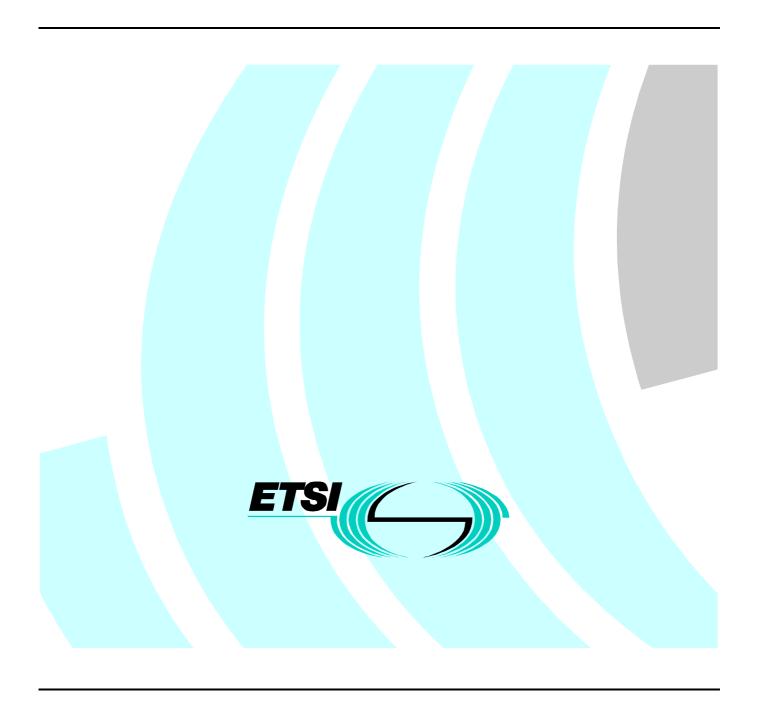# Draft ETSI EN 300 356-34 V3.0.5 (1999-12)

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 (3awi1i3c.pdf)

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocol and Switching (SPS), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

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";

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 supplementary 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.

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

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 [29] 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 [30] 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.

[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]   EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); ISDN User Part (ISUP) version 4 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 modified]".

[5]   EN 300 356-2 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 2: ISDN supplementary services".

[6]   EN 300 356-3 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 3: Calling Line Identification Presentation (CLIP) supplementary service".

[7]   EN 300 356-4 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 4: Calling Line Identification Restriction (CLIR) supplementary service".

[8]   EN 300 356-5 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 5: Connected Line Identification Presentation (COLP) supplementary service".

[9]   EN 300 356-6 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 6: Connected Line Identification Restriction (COLR) supplementary service".

[10] EN 300 356-7 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 7: Terminal Portability (TP) supplementary service".

[11] EN 300 356-9 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 9: Closed User Group (CUG) supplementary service".

[12] EN 300 356-10 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 10: Subaddressing (SUB) supplementary service".

[13] EN 300 356-11 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 11: Malicious Call Identification (MCID) supplementary service".

[14] EN 300 356-12 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 12: Conference Call, add-on (CONF) supplementary service".

[15] EN 300 356-14 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 14: Explicit Call Transfer (ECT) supplementary service".

[16] EN 300 356-15 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 15: Diversion supplementary services".

[17] EN 300 356-16 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 16: 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] EN 300 356-17 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 17: Call Waiting (CW) supplementary service".

[19] EN 300 356-18 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 18: Completion of Calls on No Reply (CCNR) supplementary service".

[20] EN 300 356-19 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 19: Three party (3PTY) supplementary service".

[21] ITU-T Recommendation Q.731 (1997): "Stage 3 description for number identification supplementary services using Signalling System No. 7".

NOTE 1: The above publication was not available at the time of release of the present document for Public Enquiry.

[22] ITU-T Recommendation Q.731.1 (1997): "Direct-dialling-In (DDI)".

[23] ITU-T Recommendation Q.731.2: "Stage 3 description for number identification supplementary services using Signalling System No. 7 - Multiple Subscriber Number (MSN)".

NOTE 2: The above publication was not available at the time of release of the present document for Public Enquiry.

