



SLOVENSKI STANDARD
SIST EN 300 356-31 V3.0.3:2005
01-april-2005

8 [[]HJbc`ca fYy`Y`n`]bhY[f]fUb]a]gfcf]h] Ua]fG8 BŁ!`G][bU]nUW]U`yH`+`!`HfYhU
fUn`]WU`G8 B!i dcfUVb]ý_Y[UXYUfG! DŁnUa YXbUfcXb]`j a Ygb_`!` %`XY.`nUj U
c`g`UXbcgh]`nj YXVY`dfclc`c`UfD`7 GŁ!`DfcZfa UgdYWZ_`UW]U`nUcgbcj bY`gfcf]h] Y

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

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Ta slovenski standard je istoveten z: EN 300 356-31 Version 3.0.3

ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
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SIST EN 300 356-31 V3.0.3:2005 **en**

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ETSI EN 300 356-31 V3.0.3 (2000-08)

European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Signalling System No.7;
ISDN User Part (ISUP) version 3
for the international interface;
Part 31: Protocol Implementation Conformance
Statement (PICS) proforma specification for basic services**

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Reference

REN/SPS-01037-1

Keywords

Basic, ISDN, ISUP, SS7, PICS

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Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 31 of a multi-part EN covering the Integrated Services Digital Network (ISDN); Signalling System No.7 ISDN User Part (ISUP) version 3 for the international interface, as identified below:

- Part 1: "Basic services";
- Part 2: "ISDN supplementary services";
- Part 3: "Calling Line Identification Presentation (CLIP) supplementary service";
- Part 4: "Calling Line Identification Restriction (CLIR) supplementary service";
- Part 5: "Connected Line Identification Presentation (COLP) supplementary service";
- Part 6: "Connected Line Identification Restriction (COLR) supplementary service";
- Part 7: "Terminal Portability (TP) supplementary service";
- Part 8: "User-to-User Signalling (UUS) supplementary service";
- Part 9: "Closed User Group (CUG) supplementary service";
- Part 10: "Subaddressing (SUB) supplementary service";
- Part 11: "Malicious Call Identification (MCID) supplementary service";
- Part 12: "Conference Call, add-on (CONF) supplementary service";
- Part 14: "Explicit Call Transfer (ECT) supplementary service";
- Part 15: "Diversion supplementary services";
- Part 16: "Call Hold (HOLD) supplementary service";
- Part 17: "Call Waiting (CW) supplementary service";
- Part 18: "Completion of Calls to Busy Subscriber (CCBS) supplementary service";
- Part 19: "Three party (3PTY) supplementary service";
- Part 20: "Completion of Calls on No Reply (CCNR) supplementary service";
- Part 31: "Protocol Implementation Conformance Statement (PICS) proforma specification for basic services";**
- Part 32: "Test Suite Structure and Test Purposes (TSS&TP) specification for basic services";

- Part 33: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for basic services";
- Part 34: "Protocol Implementation Conformance Statement (PICS) proforma specification for supplementary services";
- Part 35: "Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services";
- Part 36: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for supplementary services".
- NOTE: Part 13 and 21 to 30 have not been issued.

National transposition dates	
Date of adoption of this EN:	23 June 2000
Date of latest announcement of this EN (doa):	30 September 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 March 2001
Date of withdrawal of any conflicting National Standard (dow):	31 March 2001

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1 Scope

The present document contains the validation (conformance) test specification for ISUP v3 basic call control and signalling procedures defined in EN 300 356-1 [1]. The present document applies only to exchanges having implemented the ISUP v3 protocol specification. It is applicable for validation testing of all types of exchanges as defined in the ISUP v3 protocol specification. Note that the compatibility tests are covered by ITU-T Recommendation Q.784.1 [10].

The main text part of the present document presents the requirements regarding the chosen test method, conventions used within the Protocol Implementation Conformance Statements (PICS) for ISUP v3 basic call control procedures.

Part 32 [2] of the document series EN 300 356 presents the Test Suite Structure and the Test Purposes (TSS&TP) for ISUP v3 basic call control procedures and part 33 [3] presents the actual ATS, which is delivered in electronic form only, and the Protocol Conformance Test Report (PCTR).

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, 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.

