS PDUs which carry the CL_DATA parameter, which in turn carries the CL-ATTRIBUTES required by UNI SSCS protocol.

Table A.3: SSCS_PDU for Association and Network Handover

Item	PDU	MT Sending/AP receiving			AP Sending/MT Receiving		
		Reference	Status	Support	Reference	Status	Support
1	RLC_INFO	6.2	m			n/a	
2	RLC_INFO_ACK		n/a		6.2	m	

Comments: These PDUs are optional in basic RLC.

Table A.4: SSCS_PDU for Connection establishment

Item	PDU	MT Sending/AP receiving			AP Sending/MT Receiving		
1	RLC_SETUP	6.2	m			n/a	
2	RLC_CONNECT		n/a		6.2	m	
3	RLC_CONNECT_ACK	6.2	m			n/a	

Comments: These PDUs containing information for UNI SSCS are one way only, while they are both way in basic RLC.

A.6.3 SSCS PDU parameters

Table A.5: RLC_INFO parameters

Item	Parameter	Reference	Status	Support
1	rlc-pdu-type	6.2.3	m	
2	info-type	6.2.3	m	
3	info-count	6.2.3	m	
4	cl-data	6.2.3	o	
5	dlc-attributes	6.2.3	m	

Comments: no change compared to base.

Table A.6: RLC_INFO_ACK parameters

Item	Parameter	Reference	Status	Support
1	rlc-pdu-type	6.2.3	m	
2	info-count	6.2.3	m	
3	cl-data	6.2.3	o	
4	dlc-attributes	6.2.3	m	

Comments: no change compared to base.

Table A.7: CL data parameters

Item	Parameter	Reference	Status	Support
1	cl-id	6.2.3	m	
2	cl-attributes Information element	6.2.3	m	

Comments: no change compared to base.

Table A.8: CL attributes parameters in RLC_INFO

Item	Parameter	Reference	Status	Support
1	VC-identifier range	6.2.3 and 7	m	
2	Number of ATM connections supported	6.2.3 and 7	m	
3	Number of DLC connections supported	6.2.3 and 7	m	
4	Peak cell rate	6.2.3 and 7	m	
5	UNI-version	6.2.3 and 7	m	
6	ATM address	6.2.3 and 7	m	

Comments: Mandatory support of parameters, though not always present.

Table A.9: CL attributes parameters in RLC_INFO_ACK

Item	Parameter	Reference	Status	Support
1	VC-identifier range	6.2.3 and 7	m	
2	Number of ATM connections supported	6.2.3 and 7	m	
3	Number of DLC connections supported	6.2.3 and 7	m	
4	Connection mapping	6.2.3 and 7	m	
5	Peak cell rate	6.2.3 and 7	m	
6	UNI-version	6.2.3 and 7	m	
7	ATM address	6.2.3 and 7	m	

Comments: Mandatory support of parameters, though not always present.

A.6.4 CL Information elements parameters

Table A.10: CL data parameters

Item	Parameter	Reference	Status	Support
1	Information element type	7.3.1, see values in 7.3.2	m	
2	Length (of information)	6.3.1	m	
3	Information element	6.3.1	m	

Table A.11: List of information elements

Item	Parameter and value	Reference	Status	Support
1	0 = ATM VC-identifier range	7.3.2	m	
2	1 = Number of ATM connections supported	7.3.2	m	
3	2 = Number of DLC connections supported	7.3.2	m	
4	3 = Connection mapping	7.3.2	m	
5	4 = Peak cell rate	7.3.2	m	
6	5 = UNI-version	7.3.2	m	
7	7 = ATM address	7.3.2	m	

Table A.12: CL attributes parameters for ATM VC-identifier range IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.3	m	
2	VCI upper bound	7.3.3	m	
3	VCI lower bound	7.3.3	m	

Table A.13: CL attributes parameters for Number of ATM connections supported IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.4	m	
2	Number of connections	7.3.4	m	

Table A.14: CL attributes parameters for Number of DLC connections supported IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.5	m	
2	Number of connections	7.3.5	m	

Table A.15: CL attributes parameters for connections mapping IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.6	m	
2	Priority	7.3.6	m	
3	DLCC-ID	7.3.6	m	
4	Range of VC	7.3.6	m	

Comment: Fields 2 to 4 are repeated n times, the VCs ranging from 0 to 255.

Table A.16: CL attributes parameters for Peak cell rate IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.7	m	
2	Peak cell rate downlink (cells/sec)	7.3.7	m	
3	Peak cell rate uplink (cells/sec)	7.3.7	m	

Table A.17: CL attributes parameters for UNI-version IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.8	m	
2	UNI protocol version	7.3.8	m	

Table A.18: CL attributes parameters for ATM address IE

Item	Parameter	Reference	Status	Support
1	Length	7.3.9	m	
2	End system identifier (MT to AP)	7.3.9	m	
3	Network prefix (AP to MT)	7.3.9	m	

History

Document history		
V1.1.1	December 2001	Publication
V1.2.1	July 2003	Publication