[24] ITU-T Recommendation Q.732.1 (1997): "no title".

NOTE 3: The above publication was not available at the time of release of the present document for Public Enquiry.

[25] ITU-T Recommendation Q.735.3 (1997): "Multi lever precedence and preemption".

NOTE 4: The above publication was not available at the time of release of the present document for Public Enquiry.

[26]   ITU-T Recommendation Q.733.5:

NOTE 5: The above publication was not available at the time of release of the present document for Public Enquiry.

[27]   ITU-T Recommendation Q.735.6 (1997): "Stage 3 description for community of interest supplementary services using Signalling System No. 7: Global Virtual Network Service (GVNS)".

NOTE 6: The above publication was not available at the time of release of the present document for Public Enquiry.

[28]   EN 300 356-8 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 8: User-to-User Signalling (UUS) supplementary service".

[29]   EN 300 356-35 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 35: Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services".

[30]   EN 300 356-36 (V3.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 36: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for supplementary services".

[31]   ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[32]   ITU-T Recommendation Q.732: "Stage 3 description for call offering supplementary services using Signalling System No. 7".

NOTE 7: The above publication was not available at the time of release of the present document for Public Enquiry.

[33]   ITU-T Recommendation Q.734 (1977): "Stage 3 description for multiparty supplementary services using Signalling System No. 7".

NOTE 8: The above publication was not available at the time of release of the present document for Public Enquiry.

[34]   ITU-T Recommendation Q.735: "Stage 3 description for community of interest supplementary services using Signalling System No. 7".

NOTE 9: The above publication was not available at the time of release of the present document for Public Enquiry.

[35]   ITU-T Recommendation Q.737: "Stage 3 description for additional information transfer supplementary services using Signalling System No. 7".

NOTE 10: The above publication was not available at the time of release of the present document for Public Enquiry.

[36]   ITU-T Recommendation Q.785.2: "Abstract test suites for ISUP'97 supplementary services".

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], 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 [1], subclause 3.3.5)

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

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [31]

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], 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 [1], subclause 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], subclause 3.3.39 and subclause 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], 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 [1], 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 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
MOT	Means Of Testing
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 [28];

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 [36];

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 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) '97 reference specification [5] to [25] 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 [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 [25], 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 [25].

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   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:	
Additional information:	

A.2.5   Client

Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	

A.2.6   ICS contact 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: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Basic Call and Supplementary Services; Part 2: ISDN supplementary service" [5].

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	OutIE Outgoing international exchange	2.1.1.3	o.1	
4	ITE International transit exchange	2.1.1.4	o.1	
5	InclE Incoming international exchange	2.1.1.5	o.1	
6	DLE Destination local exchange	2.1.1.6	o.1	
o.1: It is mandatory to support at least one of these items				

A.4.3   Capabilities

The following matrix is an abbreviation guide for roles:

OLE	NTE	OutIE	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/ EN 300 356-1 [4]	o	
2	End-to-end signalling - SCCP connection oriented?	Table 1/ EN 300 356-1 [4]	o	
3	End-to-end signalling - SCCP connectionless?	Table 1/ EN 300 356-1 [4]	o	
4	Generic number transfer?	Table 1/ EN 300 356-1 [4]	o	
5	Generic digit transfer?	Table 1/ EN 300 356-1 [4]	o	
6	Generic notification procedure?	Table 1/ EN 300 356-1 [4]	o	
7	Simple service activation procedure?	Table 1/ EN 300 356-1 [4]	o	
8	Remote operations procedure?	Table 1/ EN 300 356-1 [4]	o	
9	Network specific procedures?	Table 1/ EN 300 356-1 [4]	o	

