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Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user

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Foreword

This draft European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Public Enquiry phase of the ETSI standards approval procedure.

This ETS is part 3 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Calling Line Identification Presentation (CLIP) supplementary service, as described below:

Part 1: "Protocol specification";

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

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

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

Part 5: "TSS&TP specification for the network";

Part 6: "ATS and partial PIXIT proforma specification for the network".

NOTE: The first part, ETS 300 092-1 (1992), containing the protocol specification, was initially published as ETS 300 092 (1992) and has identical contents.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

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1 Scope

This third part of ETS 300 092 specifies the user Test Suite Structure and Test Purposes (TSS&TP) of the Calling Line Identification Presentation (CLIP) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators at the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [6]) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 092-1 (1992): "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

NOTE: ETS 300 092-1 (1992) was initially published as ETS 300 092 (1992).

[2] ETS 300 092-2 (1995): "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ISO/IEC 9646-1: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 1: General Concepts".

[4] ISO/IEC 9646-2: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite specification".

[5] ISO/IEC 9646-3: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".

[6] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".

[7] ETS 300 102-1: "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control".

[8] ITU-T Recommendation I.112 (1993): "Vocabulary and terms for ISDNs".

[9] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".

[10] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".

3 Definitions

For the purposes of this ETS, the following definitions apply:

3.1 Definitions related to conformance testing

abstract test case: Refer to ISO/IEC 9646-1 [3].

abstract test suite: Refer to ISO/IEC 9646-1 [3].

active test: A test case where the IUT is required to send a particular message, but not in reaction to a received message. This would usually involve the use of PIXIT information to see how this message can be generated and quite often is specified in an ATS using an Implicit Send event.

implementation under test: Refer to ISO/IEC 9646-1 [3].

implicit send event: Refer to ISO/IEC 9646-3 [5].

lower tester: Refer to ISO/IEC 9646-1 [3].

passive test: A test case where the IUT is required to respond to a protocol event (e.g. received message) with another protocol event (sends message) and normally does not require an any special operator intervention such as is associated with the Implicit Send event.

point of control and observation: Refer to ISO/IEC 9646-1 [3].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [3].

PICS proforma: Refer to ISO/IEC 9646-1 [3].

Protocol Implementation eXtra Information for Testing (PIXIT): Refer to ISO/IEC 9646-1 [3].

PIXIT proforma: Refer to ISO/IEC 9646-1 [3].

system under test: Refer to ISO/IEC 9646-1 [3].

test purpose: Refer to ISO/IEC 9646-1 [3].

3.2 Definitions related to ETS 300 092-1

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [8], definition 308.

international number: An ISDN number structured as specified in subclause 3.2 (in the paragraphs relating to international number) of CCITT Recommendation E.164 [9].

ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [9].

national number; national significant number: An ISDN number structured as specified in subclause 3.2 (in the paragraphs relating to national significant number) of CCITT Recommendation E.164 [9].

served user: The user of a particular ISDN number who has subscribed to the presentation of the calling line identification information in association with incoming calls. The served user is also known as the called user.

service; telecommunication service: See ITU-T Recommendation I.112 [8], definition 201.

subscriber number: An ISDN number structured as specified in subclause 3.2 (in the paragraphs relating to subscriber number) of CCITT Recommendation E.164 [9].

supplementary service: See ITU-T Recommendation I.210 [10], subclause 2.4.

user: The DSS1 protocol entity at the User side of the user-network interface where a T reference point or coincident S and T reference point applies.

user (S/T): The DSS1 protocol entity at the User side of the user-network interface where a coincident S and T reference point applies.

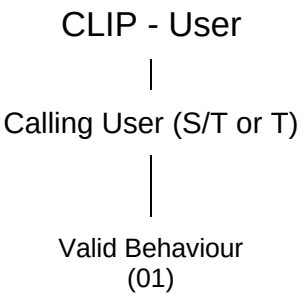
user (T): The DSS1 protocol entity at the User side of the user-network interface where a T reference point applies (User is the Private ISDN).

4 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

ATS	Abstract Test Suite
CLIP	Calling Line Identification Presentation
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure
U00	Null call state

5 Test Suite Structure (TSS)



NOTE 1: Numbers in brackets represent group numbers and are used in Test Purpose identifiers.

NOTE 2: This Test Suite Structure reflects only the normative part of the document.

Figure 1: Test suite structure

6 Test Purposes (TP)

6.1 Introduction

For each test requirement a Test Purpose (TP) is defined.

6.1.1 Test purpose naming convention

The TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual Test Suite and whether it applies to the Network or the User side (see table 1).

Table 1: TP Identifier naming convention scheme

Identifier:		**<ss>_<iut><group>_<nnn>**	
<ss>	=	supplementary service:	e.g. "CLIP_"
<iut>	=	type of IUT:	U User side N Network side.
<group>		group	2 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001-999)

6.1.2 Source of test purpose definition

The TPs are based on ETS 300 092-1 [1].

6.1.3 Test purpose structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used and this is illustrated in table 2. This table should be read in conjunction with any TP i.e. use a TP as an example to fully understand the table.

