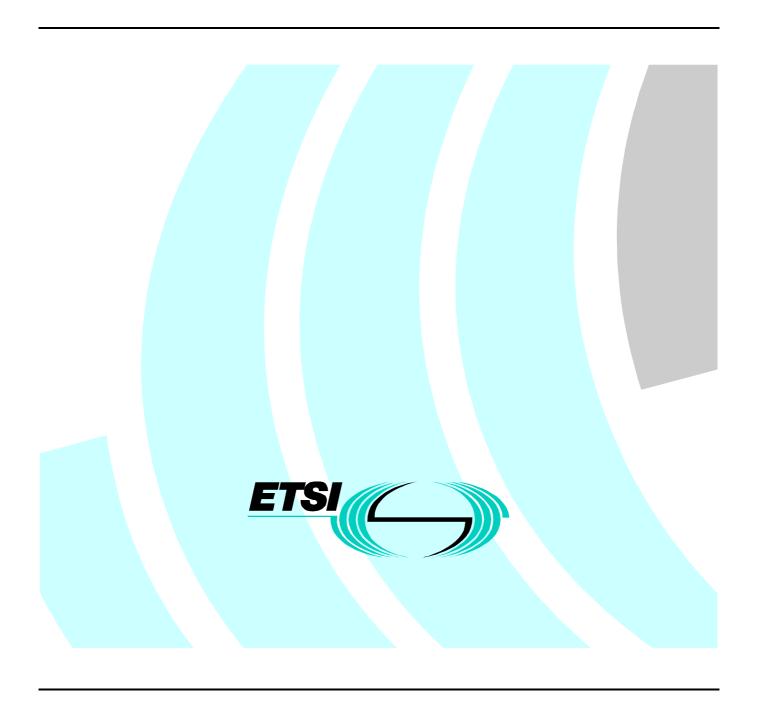
ETSI EN 300 356-34 V3.0.5 (2000-09)

European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN);
Signalling System No.7;
ISDN User Part (ISUP) version 3 for the international interface;
Part 34: Protocol Implementation Conformance
Statement (PICS) proforma specification
for supplementary services



Reference

REN/SPS-01037-4

Keywords

ISDN, ISUP, PICS, SS7, supplementary service

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocol and Switching (SPS).

The present document is part 34 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 [ITU-T Recommendations Q.761 to Q.764 (2000) modified]";
- Part 2: "ISDN supplementary services [ITU-T Recommendation Q.730 (2000) modified]";
- Part 3: "Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993) modified]";
- Part 4: "Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993) modified]";
- Part 5: "Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993) modified]";
- Part 6: "Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993) modified]";
- Part 7: "Terminal Portability (TP) supplementary service [ITU-T Recommendation Q.733, clause 4 (1993) modified]";
- Part 8: "User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1997) modified]";
- Part 9: "Closed User Group (CUG) supplementary service [ITU-T Recommendation Q.735, clause 1 (1993) modified]";
- Part 10: "Subaddressing (SUB) supplementary service [ITU-T Recommendation Q.731, clause 8 (1992) modified]";
- Part 11: "Malicious Call Identification (MCID) supplementary service [ITU-T Recommendation Q.731, clause 7 (1997) modified]";
- Part 12: "Conference Call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993) and implementors guide (1998) modified]";
- Part 14: "Explicit Call Transfer (ECT) supplementary service [ITU-T Recommendation Q.732, clause 7 (1996) and implementors guide (1998) modified]";
- Part 15: "Diversion supplementary services [ITU-T Recommendation Q.732, clauses 2 to 5 (2000) modified]";
- Part 16: "Call Hold (HOLD) supplementary service [ITU-T Recommendation Q.733, clause 2 (1993) modified]";
- Part 17: "Call Waiting (CW) supplementary service [ITU-T Recommendation Q.733, clause 1 (1992) modified]";

- Part 18: "Completion of Calls to Busy Subscriber (CCBS) supplementary service [ITU-T Recommendation Q.733, clause 3 (1997) modified]";
- Part 19: "Three-Party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1996) and implementors guide (1998) modified]";
- Part 20: "Completion of Calls on No Reply (CCNR) supplementary service [ITU-T recommendation Q.733, clause 5 (2000) modified]";
- Part 21 "Anonymous Call Rejection (ACR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993)]";
- 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:	1 September 2000			
Date of latest announcement of this EN (doa):	31 December 2000			
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2001			
Date of withdrawal of any conflicting National Standard (dow):	30 June 2001			

1 Scope

The present document contains the Protocol Implementation Conformance Statements (PICS) for ISUP v3 supplementary services. 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.

