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European Standard (Telecommunications series)

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



European Telecommunications Standards Institute

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Foreword

This European Standard (Telecommunications series) has been produced ETSI Technical Committee the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI) 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. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) teleaction teleservice, as described below:

Part 1: "Protocol specification";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification".

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 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 301 145 is applicable to the stage three of the Teleaction teleservice 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 [5]) 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 telecommunications service (see CCITT Recommendation I.130 [4]).

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for the ISDN DSS1 teleaction teleservice protocol as specified in EN 301 145-1 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [7].

The supplier of a protocol implementation which is claimed to conform to EN 301 145-1 [1] 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 Normative references

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case the latest version applies.

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 301 145-1 (V1.1): "Integrated Services Digital Network (ISDN); Digital Subscriber signalling System No. one (DSS1) protocol; Teleaction teleservice; Part 1: Protocol specification".
- [2] ETS 300 402-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. One (DSS1) protocol; Data link layer; Part 1: General aspects [ITU-T Recommendation Q.920 (1993), modified]".
- [3] ETS 300 402-2: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. One (DSS1) protocol; Data link layer; Part 2: General protocol specification [ITU-T Recommendation Q.921 (1993), modified]".
- [4] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [5] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".
- [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".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions apply, in addition to those given in EN 301 145-1 [1].

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 [6]).

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 [6]).

static conformance review: A 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 [6]).

3.2 Abbreviations

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

AND	Boolean "and"
C	Conditional requirement (to be observed if the relevant conditions apply)
DSS1	Digital Subscriber Signalling System No. one
EUT	Equipment Under Test
IER	Information Elements Received
IET	Information Elements Transmitted
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
M	Mandatory requirement (to be observed in all cases)
MC	Major Capabilities
MR	Message Received
MT	Message Transmitted
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
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
R	Roles
RL	Requirements List
SC	Subsidiary Capabilities
SCS	System Conformance Statement
SPT	Service Provider Terminal
SUT	System Under Test
TMF	Teleaction Management Function
Yes	supported

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 301 145-1 [1];
- 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

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 [6] 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 (RL) 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 comprized of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [7].

The reference column contained in the tables gives reference to the appropriate part(s) of EN 301 145-1 [1] 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 301 145-1 [1] 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 [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 [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 Implementation Under Test (IUT) identification

IUT name:

.....

IUT version:

.....

A.2.2 System Under Test (SUT) identification

SUT name:

.....

Hardware configuration:

.....

Operating system:

.....

A.2.3 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

.....

.....

.....

A.2.4 Client

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

.....

.....

.....

A.2.5 PICS contact person

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

Additional information:

.....

.....

.....

A.3 PICS/System Conformance Statement (SCS)

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 301 145-1 (V1.1): "Integrated Services Digital Network (ISDN); Teleaction teleservice; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

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 subclauses of EN 301 145-1 [1] unless another numbered reference is explicitly indicated.

A.6 Roles

Table A.1: Type of implementation

Item	Major role: Does the implementation...	Conditions for status	Status	Reference	Support
Type of implementation					
R 1	not used?				
R 2.1	not used?				
R 2.2	not used?				
R 3.1	support requirements at S/T reference point?		O.1		<input type="checkbox"/> Yes <input type="checkbox"/> No
R 3.2	support requirements at T reference point?		O.1		<input type="checkbox"/> Yes <input type="checkbox"/> No
R 4.1	perform as an EUT?		O.2	10.1.1.1, 10.2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
R 4.2	perform as an SPT?		O.2	10.1.1.2, 10.2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
R 4.3	perform as an TMF?		O.2	10, 14	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
O.1	Support of at least one of these options is required.				
O.2	Support of one and only one of these options is required.				
Comments:					

A.7 EUT

The tables provided in this clause need only to be completed for implementations, where item R 4.1 in table A.1 is supported.

