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Integrated Services Digital Network (ISDN); Signalling System No.7; Digital cellular telecommunications system (Phase 2); Application of ISDN User Part (ISUP) version 2 for the ISDN-Public Land Mobile Network (PLMN) signalling interface; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 2 of a multi-part standard covering the application of Integrated Services Digital Network (ISDN) User Part (ISUP) version 2 for the ISDN-Public Land Mobile Network (PLMN) signalling interface as described below:

Part 1: "Protocol specification (GSM 09.12)";

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

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

Transposition dates	
Date of adoption of this ETS:	6 March 1998
Date of latest announcement of this ETS (doa):	30 June 1998
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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 an Implementation Conformance Statement (ICS).

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1 Scope

This second part of ETS 300 646 provides the Protocol Implementation Conformance Statement (PICS) proforma for the second version of the Integrated Services Digital Network (ISDN) - Global System for Mobile communications (GSM) Public Land Mobile Network (PLMN) signalling interface defined in ETS 300 646-1 [5] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [7].

The supplier of an implementation that is claimed to conform to ETS 300 646-1 [5] is required to complete a copy of the PICS proforma provided in annex A.

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 300 121 (1992): "Integrated Services Digital Network (ISDN); Application of the ISDN User Part (ISUP) of CCITT Signalling System No.7 for international ISDN interconnections (ISUP version 1)".

[2] ETS 300 356-1 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1993), modified]".

[3] ETS 300 356-31: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 31: Protocol Implementation Conformance Statement (PICS) proforma specification for basic services".

[4] ETS 300 356-34: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 34: Protocol Implementation Conformance Statement (PICS) proforma specification for supplementary services".

[5] ETS 300 646-1 (1997): "Integrated Services Digital Network (ISDN); Signalling System No.7; Digital cellular telecommunication systems (Phase 2); Application of the ISDN User Part (ISUP) version 2 for the ISDN-Public Land Mobile Network (PLMN) signalling interface; Part 1: Protocol specification (GSM 09.12 version 4.1.1)".

[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 this ETS, the following definitions apply:

- terms defined in ETS 300 646-1 [5];
- terms defined in ISO/IEC 9646-1 [6] and in ISO/IEC 9646-7 [7].

In particular, the following terms defined in ISO/IEC 9646-1 [6] apply:

Implementation Conformance Statement (ICS): A 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: A document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS.

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

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply, together with those given in ETS 300 356-1 [2] (e.g. the ISUP message acronyms) and ETS 300 646-1 [5]:

CCBS	Completion of Calls to Busy Subscriber
CFNRc	Call Forwarding on mobile subscriber Not Reachable
CLIP	Calling Line Identification Presentation
COLP	Connected Line Identification Presentation
GMSC	Gateway MSC
GSM	Global System for Mobile communications
ICS	Implementation Conformance Statement
IncGateway	Incoming fixed network Gateway
IncGMSC	Incoming GMSC
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IUT	Implementation Under Test
MOC	Mobile Originate Call
MSC	Mobile-service Switching Centre
MSRN	Mobile Station Roaming Number
MTC	Mobile Terminated Call
OutGateway	Outgoing fixed network Gateway
OutGMSC	Outgoing GMSC
PICS	Protocol ICS
PLMN	Public Land Mobile Network
SCS	System Conformance Statement
SUT	System Under Test
VMSC	Visited MSC

4 Conformance to this PICS proforma specification

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 that conforms to this PICS proforma specification shall:

a) describe an implementation which claims to conform to ETS 300 646-1 [5];

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

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

Annex A (normative): PICS proforma for ETS 300 646-1

A.1 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the ICS proforma in each of the spaces provided. If necessary, the supplier may provide additional comments separately.

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

A.1.1 Purpose and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ETS 300 646-1 [5] may provide information about the implementation in a standardized manner.

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

- instructions for completing the PICS proforma;
- identification of the implementation;
- identification of the reference protocol specification;
- PICS proforma tables (containing the global statement of conformance).

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?".

Reference column

The reference column makes reference ETS 300 646-1 [5], except where explicitly stated otherwise.

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.
n/a	not applicable - in the given context, it is impossible to use the capability. No answer in the support column is required.
o	optional - the capability may be supported or not.
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" 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. If an ELSE clause is omitted, "ELSE n/a" shall be implied.

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

References to items

For each possible item answer (answer in the support column) within the PICS proforma exists a unique reference. 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 shall be discriminated by letters (a, b, etc.), respectively.