Part 35 [28] 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 36 [29] 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.
- [1] ISO/IEC 9646-1: "Information Technology Open Systems Interconnection Conformance testing methodology and framework Part 1: General Concepts".
- [2] ISO/IEC 9646-3: "Information Technology Open Systems Interconnection Conformance testing methodology and framework Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [3] ISO/IEC 9646-7: "Information Technology Open Systems Interconnection Conformance testing methodology and framework Part 7: Implementation Conformance Statements".
- [4] ETSI EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".
- [5] ETSI EN 300 356-2 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 2: ISDN supplementary services [ITU-T Recommendation Q.730 (1997), modified]".
- [6] ETSI EN 300 356-3 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 3: Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993), modified]".
- [7] ETSI EN 300 356-4 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 4: Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993), modified]".
- [8] ETSI EN 300 356-5 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 5: Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993), modified]".
- [9] ETSI EN 300 356-6 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 6: Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993), modified]".

- [10] ETSI EN 300 356-7 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 7: Terminal Portability (TP) supplementary service [ITU-T Recommendation Q.733, clause 4 (1993), modified]".
- [11] ETSI EN 300 356-9 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 9: Closed User Group (CUG) supplementary service [ITU-T Recommendation Q.735, clause 1 (1993), modified]".
- [12] ETSI EN 300 356-10 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 10: Subaddressing (SUB) supplementary service [ITU-T Recommendation Q.731, clause 8 (1992), modified]".
- [13] ETSI EN 300 356-11 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 11: Malicious Call Identification (MCID) supplementary service [ITU-T Recommendation Q.731, clause 7 (1997), modified]".
- [14] ETSI EN 300 356-12 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 12: Conference Call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993), modified]".
- [15] ETSI EN 300 356-14 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 14: Explicit Call Transfer (ECT) supplementary service [ITU-T Recommendation Q.732, clause 7 (1996), modified]".
- [16] ETSI EN 300 356-15 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 15: Diversion supplementary services [ITU-T Recommendation Q.732, clauses 2 to 5 (1997), modified]".
- [17] ETSI EN 300 356-16 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 16: Call Hold (HOLD) supplementary service [ITU-T Recommendation Q.733, clause 2 (1993), modified]".
- [18] ETSI EN 300 356-17 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 17: Call Waiting (CW) supplementary service [ITU-T Recommendation Q.733, clause 1 (1992), modified]".
- [19] ETSI EN 300 356-18 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 18: Completion of Calls to Busy Subscriber (CCBS) supplementary service [ITU-T Recommendation Q.733, clause 3 (1997), modified]".
- [20] ETSI EN 300 356-19 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 19: Three-Party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1996), modified]".
- [21] ITU-T Recommendation Q.731 (1993): "Stage 3 description for number identification supplementary services using Signalling System No. 7".
- [22] ITU-T Recommendation Q.731.1 (1996): "Stage 3 description for numbering identification supplementary services using Signalling System No. 7: Direct-Dialling-In (DDI)".
- [23] ITU-T Recommendation Q.733.1 (1992): "Stage 3 description for call completion supplementary services using Signalling System No.7: Call Waiting (CW)".
- [24] ITU-T Recommendation Q.735.3: "Multi lever precedence and preemption".
- [25] ITU-T Recommendation Q.733.5 (1999): "Signalling System No. 7 Completion of calls on no reply".
- [26] ITU-T Recommendation Q.735.6 (1996): "Stage 3 description for community of interest supplementary services using Signalling System No. 7; Global Virtual Network Service (GVNS)".

[27]	ETSI EN 300 356-8 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 8: User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1997), modified]".
[28]	ETSI EN 300 356-35 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 35: Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services".
[29]	ETSI EN 300 356-36 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 36: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for supplementary services".
[30]	ITU-T Recommendation E.164: "The international public telecommunication numbering plan".
[31]	ITU-T Recommendation Q.732.2 (1996): "Stage 3 description for call offering supplementary services using Signalling System No. 7: Call diversion services: call forwarding, call forwarding no reply, call forwarding unconditional, call deflection".
[32]	ITU-T Recommendation Q.734.1 (1993): "Stage 3 description for multiparty supplementary services using Signalling System No. 7: Conference calling".
[33]	ITU-T Recommendation Q.735.1 (1993): "Stage 3 description for community of interest supplementary services using Signalling System No. 7: Closed user group (CUG)".
[34]	ITU-T Recommendation Q.737 (1993): "Stage 3 description for additional information transfer supplementary services using Signalling System No. 7".
[35]	ITU-T Recommendation Q.785.2: "ISUP'97 supplementary services - Test suite structure and test purposes (TSS & TP)".

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 [5];
- terms defined in ISO/IEC 9646-1 [1], ISO/IEC 9646-3 [2] and in ISO/IEC 9646-7 [3].