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]	o	
2	support the service Calling Line Identification Restriction (CLIR)?	EN 300 356-4 [7]	o	
3	support the service Connected Line Identification Presentation (COLP)?	EN 300 356-5 [8]	o	
4	support the service Connected Line Identification Restriction (COLR)?	EN 300 356-6 [9]	o	
5	support the service Terminal Portability (TP)?	EN 300 356-7 [10]	o	
6	support at least one User-to-User Signalling service (UUS)?	EN 300 356-8 [28]	o	
7	support the service Closed User Group (CUG)?	EN 300 356-9 [11]	o	
8	support the service Sub-addressing (SUB)?	EN 300 356-10 [12]	o	
9	support the service Malicious Call Identification (MCID)?	EN 300 356-11 [13]	o	
10	support the service Conference Call, add-on (CONF)?	EN 300 356-12 [14]	o	
11	support the service Explicit Call Transfer (ECT)?	EN 300 356-14 [15]	o	
12	support the service Call Forwarding Busy (CFB)?	EN 300 356-15 [16]	o	
13	support the service Call Forwarding No Reply (CFNR)?	EN 300 356-15 [16]	o	
14	support the service Call Forwarding Unconditional (CFU)?	EN 300 356-15 [16]	o	
15	support the service Call Deflection (CD)?	EN 300 356-15 [16]	o	
16	support the service Call Hold (HOLD)?	EN 300 356-16 [17]	o	
17	support the service Call Waiting (CW)?	Q.732.1 [24]	o	
18	support the service Completion of Calls to Busy Subscribers (CCBS)?	EN 300 356-18 [19]	o	
19	support the Three Party service (3PTY)?	EN 300 356-19 [20]	o	
20	support the service Completion of Calls on No Reply (CCNR)?	Q.733.5 [26]	o	

Table A.4: CLIP

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

Table A.5: CLIR

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	[OutIE] discard the **calling party number** if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/ Q.731	o	
2	[OutIE] discard the additional calling party number in the **generic number** if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/ Q.731	o	
3	[OutIE] discard the calling sub-address in the **access transport** parameter if the **calling party number** is received with the address presentation restricted indicator set to "presentation restricted"?	4.2.1/Q.731	c31	
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	@[OutIE] add a prefix to the **connected number** and set its nature of address indicator to "unknown"?	5.5.2.3.1/ Q.731	o	
2	[IncIE] omit the **connected number** in case of bilateral agreements?	5.5.2.4.1/ Q.731	o	
3	[IncIE] omit the additional connected number in the **generic number** in case of bilateral agreements?	5.5.2.4.1/ Q.731	o	
4	[IncIE] remove the COL (zero the address signals of the **connected number**) and set the address presentation restriction indicator to "address not available"?	5.5.2.4.1/ Q.731	o	
5	[DLE] deliver the COL?	5.5.2.5.1/ Q.731	m	
6	[DLE] include, if provided by the user, the connected sub-address in the **access transport** parameter?	5.5.2.5.1/ Q.731	o	
@:	national use			

Table A.7: COLR

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

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	c22	
3	[OutIE] 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	c33	
c31: IF NOT A.3/5 THEN o ELSE n/a c32: IF NOT A.3/7 THEN m ELSE n/a c33: IF 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 least 32 octets as user information?	1.1.2.1; 1.2.2.1; 1.3.2.1/ Q.737	m		
2	support the maximum number of up to 128 octets as user information in the **user-to-user information** parameter? If not 128, specify maximum allowed number.	1.1.2.1; 1.2.2.1; 1.3.2.1/ Q.737	o		
3	support implicit request of service UUS1?	1.1/Q.737	o		
4	support explicit request of service UUS1?	1.1/Q.737	o		
5	[IntermE] support the rejection procedure of an explicit service request or discarding of user-to-user information as described in 1.1.5.2.5.2/Q.737.	1.1.5.2.2.2/ Q.737	c51		
6	support service UUS2?	1.2/Q.737	o		
7	[DLE] deliver user-to-user information after the user has answered the call?	1.2.2.1/ Q.737	c72		
8	support service UUS3?	1.3/Q.737	o		
c81: IF A.8/4 THEN o ELSE n/a c82: IF A.8/6 THEN o ELSE n/a					

ETSI

Table A.10: CUG

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	support Closed User Group with decentralized administration?	1/Q.735	m	
2	support Closed User Group with centralized administration?	1/Q.735	n/a	
3	[Gateway] support conversion of national to international CUG codes?	1.5.2.3.1; 1.5.2.4.1/ Q.735	o	
4	support invocation of CLIR for CUG calls?	1.6.6/Q.735	o	