Table 2: Structure of a single TP for CLIP

TP Part	Text	Example
Header	**<Identifier>** *tab* **<paragraph number in base ETS>** *tab* **<PICS reference>** *tab* **<condition>** *CR.*	see table 1 **subclause 0.0.0** **XY 0.0** **mandatory, optional, conditional**
Stimulus	Ensure that the IUT in the <basic call state> <trigger> *see below for message structure* *or* <goal>	 U00, U10, etc. receiving a XXXX message to request a ....
Reaction	<action> <conditions> *if the action is sending* *see below for message structure* <next action>, *etc.* and enters <supplementary service state> *and/or* and remains in the same state(s) *or* and enters state <state> with CR<number(s)>	sends, saves, does, etc. using en bloc sending, ...
Message structure	<message type> message containing a *a)* <info element> information element with *b)* the <field name> encoded as *or* including <coding of the field> and *back to a or b,*	SETUP, FACILITY, CONNECT, Bearer capability, Facility, ...
NOTE:	Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.	

6.1.4 Test strategy

As the base standard contained no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and PICS. The criteria applied included the following:

- only the requirements from the point of view of the T or coincident S and T reference point are considered;

- whether or not a test case can be built from the test purpose is not considered.

6.2 User side test purposes for CLIP

All PICS items referred to in this subclause are as specified in ETS 300 092-2 [2] unless indicated otherwise by another numbered reference.

6.2.1 Calling user (S/T or T)

6.2.1.1 Valid behaviour

CLIP_U01_001 subclause 9.2.1 SC 1.1 optional
Ensure that the IUT in the Null call state U00, in order to present a complete calling party number,
sends a SETUP message containing a valid Calling party information element with the numbering plan identification encoded as "unknown" or "ISDN/telephony numbering plan" and the type of number encoded as "subscriber number", "national number" or "international number"; and the type of number encoded as “national number” or “international number” if a special arrangement exists.

CLIP_U01_002 subclause 9.2.1 SC 1.2 optional
Ensure that the IUT in the Null call state U00, in order to present a partial calling party number,
sends a SETUP message containing a valid Calling party information element with the numbering plan identification encoded as "unknown" or "ISDN/telephony numbering plan" and the type of number encoded as "unknown".

Annex A (informative): Additional test purposes for the served user (S/T or T)

ETS 300 092-1 [1] places no requirements on the called terminal on how it should treat a received Calling party number and Calling party subaddress information elements.

While, for conformance, only the tests in the main body of this standard need to be performed, the test purposes below may prove useful in ascertaining behaviour over and above the requirements of ETS 300 092-1 [1].

CLIP_U02_001
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the presentation indicator encoded as "number not available due to interworking",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party number information element).

CLIP_U02_002
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the presentation indicator encoded as "presentation restriction",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party number information element).

CLIP_U02_003
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the type of number and numbering plan identification both encoded as "unknown",
accepts the call following the basic call procedures.

CLIP_U02_004
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the numbering plan identification encoded as "ISDN/telephony numbering plan",
accepts the call following the basic call procedures.

CLIP_U02_005
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the numbering plan identification encoded as "reserved for extension",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party number information element).

CLIP_U02_006
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the type of number encoded as "international number",
accepts the call following the basic call procedures.

CLIP_U02_007
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the type of number encoded as "national number",
accepts the call following the basic call procedures.

CLIP_U02_008
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the type of number encoded as "reserved for extension",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party number information element).

CLIP_U02_009
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing two Calling party number information elements with the screening indicator for the first coded as “user provided and not screened” and for the second coded as “network provided”,
accepts the call following the basic call procedures.

CLIP_U02_010
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the presentation indicator encoded as "reserved",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party number information element).

CLIP_U02_011
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the presentation indicator encoded as presentation allowed and screening indicator encoded as "user provided, not screened",
accepts the call following the basic call procedures.

CLIP_U02_012
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the screening indicator encoded as "user provided, verified and passed",
accepts the call following the basic call procedures.

CLIP_U02_013
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party number information element with the screening indicator encoded as "network provided",
accepts the call following the basic call procedures

CLIP_U02_014
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party subaddress information element with the type of subaddress encoded as "NSAP",
accepts the call following the basic call procedures.

CLIP_U02_015
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party subaddress information element with the type of subaddress encoded as "user specified",
accepts the call following the basic call procedures.

CLIP_U02_016
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party subaddress information element with the type of subaddress encoded as "reserved",
accepts the call following the basic call procedures (and ignores remaining information in the Calling party subaddress information element).

CLIP_U02_017
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party subaddress information element with the odd/even indicator encoded as "even",
accepts the call following the basic call procedures.

CLIP_U02_018
Ensure that the IUT, while in the Null call state U00, receiving a valid and compatible SETUP message containing a Calling party subaddress information element with the odd/even indicator encoded as "odd",
accepts the call following the basic call procedures.

History

Document history			
October 1995	Public Enquiry	PE 94:	1995-10-23 to 1996-02-16
December 1995	Converted into Adobe Acrobat Portable Document Format (PDF)		