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 [1], clause 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 [1], clause 3.3.5)

Abstract Test Suite (ATS): test suite composed of abstract test cases (see ISO/IEC 9646-1 [1], clause 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 [1], clause 3.3.43)

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [30]

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 [1], clause 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 [1], clause 3.3.64)

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 [1], clause 3.3.39 and clause 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 [1], clauses 3.3.41 and 3.3.81)

System Under Test (SUT): real open system in which the IUT resides (see ISO/IEC 9646-1 [1], clause 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 EN 300 356-1 [4].

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

ASP Abstract Service Primitive
ATC Abstract Test Case
ATM Abstract Test Method
ATS Abstract Test Suite

CCBS Completion of Calls to Busy Subscribers

CCNR Completion of Calls on No Reply

CD Call Deflection
CFB Call Forwarding Busy
CFNR Cal Forwarding No Reply
CFU Call Forwarding Unconditional
CIC Circuit Identification Code
CLIR Calling Line Identity Restriction

CntrlE Controlling Exchange
CON CONnect message
CONF Conference

CPG Call Progress message
CUG Closed User Group
CW Call Waiting

DLE Destination Local Exchange
DSS 1 Digital Subscriber System No. 1

ECT Explicit Call Transfer IAM Initial Address Message

ICS Implementation Conformance Statement
IncIE Incoming International Exchange

IntermE Intermediate Exchange
IWorkE Interworking Exchange
ISC International Switching Centre
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
LAPD Link Access Protocol for the D-channel

LOP Loop Optical Carrier

LT Lower Tester

MCID Malicious Call Identification

Means Of Testing MOT MMI Man Machine Interface MTC Main Test Component MTP Message Transfer Part NNI Network-network interface NTE National Transit Exchange 3PTY Three Party service **PCM** Pulse Code Modulation

PCO Point of Control and Observation

PCT Parallel Test Component

PCTR Protocol Conformance Test Report

PDU Protocol Data Unit

PICS Protocol Implementation Conformance Statement

PSTN Public Switched Telephone Network

PIXIT Protocol Implementation eXtra Information for Testing

SCS System Conformance Statement

SP Signalling Point
SUB SUBadressing
SUT System Under Test
TP Test Purpose
TP Terminal Portability
TypeA Type A exchange
TypeB Type B exchange

TCP Test Co-ordination Procedures

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

UUS User-to-User Signalling

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:

- a) describe an implementation which is claimed to conform to ISDN User Part (ISUP) '97 reference specification [4] to [27];
- b) be a conforming PICS proforma which has been completed in accordance with the instructions for completion given in clause A.1 of ITU-T Recommendation Q.785.2 [35];
- 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

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 clauses 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) '97 reference specification [5] to [24] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses 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 [3].

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 [5] to [24], except where explicitly stated otherwise.

Status column

The following notations, defined in ISO/IEC 9646-7 [3], 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 a 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 a unique conditional status expression that is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE ...) ELSE ..." shall be used to avoid ambiguities. If an ELSE clause is omitted, "ELSE n/a" shall be implied.

NOTE: Support of a capability means that the capability is implemented in conformance to the ISUP '97 specifications [5] to [24].

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 [3], 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).

Values allowed column

This column contains the values or the ranges of values allowed.

Values supported column

The support 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. It is defined as the table identifier, followed by a slash 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.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

Date of the statement:	

A.2.2 Implementatio	n under test	(IUT) identification
---------------------	--------------	------	------------------

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 Produc	t supplier		
Name:	- Cappiloi		
Address:			
Telephone number:			
Facsimile number:			
Additional information:			
-			
A.2.5 Client			
Name:			
Address:			
Telephone number:			
Facsimile number:			
Additional information:			
	- L		
A.2.6 ICS cor	ntact person		
Name:			
Telephone number:			
Facsimile number:			
Additional information:			

A.3 Identification of the reference specification

This PICS proforma applies to the following standard:

EN 300 356-2 [5]: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 2: ISDN supplementary services [ITU-T Recommendation Q.730 (1997), modified]".

A.4 PICS proforma tables

A.4.1 Global statement of conformance

	(Yes/No)
Are all mandatory capabilities implemented?	

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

Table A.1: Roles

Item	Is the implementation an	Reference	Status	Support
1	OLE Originating local exchange	2.1.1.1	o.1	
2	NTE National transit exchange	2.1.1.2	o.1	
3	OutlE Outgoing international exchange	2.1.1.3	o.1	
4	ITE International transit exchange	2.1.1.4	o.1	
5	IncIE Incoming international exchange	2.1.1.5	o.1	
6	DLE Destination local exchange	2.1.1.6	o.1	
o.1: It	s mandatory to support at least one of these items	•	•	

A.4.3 Capabilities

The following matrix is an abbreviation guide for roles:

OLE	NTE	OutlE	ITE	InclE	DLE
Local	Transit	Gateway	Transit	Gateway	Local
	IntermE	IntermE	IntermE	IntermE	
CntrlE	CntrlE	CntrlE			
	IWorkE	IWorkE	IworkE	IWorkE	