Table A.11: SUB

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

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	o	
2	[DLE] store and process the calling party sub-address as part of the MCID service?	7.2.1/Q.731	o	
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	o	
4	[OutIE] omit for MCID the **calling party number** in case of bilateral agreements.	7.5.2.3.1/ Q.731	o	
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	o	

Table A.13: CONF

Item	Is the exchange [role] able to ...	Reference	Status	Support
1	support the user notification procedures?	1.5/Q.734	c11	
2	[OLE] support *which* maximum number of conference participants?	1.5.2.1.1.2/ Q.734	o	
c21:	IF A.2/6 THEN o ELSE n/a			

Table A.14: ECT

Item	Is the exchange [role] able to ...	Reference	Status	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]	o		
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]	o		
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"?	7.7/EN 300 356-14 [15]	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: IF A.9/2 THEN m ELSE n/a c92: IF A.9/2 THEN o.2 ELSE n/a c93: IF A.9/2 THEN o ELSE n/a c94: IF A.9/2 THEN o.3 ELSE n/a o.2: It is mandatory to support exactly one of these options o.3: 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	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	o		
3	[DLE] omit octet 2 of the **redirection information** if the redirection counter equals1?	3.45/EN 300 356-1 [4]	o		
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]	o		
5	[DLE] include the **redirection number** in the ACM or CPG?	2.5.2.5.1.2 d)/Q.732	m		
7	[IncIE] pass on the **redirection number** if received in an ACM or CPG?	2.5.2.4.1/ Q.732	o		
9	[Local] support the usage of **event information** with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732	o		
10	[IntermE] support the transport of **event information** with the encoding: 0000100 CFB 0000101 CFNR 0000110 CFU?	2.4.2/Q.732	o		
11	[OutIE] omit the **original called number** in case of bilateral agreements?	2.5.2.3.1/ Q.732 3.5.2.3.1/ Q.731	o		
12	[OutIE] omit the **redirecting number** in case of bilateral agreements?	2.5.2.3.1/ Q.732 3.5.2.3.1/ Q.731	o		
13	[IncIE] omit the **redirection number** in case of bilateral agreements?	2.5.2.4.1/ Q.732 5.5.2.4.1/ Q.731	o		
14	@[OutIE] add a prefix to the **redirection number** and set its nature of address indicator to "unknown" (as for COLP A.6/1).	5.5.2.3.1/ Q.731	o		
15	@[IncIE] add a prefix to the **original called number** and set its nature of address indicator to "unknown" (as for CLIP A.4/4).	3.5.2.4.1/ Q.731	o		
16	@[IncIE] add a prefix to the **redirecting number** and set its nature of address indicator to "unknown" (as for CLIP A.4/4).	3.5.2.4.1/ Q.731	o		
@:	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 the diverted-to user (late release - option A)?	2.5.2.5.2.2; Table 2-2/ Q.732	o.4		
2	[Local] clear call to the served user on invocation of call diversion (immediate release - option B)?	2.5.2.5.2.2; Table 2-2/ Q.732	o.4		
3	[Local] through-connect in both directions immediately after sending the IAM?	2.5.2.5.1.2 c) ii)/Q.732	c31		
4	[Local] perform through-connection in both directions at the receipt of ACM or CON?	2.5.2.5.1.2 c) ii)/Q.732	c41		
5	[Local] support the Call Forwarding No Reply timer? If yes, specify the timer value.	Table 2-2/ Q.732	c52		
o.4:	It is mandatory to support exactly one of these options				
c51:	IF A.5/2 THEN o.5 ELSE n/a				
c52:	IF A.3/13 THEN m ELSE o				
o.5:	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	o	
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	o	
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 300 356-18 [19]	o		
2	[OLE] support the maximum number of up to 5 outstanding CCBS requests of a user? If not 5, specify the maximum allowed number.	3.5.1.1.1.1 /EN 300 356-18 [19]	o		
3	[OLE] include the **calling party number** in the CCBS request invoke component?	3.5.1.1.1.1/ EN 300 356-18 [19]	o		
