



SLOVENSKI STANDARD
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Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 5: Test Suite Structure and Test Purposes (TSS&TP) specification for the network

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European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Advice of Charge (AOC) supplementary service;
Digital Subscriber Signalling System No. one (DSS1) protocol;
Part 5: Test Suite Structure and Test Purposes (TSS&TP)
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Foreword

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

The present document is part 5 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Advice of Charge (AOC) 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: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";**
- Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

The present version updates the references to the basic call specifications.

National transposition dates	
Date of adoption of this EN:	19 June 1998
Date of latest announcement of this EN (doa):	30 September 1998
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 March 1999
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1 Scope

This fifth part of EN 300 182 specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Network side of the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [7]) of implementations conforming to the stage three standard for the Advice of Charge (AOC) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 182-1 [1].

A further part of this EN specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on the present document. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the User side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 182-1 [1].

2 Normative references

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case 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.

- <https://standards.iteh.ai/catalog/standards/sist/e75d418f-0392-46c2-85a9-6624c60f2e31/en-300-182-5-v1-2-4-2003>
- SIST EN 300 182-5 V1.2.4:2003
- [1] EN 300 182-1 (V1.2): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
 - [2] EN 300 182-2 (V1.2): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) 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] ETS 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
 - [7] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".
 - [8] EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
 - [9] ITU-T Recommendation I.112: "Vocabulary and terms for ISDNs".
 - [10] CCITT Recommendation E.164: "Numbering plan for the ISDN era".

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

3 Definitions

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

3.1 Definitions related to conformance testing

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

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

Implementation Under Test (IUT): 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].

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 (TP): Refer to ISO/IEC 9646-1 [3].

3.2 Definitions related to EN 300 182-1

call reference: See EN 300 403-1 [8], subclause 4.3.

component: See ETS 300 196-1 [6], subclause 11.2.2.1.

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [9], definition 308.

invoke component: See ETS 300 196-1 [6], subclause 11.2.2.1.

ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [10].

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

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

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

return error component: See ETS 300 196-1 [6], subclause 11.2.2.1.

return result component: See ETS 300 196-1 [6], subclause 11.2.2.1.

served user: The served user is the user who invokes the AOC supplementary service.

service; telecommunication service: See ITU-T Recommendation I.112 [9], definition 201.

supplementary service: See ITU-T Recommendation I.210 [11], subclause 2.4.