Table A.2: Generic signalling procedures for supplementary services

Item	Is the exchange able to	Reference	Status	Support
1	End-to-end signalling - Pass along method?	Table 1/	0	
		EN 300 356-1 [4]		
2	End-to-end signalling - SCCP connection oriented?	Table 1/	О	
		EN 300 356-1 [4]		
3	End-to-end signalling - SCCP connectionless?	Table 1/	0	
		EN 300 356-1 [4]		
4	Generic number transfer?	Table 1/	0	
		EN 300 356-1 [4]		
5	Generic digit transfer?	Table 1/	0	
		EN 300 356-1 [4]		
6	Generic notification procedure?	Table 1/	0	
	·	EN 300 356-1 [4]		
7	Simple service activation procedure?	Table 1/	0	
		EN 300 356-1 [4]		
8	Remote operations procedure?	Table 1/	0	
		EN 300 356-1 [4]		
9	Network specific procedures?	Table 1/	0	
		EN 300 356-1 [4]		

Table A.3: Supplementary services major capabilities

Item	Is the exchange able to	Reference	Status	Support
1	support the service Calling Line Identification Presentation (CLIP)?	EN 300 356-3 [6]	0	
2	support the service Calling Line Identification Restriction (CLIR)?	EN 300 356-4 [7]	0	
3	(COLP)?	EN 300 356-5 [8]	0	
4	support the service Connected Line Identification Restriction (COLR)?	EN 300 356-6 [9]	0	
5	support the service Terminal Portability (TP)?	EN 300 356-7 [10]	0	
6	support at least one User-to-User Signalling service (UUS)?	EN 300 356-8 [27]	0	
7	support the service Closed User Group (CUG)?	EN 300 356-9 [11]	0	
8	support the service Sub-addressing (SUB)?	EN 300 356-10 [12]	0	
9	support the service Malicious Call Identification (MCID)?	EN 300 356-11 [13]	0	
10	support the service Conference Call, add-on (CONF)?	EN 300 356-12 [14]	0	
11	support the service Explicit Call Transfer (ECT)?	EN 300 356-14 [15]	0	
12	support the service Call Forwarding Busy (CFB)?	EN 300 356-15 [16]	0	
13	support the service Call Forwarding No Reply (CFNR)?	EN 300 356-15 [16]	0	
14	support the service Call Forwarding Unconditional (CFU)?	EN 300 356-15 [16]	0	
15	support the service Call Deflection (CD)?	EN 300 356-15 [16]	0	
16	support the service Call Hold (HOLD)?	EN 300 356-16 [17]	0	
17	support the service Call Waiting (CW)?	Reference source not	0	
18	support the service Completion of Calls to Busy Subscribers (CCBS)?	found.] EN 300 356-18 [19]	0	
19	support the Three Party service (3PTY)?	EN 300 356-19 [20]	0	
20	support the service Completion of Calls on No Reply (CCNR)?		0	

Table A.4: CLIP

Item	Is the exchange [role] able to	Reference	Status	Support
1	[OutlE] omit the calling party number in case of bilateral	3.5.2.3.1/	0	
	agreements?	Q.731 [21]		
2	[OutIE] omit the additional calling party number in the generic	3.5.2.3.1/	О	
	number in case of bilateral agreements?	Q.731 [21]		
3		3.2.1/Q.731 [21]	c31	
	parameter in case of bilateral agreements?			
4	@[InclE] add a prefix to the calling party number and set its	3.5.2.4.1/	0	
	nature of address indicator to "unknown"?	Q.731 [21]		
5	@[InclE] support the coding "address not available" in the	3.10/EN 300	0	
	address presentation restricted indicator of the calling party	356-1 [4];		
	number?	3.5.2.4.2/		
		Q.731 [21]		
c51: II	F A.5/1 THEN m ELSE n/a			
@: r	ational use			

Table A.5: CLIR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[OutlE] discard the calling party number if it is received	4.5.2.3.2/	0	
	with the address presentation restricted indicator set to	Q.731 [21]		
	"presentation restricted"?			
2	[OutIE] discard the additional calling party number in the	4.5.2.3.2/	0	
	generic number if it is received with the address	Q.731 [21]		
	presentation restricted indicator set to "presentation			
	restricted"?			
3	[OutIE] discard the calling sub-address in the access	4.2.1/Q.731	c31	
	transport parameter if the calling party number is received	[21]		
	with the address presentation restricted indicator set to			
	"presentation restricted"?			
c31:	IF A.3/1 THEN m ELSE n/a			