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- [1] ETSI EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".
- [2] ETSI EN 300 356-32 (V3.0): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); ISDN User Part (ISUP) version 3 for the international interface; Part 32: Test Suite Structure and Test Purposes (TSS&TP) specification for basic services".
- [3] ETSI EN 300 356-33 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 33: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for basic services".
- [4] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".
- [5] ITU-T Recommendation Q.118: "Abnormal conditions - Special release arrangements".
- [6] ITU-T Recommendation Q.731.7: "Stage 3 description for number identification supplementary services using Signalling System No. 7: Malicious call identification (MCID)".
- [7] ITU-T Recommendation Q.762: "Signalling System No.7 - ISDN user part general functions of messages and signals".
- [8] ITU-T Recommendation Q.764: "Signalling System No. 7 - ISDN user part signalling procedures".
- [9] CCITT Recommendation Q.767: "Application of the ISDN user part of CCITT signalling system No. 7 for international ISDN interconnections".
- [10] ITU-T Recommendation Q.784.1: "ISUP basic call test specification: Validation and compatibility for ISUP'92 and Q.767 protocols".

- [11] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [12] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [13] ISO/IEC 9646-3/DAM 1: "Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation; Amendment 1: TTCN extensions".
- [14] 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 terms and definitions apply:

- terms defined in ISDN User Part (ISUP) reference specification [1];
- terms defined in ISO/IEC 9646-1 [11], ISO/IEC 9646-3 [12] and in ISO/IEC 9646-7 [14].

In particular, the following terms apply:

Abstract Test Case (ATC): complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state (see ISO/IEC 9646-1 [11], subclause 3.3.3)

Abstract Test Method (ATM): description of how an IUT is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this method (see ISO/IEC 9646-1 [11], subclause 3.3.5)

Abstract Test Suite (ATS): test suite composed of abstract test cases (see ISO/IEC 9646-1 [11], subclause 3.3.6)

Implementation Under Test (IUT): implementation of one or more OSI protocols in an adjacent user/provider relationship, being part of a real open system which is to be studied by testing (see ISO/IEC 9646-1 [11], subclause 3.3.43)

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [4]

Means of Testing (MOT): combination of equipment and procedures that can perform the derivation, selection, parameterization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see ISO/IEC 9646-1 [11], subclause 3.3.54)

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

PIXIT proforma: document, in the form of a questionnaire, which when completed for the IUT becomes the PIXIT

Point of Control and Observation: point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method (see ISO/IEC 9646-1 [11], subclause 3.3.64)

Pre-test condition: setting or state in the IUT which cannot be achieved by providing stimulus from the test environment

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see ISO/IEC 9646-1 [11], subclauses 3.3.39 and 3.3.80)

Protocol Implementation eXtra Information for Testing (PIXIT): statement made by a supplier or implementor of an IUT (protocol) which contains or references all of the information related to the IUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the IUT (see ISO/IEC 9646-1 [11], subclauses 3.3.41 and 3.3.81)

System Under Test (SUT): real open system in which the IUT resides (see ISO/IEC 9646-1 [11], subclause 3.3.103)

User: access protocol entity at the User side of the user-network interface where a T reference point or coincident S and T reference point applies

3.2 Abbreviations

The ISUP message acronyms can be found in table 2 of ITU-T Recommendation Q.762 [7] as endorsed by EN 300 356-1 [1].

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

ATC	Abstract Test Case
ATM	Abstract Test Method
ATS	Abstract Test Suite
CIC	Circuit Identification Code
CntrlE	Controlling Exchange
DLE	Destination Local Exchange
ICS	Implementation Conformance Statement
InclE	Incoming International Exchange
IntermE	Intermediate Exchange
IWorkE	Interworking Exchange
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IUT	Implementation Under Test
ITE	International Transit Exchange
OLE	Originating Local Exchange
OutIE	Outgoing International Exchange
MOT	Means Of Testing
MTP	Message Transfer Part
PCM	Pulse Code Modulation
PCTR	Protocol Conformance Test Report
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SCS	System Conformance Statement
SP	Signalling Point
SUT	System Under Test
TP	Test Purpose
TypeA	Type A exchange
TypeB	Type B exchange
TSS	Test Suite Structure
TSS and TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation
UNI	User-network interface
UT	Upper Tester

4 Conformance to the 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:

- describe an implementation which is claimed to conform to ISDN User Part (ISUP) reference specification [1];
- be a conforming PICS proforma which has been completed in accordance with the instructions for completion given in clause A.1;
- 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

The supplier of the implementation shall complete the PICS 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 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 ISDN User Part (ISUP) '92 reference specification [1] 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 composed of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [14].

Item column

It contains a number that identifies the item in the table.

Item description column

It describes each respective item (e.g. parameters, timers, etc.).

Reference column

It gives reference to the ISUP '97 specification [1], except where explicitly stated otherwise.

Status column

The following notations, defined in ISO/IEC 9646-7 [14], 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.