EXAMPLE 1: A.5/4 is the reference to the answer of item 4 in table 5 of annex A.

EXAMPLE 2: 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.

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 column boxes provided, using the notation described in subclause A.1.2.

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 ICS 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 ICS contact person

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

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.3 Identification of the reference protocol specification

This PICS proforma applies to the following standard:

ETS 300 646-1 (1997): "Integrated Services Digital Network (ISDN); Signalling System No.7; Digital cellular telecommunication systems (Phase 2); Application of the ISDN User Part (ISUP) version 2 for the ISDN-Public Land Mobile Network (PLMN) signalling interface; Part 1: Protocol specification (GSM 09.12 version 4.1.1)".

NOTE: Separate PICS proforma have been specified for ISUP version 2 basic services in ETS 300 356-31 [3] and supplementary services in ETS 300 356-34 [4]. The PICS questions in the present proforma need to be read in conjunction with these proforma.

A.4 PICS proforma tables

A.4.1 Global statement of conformance

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

NOTE: Answering "No" to this question indicates non-conformance to the reference protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming.

A.4.2 Roles

The exchange involved in the conformance testing is either a gateway in the fixed network or a gateway in the PLMN (GMSC). Because these gateway exchanges behave like international incoming or outgoing gateways, the roles presented in table 1 correspond to the roles OutIE and IncIE in ETS 300 356-31 [3] and ETS 300 356-34 [4].

Table A.1: Roles

Item	Is the implementation an ...	Reference	Status	Support
1	Outgoing fixed network gateway exchange (OutGateway)?	2.1.1.3/Q.764; 5; 6	o.1	
2	Outgoing PLMN gateway exchange (OutGMSC)?	2.1.1.3/Q.764; 5; 6	o.1	
3	Incoming fixed network gateway exchange (IncGateway)?	2.1.1.5/Q.764; 5: 6	o.1	
4	Incoming PLMN gateway exchange (IncGMSC)?	2.1.1.5/Q.764; 5; 6	o.1	

o.1: It is mandatory to support exactly one of these items

A.4.3 Capabilities

Table A.2: Exceptions to the signalling procedures for the basic call procedures

Item	Is the exchange [role] able to ...	Reference	Status	Support	
1	[GMSC] perform fallback when the succeeding network does not support it?	5.2.1	m		
2	support the echo control procedure as described in ETS 300 121 (Q.767)?	5.2.2	m		
3	[IncGMSC] set the ISDN access indicator (bit M) in the **backward call indicators** to coding other than 'terminating access ISDN' in case of bilateral agreements? NOTE: In this case the IncGMSC is also the VMSC.	D.3	o		
4	[OutGMSC] set the ISDN access indicator (bit I) in the **forward call indicators** to coding other than 'originating access ISDN' in case of bilateral agreements? NOTE: In this case the OutGMSC is also the VMSC.	D.3	o		
5	[GMSC] support the early ACM timer $T_{earlyACM}$ (5-20 s)? Specify the value for the timer.	5.2.4.2.1	m		

Table A.3: Exceptions to the signalling procedures for supplementary services

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	CFNRc - [GMSC] support the service call forwarding on mobile subscriber not reachable?	6.2.1.1	o	
2	CLIP - [OutGMSC] support the mapping of calling line identity in the **calling party number** in the **IAM** for MOCs? NOTE: In this case the OutGMSC is also the VMSC.	6.1.1.1	m	
3	CLIP - [IncGMSC] discard the additional calling party number in the **generic number** in the **IAM** for MTCs? NOTE: In this case the IncGMSC is also the VMSC.	6.1.1.1	o	
4	COLP - [IncGMSC] support the mapping of the connected line identity in the **connected number** in the **ANM** or **CON** for MTCs? NOTE: In this case the IncGMSC is also the VMSC.	6.1.1.2	m	
5	COLP - [OutGMSC] discard the additional connected number in the **generic number** in the **ANM** or **CON** for MOCs? NOTE: In this case the OutGMSC is also the VMSC.	6.1.1.2	o	
6	CCBS - [IncGMSC] release the call with cause values #17 or #34 and the diagnostic "CCBS not possible" when the MS is busy? NOTE: In this case the IncGMSC is also the VMSC.	6.1.1.13	o	
7	CFNRc - support the usage of the redirecting / redirection reason with the encoding: '0110' - mobile subscriber not reachable in the **redirection information** (forward direction) and **call diversion information** (backward direction) parameters?	6.2.1.1	m	

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