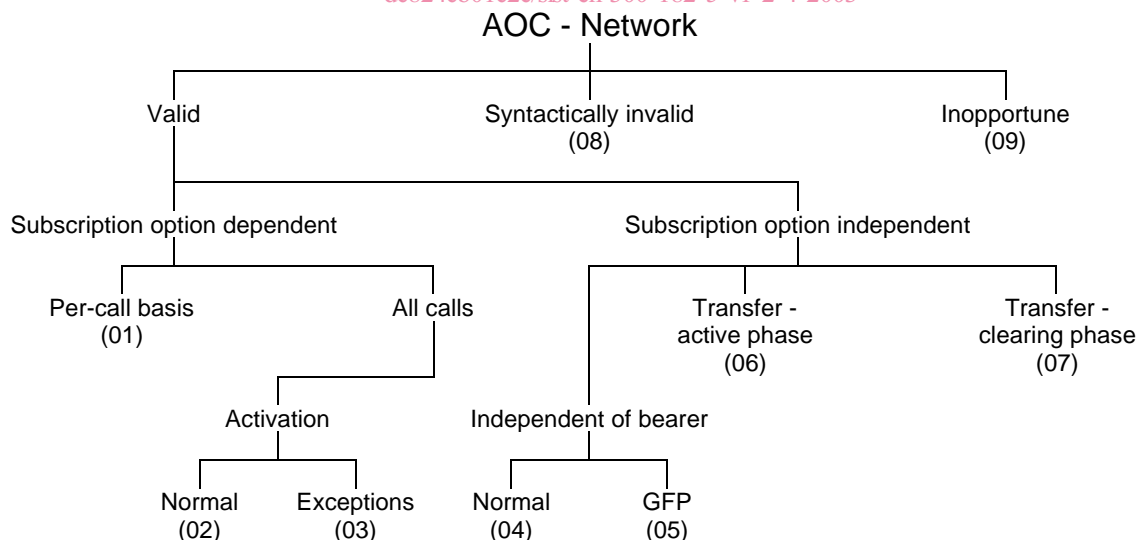
4 Abbreviations

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

AOC	Advice of Charge
ATM	Abstract Test Method
ATS	Abstract Test Suite
DSS1	Digital Subscriber Signalling System No. one
GFP	Generic Functional Protocol
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
N00	Null call state
N02	Overlap Sending call state
N03	Outgoing Call Proceeding call state
N04	Call Delivered call state
N06	Call Present call state
N07	Call Received call state
N08	Connect Request call state
N09	Incoming Call Proceeding call state
N10	Active call state
N12	Disconnect Indication call state
N19	Release Request call state
N25	Overlap Receiving call state
TP	Test Purpose
TSS	Test Suite Structure

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5 Test Suite Structure (TSS)



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

Figure 1: Test suite structure

6 Test Purposes (TP)

6.1 Introduction

For each test requirement a TP is defined.

6.1.1 TP naming convention

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 (see table 1).

Table 1: TP identifier naming convention scheme

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

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6.1.2 Source of TP definition

The TPs are based on EN 300 182-1 [1].

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6.1.3 TP structure

[standards.iteh.ai/catalog/standards/sist/e75d418f-0392-46c2-85a9-dc824cb01c2e/sist-en-300-182-5-v1-2-4-2003](#)

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

TP part	Text	Example
Header	<Identifier> <i>tab</i> <paragraph number in base ETS> <i>tab</i> <type of test> <i>tab</i> <condition> <i>CR</i>	see table 1 subclause 0.0.0 valid, invalid, inopportune mandatory, optional, conditional
Stimulus	Ensure that the IUT in the <basic call state> / <supplementary service state> <trigger> <i>see below for message structure</i> or <goal>	N10 etc. /AOC-S Idle,... receiving a XXXX message to request a
Reaction	<action> <conditions> <i>if the action is sending</i> <i>see below for message structure</i> <next action>, etc. and remains in the same state or and enters state <state>	sends, saves, does, etc. using en bloc sending, ...
Message structure	<message type> message containing a a) <info element> information element with b) a <field name> encoded as or including <coding of the field> and <i>back to a or b</i> ,	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.	

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6.1.4 Test strategy (standards.iteh.ai)

As the base standard EN 300 182-1 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification EN 300 182-2 [2]. The criteria applied include 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 TP is not considered.

6.2 Network TPs for AOC

All PICS items referred to in this subclause are as specified in EN 300 182-2 [2] unless indicated otherwise by another numbered reference.

6.2.1 Valid behaviour

6.2.1.1 Subscription option dependent

6.2.1.1.1 Per-call basis

AOC_N01_001 subclause 9.2.1

valid

optional

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-S service and charging information is available, returns a ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "AOCSSpecialArrInfo" in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and enters the AOC-S Idle state and continues normal call handling.

Selection: AOC-S supported. PICS: MC 10.

Selection: The supply of charging information is controllable.

AOC_N01_002 subclause 9.2.1**valid****optional**

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-S service and charging information is not available, returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" or indicating a general error in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and continues normal call handling and remains in AOC Idle state.

Selection: AOC-S supported. PICS: MC 10.

Selection: The supply of charging information is controllable.

AOC_N01_003 subclause 9.2.1**valid****optional**

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-S service and charging information is available, returns a ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "AOCSSpecialArrInfo" in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and enters the AOC-S Idle state and continues normal call handling

or when no charging information is available,

returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" or indicating a general error in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and continues normal call handling and remains in AOC Idle state.

Selection: AOC-S supported. PICS: MC 10.

Selection: The supply of charging information is not controllable.

AOC_N01_004 subclause 9.1.1**valid****optional**

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-D service and charging information is available, returns a ChargingRequest return result component indicating "chargingInfoFollows" in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and enters the AOC-D Activated state and continues normal call handling.

Selection: AOC-D supported. PICS: MC 11.

Selection: The supply of charging information is controllable.

AOC_N01_005 subclause 9.1.1**valid****optional**

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-D service and charging information is not available, returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" or indicating a general error in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT or a FACILITY message and continues normal call handling and remains in state AOC Idle.

Selection: AOC-D supported. PICS: MC 11.

Selection: The supply of charging information is controllable.