A.7.1 Major capabilities

Table A.2: Major capabilities

Item	Major capability: Does the implementation support...	Conditions for status	Status	Reference	Support
General capabilities					
MC 1	semipermanent B channel physical interface?		O.3	7.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 2	D channel physical interface?		O.3	7.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 3	semipermanent link activation?		O.4	5.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 4	on demand fixed TEI link activation?		O.4	5.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 5	polling procedures?		M	14.2.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 6	alarm reporting?		M	14.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 7	alarm clearing?		M	14.2.4	<input type="checkbox"/> Yes <input type="checkbox"/> No
O.3: Support of at least one of these options is required.					
O.4: Support of at least one of these options is required.					
Comments:					

A.7.2 Subsidiary capabilities

Table A.3: Subsidiary capabilities

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference	Support
SC 1	ignoring of undefined information elements received?		M	10.3	[]Yes []No
SC 2	discarding of unrecognized messages?		M	10.3	[]Yes []No
Comments:					

A.7.3 Protocol data units

A.7.3.1 Messages Received (MR)

Table A.4: Messages received by the EUT

Item	Message Does the implementation support receipt of...	Conditions for status	Status	Reference	Support
MR 1	LOOP REQUEST?		M	8.1.2.1	[]Yes []No
MR 2	LOOP RESPONSE?		N/A	8.1.2.2	[]N/A
MR 3	REPORT?		M	8.1.2.3	[]Yes []No
Comments:					

A.7.3.2 Messages transmitted (MT)

Table A.5: Messages Transmitted by the EUT

Item	Message Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
MT 1	LOOP REQUEST?		N/A	8.1.2.1	[]N/A
MT 2	LOOP RESPONSE?		M	8.1.2.2	[]Yes []No
MT 3	REPORT?		M	8.1.2.3	[]Yes []No
Comments:					

A.7.4 Protocol data unit parameters

A.7.4.1 Information Elements Received (IER)

Table A.6: Information elements in LOOP REQUEST received by the EUT

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference (subclause)	Support
Mr1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.7: Information elements in REPORT received by the EUT

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference (subclause)	Support
Mr2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mr2-IE4	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.7.4.2 Information Elements Transmitted (IET)

Table A.8: Information elements in LOOP RESPONSE transmitted by the EUT

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
Mt1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.9: Information elements in REPORT transmitted by the EUT

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
Mt2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mt2-IE4	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.7.5 Protocol data unit parameters coding

Table A.10: Loop originator information element

Item	Does the implementation support Loop originator information element parameters and values...	Conditions for status	Status	Values	Support
P 1	PH?		N/A	64	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 2	TMF?		M	96	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table A.11: Loop destination information element

Item	Does the implementation support Loop destination information element parameters and values...	Conditions for status	Status	Values	Support
P 1	TE1?	R 3.1 NOT R 3.1	O.5 N/A	1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
P 2	TA?	R 3.1 NOT R 3.1	O.5 N/A	2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
P 3	NT2?	R 3.2 NOT R 3.2	O.6	4	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
P 4	PTN?	R 3.2 NOT R 3.2	O.6 N/A	8	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
P 5	LAPD termination?		M	15	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 6	FH CRF-S?		N/A	128	<input type="checkbox"/> N/A
P 7	FH CRF-P?		N/A	129	<input type="checkbox"/> N/A
O.5	Support of at least one of these options is required.				
O.6	Support of at least one of these options is required.				

Table A.12: Diagnostic information element

Item	Does the implementation support Diagnostic information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Loop successful?		M	0	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 2	DLCI not registered?		M	1	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 3	Loop destination unreachable?		M	2	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 4	Transmission path unavailable due to network element failure?		M	3	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 5	Transmission path unavailable due to customer interface/premises failure?		M	4	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table A.13: Report type information element

Item	Does the implementation support Report type information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Alarm event?		M	0	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 2	Alarm cleared?		M	1	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 3	Broadcast request?		N/A	2	<input type="checkbox"/> N/A
P 4	Broadcast confirm?		N/A	3	<input type="checkbox"/> N/A
P 5	Broadcast denied - functionality not implemented?		N/A	4	<input type="checkbox"/> N/A

A.7.6 Timers

No items requiring response.

A.7.7 Call states

No items requiring response.

A.8 SPT

The tables provided in this clause only need to be completed for implementations, where item R 4.2 in table A.1 is supported.