Table A.6: COLP

Item	Is the exchange [role] able to	Reference	Status	Support
1	@[OutlE] add a prefix to the connected number and set	5.5.2.3.1/	0	
	its nature of address indicator to "unknown"?	Q.731 [21]		
2	[InclE] omit the connected number in case of bilateral	5.5.2.4.1/	0	
	agreements?	Q.731 [21]		
3	[InclE] omit the additional connected number in the generic	5.5.2.4.1/	0	
	number in case of bilateral agreements?	Q.731 [21]		
4	[]	5.5.2.4.1/	0	
	connected number) and set the address presentation	Q.731 [21]		
	restriction indicator to "address not available"?			
5	[DLE] deliver the COL?	5.5.2.5.1/	m	
		Q.731 [21]		
6	[DLE] include, if provided by the user, the connected	5.5.2.5.1/	0	
	sub-address in the access transport parameter?	Q.731 [21]		
@:	national use	·		

Table A.7: COLR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[InclE] discard the connected number if it is received with	6.5.2.4.1/	0	
	the presentation restriction indicator set to "presentation restricted"?	Q.731 [21]		
2	[InclE] discard the additional connected number in the generic number if it is received with the presentation	6.5.2.4.1/ Q.731 [21]	0	
	restriction indicator set to "presentation restricted"?	Q.731 [21]		
3	[InclE] remove the COL (zero the address signals of the connected number) and change the presentation restriction indicator from "presentation restricted" to	6.5.2.4.1/ Q.731 [21]	О	
	"address not available"?			

Table A.8: Service not supported

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Gateway] support discarding of Suspend and Resume messages, if the network does not support the TP service?	4.5.2.3.2; 4.5.2.4.2/ Q.733	c11	
2	[IncIE] support correct rejection or processing of CUG calls in case of interworking with networks not supporting CUG?	1.5.2.4.2; Table 1-1/ Q.735.1 [Error! Reference source not found.]	c22	
3	[OutlE] return an IRS with bit A of the MCID response indicator set to 0 "MCID not included", if the national network does not support the MCID service?	7.5.2.3.2/ Q.731 [21]	c33	
	F NOT A.3/5 THEN o ELSE n/a			
	F NOT A.3/7 THEN m ELSE n/a			
c33:	F NOT A.3/9 THEN o ELSE n/a			

Table A.9: UUS

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the user-to-user information parameter with at	1.1.2.1;	m	
	least 32 octets as user information?	1.2.2.1;		
		1.3.2.1/		
		Q.737 [34]		
2	support the maximum number of up to 128 octets as user	1.1.2.1;	0	
	information in the user-to-user information parameter?	1.2.2.1;		
	If not 128, specify maximum allowed number.	1.3.2.1/		
		Q.737 [34]		
3	support implicit request of service UUS1?	1.1/Q.737 [34]	0	
4	support explicit request of service UUS1?	1.1/Q.737 [34]	0	
5	[IntermE] support the rejection procedure of an explicit	1.1.5.2.2.2/	c51	
	service request or discarding of user-to-user information	Q.737 [34]		
	as described in 1.1.5.2.5.2/Q.737 [34] .			
6	support service UUS2?	1.2/Q.737 [34]	0	
7	[DLE] deliver user-to-user information after the user has	1.2.2.1/	c72	
	answered the call?	Q.737 [34]		
8	support service UUS3?	1.3/Q.737 [34]	0	
c81:	IF A.8/4 THEN o ELSE n/a			
c82:	IF A.8/6 THEN o ELSE n/a			

Table A.10: CUG

Item	Is the exchange [role] able to	Reference	Status	Support
1	support Closed User Group with decentralized	1/Q.735.1	m	
	administration?	[Error!		
		Reference		
		source not		
		found.]		
2	support Closed User Group with centralized administration?	1/Q.735.1	n/a	
		[Error!		
		Reference		
		source not		
		found.]		
3	[Gateway] support conversion of national to international	1.5.2.3.1;	0	
	CUG codes?	1.5.2.4.1/		
		Q.735.1 [Error!		
		Reference		
		source not		
		found.]		
4	support invocation of CLIR for CUG calls?	1.6.6/Q.735.1	0	
		[Error!		
		Reference		
		source not		
		found.]		

