ETSI

EUROPEAN
TELECOMMUNICATION
STANDARD

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

ETSI

Contents

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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 draft prETS 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) Connected Line Identification Presentation (COLP) 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 300 097-1 (1992), containing the protocol specification, was initially published as ETS 300 097 (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 300 097 specifies the user Test Suite Structure and Test Purposes (TSS&TP) of the Connected Line Identification Presentation (COLP) 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 300 097-1 (1992): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

    NOTE: ETS 300 097-1 (1992) was initially published as ETS 300 097 (1992).

[2]   ETS 300 097-2 (1995): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) 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 300 097-1

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 connected line identification information in association with outgoing calls. The served user is also known as the calling 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
COLP	Connected 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
U03	Outgoing Call Proceeding call state
U06	Call Present call state
U07	Call Received call state
U09	Incoming Call Proceeding call state

5 Test Suite Structure (TSS)

COLP - User

Called User (S/T or T)   Calling User (S/T or T)

Valid Behaviour   Valid Behaviour
(01)   (02)

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

Figure 1: Test suite structure
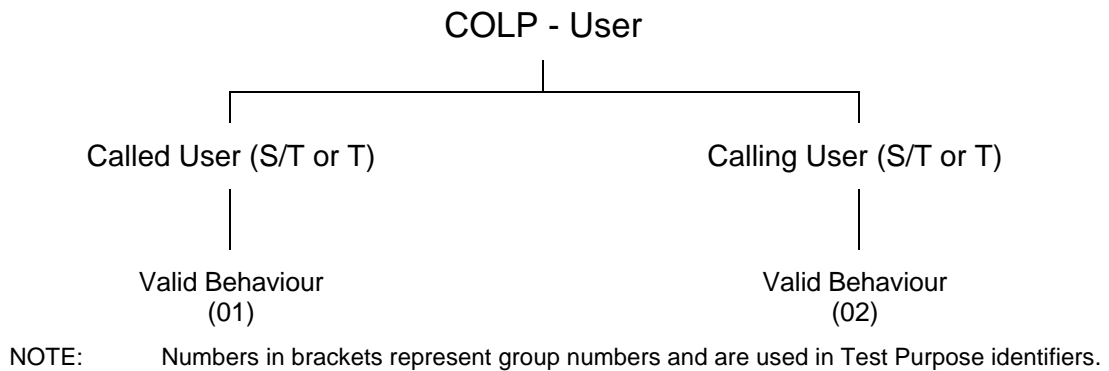
6 Test Purposes (TP)

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. "COLP_"
<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 300 097-1 [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 COLP

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 COLP

All PICS items referred to in this subclause are as specified in ETS 300 097-2 [2] unless indicated otherwise by another numbered reference.

6.2.1 Called user (S/T or T)

6.2.1.1 Valid behaviour

COLP_U01_001   subclause 9.2.1   SC 1.1   optional
Ensure that the IUT in the Call present call state U06 or in the Call received call state U07 or in the Incoming call proceeding call state U09, in order to present a complete calling party number,
    sends a CONNECT message containing a valid Connected number 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.

COLP_U01_002   subclause 9.2.1   SC 1.2   optional
Ensure that the IUT in the Call present call state U06 or in the Call received call state U07 or in the Incoming call proceeding call state U09, in order to present a partial calling party number,
    sends a CONNECT message containing a valid Connected number information element with the numbering plan identification encoded as "unknown" or "ISDN/telephony numbering plan" and the type of number encoded as "unknown".

6.2.2 Calling user (S/T or T)

6.2.2.1 Valid behaviour

COLP_U02_001   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected 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 the remaining information in the Connected number information element).

COLP_U02_002   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the presentation indicator encoded as "presentation restricted",
    accepts the call following the basic call procedures (and ignores the remaining information in the Connected number information element).

COLP_U02_003   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the type of number and numbering plan identification both encoded as "unknown",
    accepts the call following the basic call procedures.

COLP_U02_004   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the numbering plan identification encoded as "ISDN telephony",
   accepts the call following the basic call procedures.

COLP_U02_005   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the numbering plan identification encoded as "reserved for extension",
   accepts the call following the basic call procedures (and ignores the remaining information in the Connected number information element).

COLP_U02_006   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the type of number encoded as "international number",
   accepts the call following the basic call procedures.

COLP_U02_007   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the type of number encoded as "national number",
   accepts the call following the basic call procedures.

COLP_U02_008   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the type of number encoded as "reserved for extension",
   accepts the call following the basic call procedures (and ignores the remaining information in the Connected number information element).

COLP_U02_009   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the presentation indicator encoded as "presentation allowed",
   accepts the call following the basic call procedures.

COLP_U02_010   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the presentation indicator encoded as "reserved",
   accepts the call following the basic call procedures (and ignores the remaining information in the Connected number information element).

COLP_U02_011   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the screening indicator encoded as "user provided, not screened",
   accepts the call following the basic call procedures.

COLP_U02_012   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the screening indicator encoded as "user provided, verified and passed",
   accepts the call following the basic call procedures.

COLP_U02_013   **subclause 9.5.1**
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the screening indicator encoded as "user provided, verified and failed",
   accepts the call following the basic call procedures (and ignores the remaining information in the Connected number information element).

COLP_U02_014   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected number information element with the screening indicator encoded as "network provided",
    accepts the call following the basic call procedures.

COLP_U02_015   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected subaddress information element with the type of subaddress encoded as "NSAP",
    accepts the call following the basic call procedures.

COLP_U02_016   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected subaddress information element with the type of subaddress encoded as "user specified",
    accepts the call following the basic call procedures.

COLP_U02_017   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected subaddress information element with the type of subaddress encoded as "reserved",
    accepts the call following the basic call procedures (and ignores the remaining information in the Connected subaddress information element).

COLP_U02_018   subclause 9.5.1
Ensure that the IUT in the Outgoing call proceeding call state U03, receiving a valid CONNECT message containing a Connected 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
June 1996	Converted into Adobe Acrobat Portable Document Format (PDF)		