A.8.1 Major capabilities

Table A.14: Major capabilities

Item	Major capability: Does the implementation support...	Conditions for status	Status	Reference (subclause)	Support
General capabilities					
MC 1	semipermanent B channel physical interface?		O.7	7.2	[]Yes []No
MC 2	D channel physical interface?		O.7	7.2	[]Yes []No
MC 3	semipermanent link activation?		O.8	5.1	[]Yes []No
MC 4	on demand fixed TEI link activation?		O.8	5.2	[]Yes []No
MC 5	polling procedures?		M	14.2.2	[]Yes []No
MC 6	alarm reporting?		M	14.2.3	[]Yes []No
MC 7	alarm clearing?		M	14.2.4	[]Yes []No
MC 8	broadcast functions?		O N/A	14.3	[]Yes []No []N/A
O.7: Support of at least one of these options is required.					
O.8: Support of at least one of these options is required.					
Comments:					

A.8.2 Subsidiary capabilities

Table A.15: Subsidiary capabilities

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference (subclause)	Support
SC 1	discarding of EUT originated REPORT messages which do not contain a valid DLCI?		O	10.3	[]Yes []No
SC 2	ignoring of undefined information elements received?		M	10.3	[]Yes []No
SC 3	discarding of unrecognized messages?		M	10.3	[]Yes []No
Comments:					

A.8.3 Protocol Data Units (PDU)

A.8.3.1 MR by the SPT

Indicating support for an item in table A.16 states that the implementation has the ability to recognize the message listed in that item. Support for the receipt of a particular type of PDU means support for recognizing and acting upon all valid instances of that PDU type, including all valid PDU parameters, to the extent required by only EN 301 145-1 [1].

Table A.16: Messages received by the SPT

Item	Message Does the implementation support receipt of...	Conditions for status	Status	Reference	Support
MR 1	LOOP REQUEST?		M N/A	8.1.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
MR 2	LOOP RESPONSE?		N/A	8.1.2.2	<input type="checkbox"/> N/A
MR 3	REPORT?		M	8.1.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.8.3.2 MT by the SPT

Indicating support for an item in table A.17 states that the implementation has the ability to transmit the message listed in that item.

Table A.17: Messages transmitted by the SPT

Item	Message Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
MT 1	LOOP REQUEST?		N/A	8.1.2.1	<input type="checkbox"/> N/A
MT 2	LOOP RESPONSE?		M	8.1.2.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT 3	REPORT?		M	8.1.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.8.4 Protocol data unit parameters

A.8.4.1 IER

Table A.18: Information elements in LOOP REQUEST received by the SPT

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference (subclause)	Support
MR1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.19: Information elements in REPORT received by the SPT

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference (subclause)	Support
MR2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE4	DLCI information element?	R3.1 NOT R3.1	O N/A	8.1.3.4	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
MR2-IE5	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.8.4.2 IET

Table A.20: Information elements in LOOP RESPONSE transmitted by the SPT

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
MT1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.21: Information elements in REPORT transmitted by the SPT

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
MT2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE4	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.8.5 PDU parameters coding

Table A.22: Loop originator information element

Item	Does the implementation support Loop originator information element parameters and values...	Conditions for status	Status	Values	Support
P 1	PH?		N/A	64	<input type="checkbox"/> Yes <input type="checkbox"/> No
P 2	TMF?		M	96	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table A.23: Loop destination information element

Item	Does the implementation support Loop destination information element parameters and values...	Conditions for status	Status	Values	Support
P 1	TE1?	R 3.1 NOT R3.1	O.9 N/A	1	[]Yes []No [] N/A
P 2	TA?	R3.1 NOT R3.1	O.9 N/A	2	[]Yes []No [] N/A
P 3	NT2?	R 3.2 NOT R 3.2	O.10 N/A	4	[]Yes []No [] N/A
P 4	PTN?	R 3.2 NOT R 3.2	O.10 N/A	8	[]Yes []No [] N/A
P 5	LAPD termination?		M	15	[]Yes []No
P 6	FH CRF-S?		N/A	128	[] N/A
P 7	FH CRF-P?		N/A	129	[] N/A
O.9:	Support of at least one of these options is required.				
O.10:	Support of at least one of these options is required.				