4	[OLE] treat a second identical activation of CCBS as a new request?	3.5.3.1.2/ EN 300 356-18 [19]	o.6		
5	[OLE] reject a second identical activation of CCBS?	3.5.3.1.2/ EN 300 356-18 [19]	o.6		
6	[DLE] support the maximum number of up to 5 queue entries? If not 5, specify the maximum allowed number.	3.5.3.5.1/ EN 300 356-18 [19]	o		
7	[OLE] initiate the CCBS supplementary service even if no diagnostics is received in the release message with causes #17 or #34?	3.7.1/ EN 300 356-18 [19]	o		
8	[DLE] treat the CCBS call as a "destination B busy upon arrival of CCBS request" in case of interaction between CCBS and CFB?	3.6.10.2.2 c); 3.5.3.5.2 c)/EN 300 356-18 [19]	o.7		
9	[DLE] forward the CCBS call as a normal call in case of interaction between CCBS and CFB?	3.6.10.2.2 c)/EN 300 356-18 [19]	o.7		
10	[DLE] release the call with the diagnostics "CCBS possible" when the service is available?	3.5/EN 300 356-18 [19]	m		
11	[DLE] release the call with the diagnostics "CCBS not possible" if the service is not available?	3.5/EN 300 356-18 [19]	m		
12	[OLE] support the retention timer CCBS-T1? If yes, specify the timer value (greater than 15 s).	3.9.1/ EN 300 356-18 [19]	m		
12	[OLE] support the CCBS request operation timer CCBS-T2? The value of the timer shall be 10 s.	3.9.1/ EN 300 356-18 [19]	m		
13	[OLE] support the CCBS service duration timer CCBS-T3? If yes, specify the timer value (15-45 min).	3.9.1/ EN 300 356-18 [19]	m		
14	[OLE] support the CCBS recall timer CCBS-T4? If yes, specify the timer value (10-20 s).	3.9.1/ EN 300 356-18 [19]	m		
15	[DLE] support the CCBS service supervision timer CCBS-T7? The value of the timer shall be 60 min.	3.9.2/ EN 300 356-18 [19]	m		
16	[DLE] support the destination B idle guard timer CCBS-T8? If yes, specify the timer value (less than 15 s).	3.9.2/ EN 300 356-18 [19]	m		
17	[DLE] support the recall timer CCBS-T9? The value of the timer shall be 30 s.	3.9.2/ EN 300 356-18 [19]	m		
18	[Local] support the interworking supervision timer T_{SUP}? The value of the timer shall be 60 min.	3.9.3/ EN 300 356-18 [19]	o		
o.6:	It is mandatory to support exactly one of these options				
o.7:	It 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	o		
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	o		
3	[OLE] include the **calling party number** in the CCNR request invoke component?	5.1.1.1.1/ Q.733.5	o		
4	[OLE] treat a second identical activation of CCNR as a new request?	5.3.1.2/ Q.733.5	o.6		
5	[OLE] reject a second identical activation of CCNR?	5.3.1.2/ Q.733.5	o.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	o		
7	[OLE] initiate the CCNR supplementary service even if no CCNR possible indicator is received in the ACM/CPG?	7.1/Q.733.5	o		
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	o.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	o.7		
10	[DLE] release the call with the diagnostics "CCNR possible" when the service is available?	5/Q.733.5	m		
11	[DLE] set the ACM/CPG with the indicator "CCNR not possible" if the service is not available?	5/Q.733.5	m		
12	[OLE] support the retention timer CCNR-T1? If yes, specify the timer value (greater than 15 s).	9.1/Q.733.5	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	m		
14	[OLE] support the CCNR service duration timer CCNR-T3? If yes, specify the timer value (60-180 min).	9.1/Q.733.5	m		
15	[OLE] support the CCNR recall timer CCNR-T4? If yes, specify the timer value (10-20 s).	9.1/Q.733.5	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	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	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	m		
19	[Local] support the interworking supervision timer T_{SUP}? The value of the timer shall be 190 min.	9.3/Q.733.5	o		
o.6:	It is mandatory to support exactly one of these options				
o.7:	It 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".

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