Table A.11: SUB

Item	Is the exchange able to	Reference	Status	Support
1	support the maximum 23 octet length of the Sub-address	8.4; 8.7/Q.731	m	
	parameter?	[21]		

Table A.12: MCID

Item	Is the exchange [role] able to	Reference	Status	Support
1	[OLE] provide the calling party sub-address as part of the MCID service?	7.2.1/Q.731 [21]	0	
2	[DLE] store and process the calling party sub-address as part of the MCID service?	7.2.1/Q.731 [21]	0	
3	[DLE] support the registration of the original called number and the redirecting number for MCID when invoking CFB, CFNR, CFU, CD?	7.6.10/Q.731 [21]	0	
4	[OutlE] omit for MCID the calling party number in case of bilateral agreements.	7.5.2.3.1/ Q.731 [21]	0	
5	[IncIE] modify the MCID response indicator set to 0 "MCID not included" according to the information available in the exchange?	7.5.2.4.2/ Q.731 [21]	0	

Table A.13: CONF

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the user notification procedures?	1.5/Q.734.1 [Error! Reference source not found.]	c11	
2	[OLE] support <i>which</i> maximum number of conference participants?	1.5.2.1.1.2/ Q.734.1 [Error! Reference source not found.]	О	
c21:	IF A.2/6 THEN o ELSE n/a	<u>-</u>		

Table A.14: ECT

Item	Is the exchange [role] able to	Reference	Sta tus	Support
1	[Local] store remote user numbers (calling party number/connected number or additional calling party number/additional connected number) and send them in the call transfer number when call transfer is performed?	7.5.2.1.1.1/ EN 300 356-14 [15]	m	
2	support the loop prevention procedure?	7.2.1; 7.5.2.1.1.2/ EN 300 356-14 [15]	0	
3	[Local] support the timer T _{ECT} ? If yes, specify the timer value (2-6 s).	7.5.2.1.1.2.1; 7.9/EN 300 356-14 [15]	c31	
4	[Local] reject the call transfer in case of T _{ECT} timer expiry?	7.5.2.1.1.2.1/EN 300 356-14 [15]	c42	
5	[Local] complete the call transfer in case of T _{ECT} timer expiry?	7.5.2.1.1.2.1/EN 300 356-14 [15]	c52	
6	[Gateway] omit the call transfer number if the address presentation restriction indicator indicates "presentation restricted"?	7.5.2.3.1; 7.5.2.4.1/ EN 300 356-14 [15]	0	
7	[IWorkE] support call control interworking between ISUP'97 and protocols not supporting the loop prevention procedure, i.e. return a LOP (response) message with the indication "insufficient information"?		c73	
8	[Local] reject the call transfer in case receipt of LOP messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1/EN 300 356-14 [15]	c84	
9	[Local] complete the call transfer in case receipt of LOP messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1/EN 300 356-14 [15]	c94	
c91: c92: c93: c94: o.2: o.3:	IF A.9/2 THEN m ELSE n/a IF A.9/2 THEN o.2 ELSE n/a IF A.9/2 THEN o ELSE n/a IF A.9/2 THEN o.3 ELSE n/a IF A.9/2 THEN o.3 ELSE n/a It is mandatory to support exactly one of these options It is mandatory to support exactly one of these options			

Table A.15: CFB, CFNR, CFU, CD

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the diversion notification procedures?	2.5.2.5.1.2 d)/Q.732.2 [Error! Reference source not found.]	m	
2	support the maximum number of up to 5 diversions for each call? If not 5, specify the maximum allowed number.	Table 2-2/ Q.732.2 [Error! Reference source not found.]	0	
3	[DLE] omit octet 2 of the redirection information if the redirection counter equals1?	3.45/EN 300 356-1 [4]	0	1
4	[DLE] support the usage of the Original redirection reasons in the redirection information parameter with the encoding: 0001 user busy @ 0010 no reply @ 0011 unconditional @?	3.45/ EN 300 356-1 [4]	О	
5	[DLE] include the redirection number in the ACM or CPG?	2.5.2.5.1.2 d)/Q.732.2 [Error! Reference source not found.]	m	
7	[InclE] pass on the redirection number if received in an ACM or CPG?	2.5.2.4.1/ Q.732.2 [Error! Reference source not found.]	0	
9	[Local] support the usage of event information with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732.2 [Error! Reference source not found.]	o	
10	[IntermE] support the transport of event information with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732.2 [Error! Reference source not found.]	o	
11	[OutlE] omit the original called number in case of bilateral agreements?	2.5.2.3.1/ Q.732.2 [Error! Reference source not found.] 3.5.2.3.1/ Q.731 [21]	О	
12	[OutIE] omit the redirecting number in case of bilateral agreements?	2.5.2.3.1/ Q.732.2[Error ! Reference source not found.] 3.5.2.3.1/ Q.731 [21]	0	
13	[InclE] omit the redirection number in case of bilateral agreements?	2.5.2.4.1/ Q.732.2 [Error! Reference source not found.] 5.5.2.4.1/ Q.731 [21]	О	

14	@[OutlE] add a prefix to the redirection number and set its	5.5.2.3.1/	О	
	nature of address indicator to "unknown" (as for COLP A.6/1).	Q.731 [21]		
15	@[InclE] add a prefix to the original called number and set its	3.5.2.4.1/	О	
	nature of address indicator to "unknown" (as for CLIP A.4/4).	Q.731 [21]		
16	@[InclE] add a prefix to the redirecting number and set its	3.5.2.4.1/	О	
	nature of address indicator to "unknown" (as for CLIP A.4/4).	Q.731 [21]		
@:	national use			