Table A.24: Diagnostic information element

Item	Does the implementation support Diagnostic information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Loop successful?		M	0	[]Yes []No
P 2	DLCI not registered?		M	1	[]Yes []No
P 3	Loop destination unreachable?		M	2	[]Yes []No
P 4	Transmission path unavailable due to network element failure?		M	3	[]Yes []No
P 5	Transmission path unavailable due to customer interface/premises failure?		M	4	[]Yes []No

Table A.25: Report type information element

Item	Does the implementation support Report type information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Alarm event?		M	0	[]Yes []No
P 2	Alarm cleared?		M	1	[]Yes []No
P 3	Broadcast request?	MC8 NOT MC8	M N/A	2	[]Yes []No [] N/A
P 4	Broadcast confirm?	MC8 NOT MC8	M N/A	3	[]Yes []No [] N/A
P 5	Broadcast denied - functionality not implemented?	MC8 NOT MC8	M N/A	4	[]Yes []No [] N/A

A.8.6 Timers

No items requiring response.

A.8.7 Call states

No items requiring response.

A.9 TMF

The tables provided in this clause need only to be completed for implementations, where item R 4.3 in table A.1 is supported.

A.9.1 Major capabilities

Table A.26: Major capabilities - TMF

Item	Major capability: Does the implementation support...	Conditions for status	Status	Reference	Support
General capabilities					
MC 1	semipermanent B channel physical interace?		O.11	7.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 2	D channel physical interface?		O.11	7.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 3	semipermanent link activation?		O.12	5.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 4	on demand fixed TEI link activation?		O.12	5.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 5	polling procedures?		M	14.2.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 6	alarm reporting?		M	14.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 7	alarm clearing?		M	14.2.4	<input type="checkbox"/> Yes <input type="checkbox"/> No
MC 8	broadcast functions?		O	14.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
O.11: Support of at least one of these options is required.					
O.12: Support of at least one of these options is required.					
Comments:					

A.9.2 Subsidiary capabilities

Table A.27: Subsidiary capabilities - TMF

Item	Subsidiary capability: Does the implementation support...	Conditions for status	Status	Reference (subclause)	Support
SC 1	user plane protocol between SPT and EUT?		O	6.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
SC 2	initiation of loopback procedure on activated datalinks?		O.13	14.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sc 3	initiation of loopback procedure on deactivated datalinks?		O.13	14.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
SC 4	independent routing of loopback requests for deactivated links over different physical interfaces?	SC3 NOT SC3	O N/A	14.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
SC 5	delay of datalink disconnection after clearing of last call to SPT?	SC1 NOT SC1	O N/A	10.2.2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
SC 6	ignoring of undefined information elements received?		M	10.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
SC 7	discarding of unrecognized messages?		M	10.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
SC 8	immediate transfer of REPORT messages to SPT?		O.14	14.2.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
SC 9	delayed transfer of REPORT messages to SPT?		O.14	14.2.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
O.13: Support of at least one of these options is required.					
O.14: Support of at least one of these options is required.					
Comments:					

A.9.3 Protocol Data Units

A.9.3.1 MR by the TMF

Indicating support for an item in table A.28 states that the implementation has the ability to recognize the message listed in that item. Support for the receipt of a particular type of PDU means support for recognizing and acting upon all valid instances of that PDU type, including all valid PDU parameters, to the extent required by EN 301 145-1 [1].

Table A.28: Messages received by the TMF

Item	Message Does the implementation support receipt of...	Conditions for status	Status	Reference (subclause)	Support
MR 1	LOOP REQUEST?		N/A	8.1.2.1	<input type="checkbox"/> N/A
MR 2	LOOP RESPONSE?		M	8.1.2.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR 3	REPORT?		M	8.1.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.9.3.2 MT by the TMF

Indicating support for an item in table A.29 states that the implementation has the ability to transmit the message listed in that item.

Table A.29: Messages transmitted by the TMF

Item	Message Does the implementation support transmission of...	Conditions for status	Status	Reference (subclause)	Support
MT 1	LOOP REQUEST?		M	8.1.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT 2	LOOP RESPONSE?		N/A	8.1.2.2	<input type="checkbox"/> N/A
MT 3	REPORT?		M	8.1.2.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.9.4 Protocol Data Unit parameters

A.9.4.1 IER

Table A.30: Information elements in LOOP RESPONSE received by the TMF

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference	Support
MR1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.31: Information elements in REPORT received by the TMF

Item	Information element Does the implementation support receipt of...	Conditions for status	Status	Reference	Support
MR2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MR2-IE4	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.9.4.2 IET

Table A.32: Information elements in LOOP REQUEST transmitted by the TMF

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference	Support
MT1-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE2	Loop originator information element?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE3	Loop destination information element?		M	8.1.3.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE4	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT1-IE5	Test data information element?		O	8.1.3.7	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