Table A.16: CFNR, CD

Item	Is the exchange [role] able to	Reference	Status	Support	
1	[Local] retain call to the served user until alerting begins at	2.5.2.5.2.2;	0.4		
	the diverted-to user (late release - option A)?	Table 2-2/			
		Q.732.2 [Error!			
		Reference			
		source not			
		found.]			
2	[Local] clear call to the served user on invocation of call	2.5.2.5.2.2;	0.4		
	diversion (immediate release - option B)?	Table 2-2/			
		Q.732.2 [Error!			
		Reference			
		source not			
		found.]			
3		2.5.2.5.1.2 c)	c31		
	sending the IAM?	ii)/Q.732.2			
		[Error! Reference			
		source not			
4		found.]	- 11		
4	[Local] perform through-connection in both directions at the receipt of ACM or CON?	ii)/Q.732.2	c41		
	receipt of ACIVI of COIN?	[Error!			
		Reference			
		source not			
		found.]			
5	[Local] support the Call Forwarding No Reply timer?	Table 2-2/	c52		
	If yes, specify the timer value.	Q.732.2 [Error!	002		
	in yes, specify the timer value.	Reference			
		source not			
		found.]			
o.4: I	t is mandatory to support exactly one of these options	I	1		
	IF A.3/13 THEN m ELSE o				
	It is mandatory to support at least one of these options				
	,				

Table A.17: HOLD

Item	Is the exchange [role] able to	Reference	Status	Support	
1	[OLE] support call hold as soon as the calling user has provided all of the information necessary for processing the call?	2.2.1/Q.733	О		
2	[OLE] support call hold by the calling user after alerting has commenced?	2.2.1/Q.733	c21		
3	supply the remote user with an in-band indication in the case of interworking with PSTN?	2.7/Q.733	0		
c31: I	c31: IF A. 3/1 THEN m ELSE o				

Table A.18: CCBS

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] support the retain option?	3.1.3 m)/EN 300	0	
		356-18 [19]		
2	[OLE] support the maximum number of up to 5 outstanding	3.5.1.1.1.1	0	
	CCBS requests of a user?	/EN 300 356-18		
2	If not 5, specify the maximum allowed number. [OLE] include the calling party number in the CCBS	[19]		
3	request invoke component?	3.5.1.1.1.1/ EN 300 356-18	0	
	request invoke component:	[19]		
4	[OLE] treat a second identical activation of CCBS as a new	3.5.3.1.2/	0.6	
'	request?	EN 300 356-18	0.0	
		[19]		
5	[OLE] reject a second identical activation of CCBS?	3.5.3.1.2/	0.6	
		EN 300 356-18		
		[19]		
6	[DLE] support the maximum number of up to 5 queue	3.5.3.5.1/	0	
	entries?	EN 300 356-18		
	If not 5, specify the maximum allowed number.	[19]		
7	[OLE] initiate the CCBS supplementary service even if no	3.7.1/	0	
		EN 300 356-18		
	#17 or #34?	[19]		
8	[DLE] treat the CCBS call as a "destination B busy upon	3.6.10.2.2 c);	0.7	
	arrival of CCBS request" in case of interaction between CCBS and CFB?	3.5.3.5.2 c)/EN		
9	[DLE] forward the CCBS call as a normal call in case of	300 356-18 [19]	0.7	
9	interaction between CCBS and CFB?	3.6.10.2.2 c)/EN 300 356-18 [19]	0.7	
10		3.5/EN 300 356-	m	
10	when the service is available?	18 [19]	'''	
11	[DLE] release the call with the diagnostics "CCBS not	3.5/EN 300 356-	m	
	possible" if the service is not available?	18 [19]		
12	[OLE] support the retention timer CCBS-T1?	3.9.1/	m	
	If yes, specify the timer value (greater than 15 s).	EN 300 356-18		
		[19]		
12	[OLE] support the CCBS request operation timer	3.9.1/	m	
	CCBS-T2?	EN 300 356-18		
	The value of the timer shall be 10 s.	[19]		T T
13	[OLE] support the CCBS service duration timer CCBS-T3?	3.9.1/	m	
	If yes, specify the timer value (15-45 min).	EN 300 356-18		
4.4	IOLE) average at the OODO as well time as OODO T40	[19]		
14	[OLE] support the CCBS recall timer CCBS-T4?	3.9.1/ EN 300 356-18	m	
	If yes, specify the timer value (10-20 s).	[19]		
15	[DLE] support the CCBS service supervision timer	3.9.2/	m	
'3	CCBS-T7?	EN 300 356-18	['''	
	The value of the timer shall be 60 min.	[19]		
16	[DLE] support the destination B idle guard timer CCBS-T8?	3.9.2/	m	
-	If yes, specify the timer value (less than 15 s).	EN 300 356-18		
		[19]		
17	[DLE] support the recall timer CCBS-T9?	3.9.2/	m	1
	The value of the timer shall be 30 s.	EN 300 356-18		
		[19]		
18	[Local] support the interworking supervision timer T _{SUP} ?	3.9.3/	0	
	The value of the timer shall be 60 min.	EN 300 356-18		
		[19]		
	t is mandatory to support exactly one of these options			
o.7: I	t is mandatory to support exactly one of these options			

Table A.19: CCNR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] support the retain option?	1.3/Q.733.5 [25]	0	
2	[OLE] support the maximum number of up to 5 outstanding CCNR requests of a user? If not 5, specify the maximum allowed number.	5.1.1.1.1/ Q.733.5 [25]	О	
3	[OLE] include the calling party number in the CCNR request invoke component?	5.1.1.1.1/ Q.733.5 [25]	0	·
4	[OLE] treat a second identical activation of CCNR as a new request?	5.3.1.2/ Q.733.5 [25]	0.6	
5	[OLE] reject a second identical activation of CCNR?	5.3.1.2/ Q.733.5 [25]	0.6	
6	[DLE] support the maximum number of up to 5 queue entries? If not 5, specify the maximum allowed number.	5.3.5.1/ Q.733.5 [25]	0	
7	[OLE] initiate the CCNR supplementary service even if no CCNR possible indicator is received in the ACM/CPG?	7.1/Q.733.5 [25]	0	·
8	[DLE] treat the CCNR call as a "destination B no reply upon arrival of CCNR request" in case of interaction between CCNR and CFNR?	6.10.2.2 c); 5.3.5.2 d)/Q.733.5 [25]	0.7	
9	[DLE] forward the CCNR call as a normal call in case of interaction between CCNR and CFNR?	6.10.2.2 c)/Q.733.5 [25]	o.7	
10	[DLE] release the call with the diagnostics "CCNR possible" when the service is available?	5/Q.733.5 [25]	m	
11	[DLE] set the ACM/CPG with the indicator "CCNR not possible" if the service is not available?	5/Q.733.5 [25]	m	
12	[OLE] support the retention timer CCNR-T1? If yes, specify the timer value (greater than 15 s).	9.1/Q.733.5 [25]	m	
13	[OLE] support the CCNR request operation timer CCNR-T2? The value of the timer shall be a few seconds.	9.1/Q.733.5 [25]	m	<u>.</u>
14	[OLE] support the CCNR service duration timer CCNR-T3? If yes, specify the timer value (60-180 min).	9.1/Q.733.5 [25]	m	
15	[OLE] support the CCNR recall timer CCNR-T4? If yes, specify the timer value (10-20 s).	9.1/Q.733.5 [25]	m	
16	[DLE] support the CCNR service supervision timer CCNR-T7? The value of the timer shall be 190 min.	9.2/Q.733.5 [25]	m	·
17	[DLE] support the destination B idle guard timer CCNR-T8? If yes, specify the timer value (less than 15 s).	9.2/Q.733.5 [25]	m	
18	[DLE] support the recall timer CCNR-T9? The value of the timer shall be 20 s + some seconds for CCNR call set-up.	9.2/Q.733.5 [25]	m	<u> </u>
19	[Local] support the interworking supervision timer T _{SUP} ? The value of the timer shall be 190 min.	9.3/Q.733.5 [25]	0	
	t is mandatory to support exactly one of these options t is mandatory to support exactly one of these options			

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

- ISO/IEC 9646-2: "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 2: Abstract Test Suite Specification".
- ISO/IEC 9646-5: "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 5: Requirements on test laboratories and clients for the conformance assessment process".
- ITU-T Recommendation Q.767: "Application of the ISDN user part of CCITT signalling system No. 7 for international ISDN interconnections".
- ITU-T Recommendation Q.784.1: "ISUP basic call test specification: Validation and compatibility for ISUP'92 and Q.767 protocols".
- ITU-T Recommendation Q.788: "User-network-interface to user-network-interface compatibility test specifications for ISDN, non-ISDN and undetermined accesses interworking over international ISUP".
- ITU-T Recommendation Q.850: "Usage of cause and location in the Digital Subscriber Signalling System No. 1 and the Signalling System No. 7 ISDN User Part".

History

Document history				
Edition 1	March 1998	Publication as ETS 300 356-34		
V3.0.5	December 1999	Public Enquiry	PE 200015: 1999-12-15 to 2000-04-14	
V3.0.5	July 2000	Vote	V 20000901: 2000-07-03 to 2000-09-01	
V3.0.5	September 2000	Publication		