Table A.33: Information elements in REPORT transmitted by the TMF

Item	Information element Does the implementation support transmission of...	Conditions for status	Status	Reference	Support
MT2-IE1	Message type information element?		M	8.1.3.1	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE2	Report type?		M	8.1.3.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE3	Diagnostic information element?		M	8.1.3.5	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE4	DLCI information element?		O	8.1.3.4	<input type="checkbox"/> Yes <input type="checkbox"/> No
MT2-IE5	Terminal data information element?		O	8.1.3.8	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:					

A.9.5 Protocol Data Unit parameters coding

Table A.34: Loop originator information element

Item	Does the implementation support Loop originator information element parameters and values...	Conditions for status	Status	Values	Support
P 1	PH?		N/A	64	N/A
P 2	TMF?		M	96	<input type="checkbox"/> Yes <input type="checkbox"/> No

Table A.35: Loop destination information element

Item	Does the implementation support Loop destination information element parameters and values...	Conditions for status	Status	Values	Support
P 1	TE1?		M	1	[]Yes []No
P 2	TA?		M	2	[]Yes []No
P 3	NT2?		M	4	[]Yes []No
P 4	PTN?		M	8	[]Yes []No
P 5	LAPD termination?		M	15	[]Yes []No
P 6	FH CRF-S?		M	128	[]Yes []No
P 7	FH CRF-P?		M	129	[]Yes []No

Table A.36: Diagnostic information element

Item	Does the implementation support Diagnostic information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Loop successful?		M	0	[]Yes []No
P 2	DLCI not registered?		M	1	[]Yes []No
P 3	Loop destination unreachable?		M	2	[]Yes []No
P 4	Transmission path unavailable due to network element failure?		M	3	[]Yes []No
P 5	Transmission path unavailable due to customer interface/premises failure?		M	4	[]Yes []No

Table A.37: Report type information element

Item	Does the implementation support Report type information element parameters and values...	Conditions for status	Status	Values	Support
P 1	Alarm event?		M	0	[]Yes []No
P 2	Alarm cleared?		M	1	[]Yes []No
P 3	Broadcast request?	MC8 NOT MC8	M N/A	2	[]Yes []No [] N/A
P 4	Broadcast confirm?	MC8 NOT MC8	M N/A	3	[]Yes []No [] N/A
P 5	Broadcast denied - functionality not implemented?	MC8 NOT MC8	M N/A	4	[]Yes []No [] N/A

A.9.6 Timers

No items requiring response.

A.9.7 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 data link layer service PICS proforma required for support of EN 301 145-1 [1]. 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 data link layer PICS

All references are to EN 301 145-1 [1] unless otherwise stated.

B.1.1.1 Major capabilities

Table B.1: Major capabilities - user

Item	Major capability: does the IUT support...	Status base	Teleaction service conditions for status	Teleaction service status	Reference
MCu 2.2	the unacknowledged information transfer service in a point-to-point data link (using a TEI value other than 127)?	O	MC 5 OR MC 6 OR MC 7 OR MC 8	M	14, [3] 5.2, 5.2.1
MCu 3.1.2	the non-automatic TEI assignment procedures?	C	MC3 OR MC4	M	5, [3] 5.3.2

B.1.1.2 Address field variables

Table B.2: SAPI values supported - user

Item	Does the IUT support the ...	Status base	Teleaction service conditions for status	Teleaction service status	Reference
SAPu 2	SAPI value 12?	O		M	5, [2] 3.3.3

B.2 Network

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

All references are to EN 301 145 [1] unless otherwise stated.

B.2.1.1 Major capabilities

Table B.3: Major capabilities - network

Item	Major capability: does the IUT support...	Status base	Teleaction service conditions for status	Teleaction service status	Reference
MCn 2.2	the unacknowledged information transfer service in a point-to-point data link (using a TEI value other than 127)?	O	MCn 5,6,7,8	M	14, [3] 5.2, 5.2.1

B.2.1.2 Address field variables

Table B.4: SAPI values supported - network

Item	Does the IUT support the ...	Status base	Teleaction service conditions for status	Teleaction service status	Reference
SAPn 2	SAPI value 12?	O		M	5, [2] 3.3.3

History

Document history		
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