



**SLOVENSKI STANDARD**  
**SIST EN 300 182-3 V1.3.2:2003**

**01-december-2003**

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8 [[ ]HJbc`ca fYy`Y`n`]bhY[ f]fUb]a ]`g]c]f]h]j Ua ]`f]G8 B]L]E]8 cdc`b]`bU]g]c]f]h]j .`cV]j Yg]h]`c  
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i dcfU]b]\_U

Integrated Services Digital Network (ISDN); Advice of Charge (AOC) 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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# ETSI EN 300 182-3 V1.3.2 (2000-05)

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

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 3 of a multi-part EN 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 identified 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.

<b>National transposition dates</b>	
Date of adoption of this EN:	28 April 2000
Date of latest announcement of this EN (doa):	31 July 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2001
Date of withdrawal of any conflicting National Standard (dow):	31 January 2001

## 1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the User 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 the present document 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 Network side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 182-1 [1].

## 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.

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- [1] ETSI 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] ETSI 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 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".
- [4] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 2: Abstract Test Suite specification".
- [5] ISO/IEC 9646-3 (1998): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [6] ETSI EN 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] ETSI 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 (1993): "Vocabulary and terms for ISDNs".
- [10] ITU-T Recommendation E.164 (1997): "The international public telecommunication numbering plan".

- [11] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".
- [12] ETSI ETS 300 196-2: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

#### 3.1.1 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]

#### 3.1.2 Definitions related to EN 300 182-1

**call reference:** see EN 300 403-1 [8], subclause 4.3

**component:** see EN 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 EN 300 196-1 [6], subclause 11.2.2.1

**ISDN number:** a number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [10]

**return error component:** see EN 300 196-1 [6], subclause 11.2.2.1

**return result component:** see EN 300 196-1 [6], subclause 11.2.2.1

**served user:** 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



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

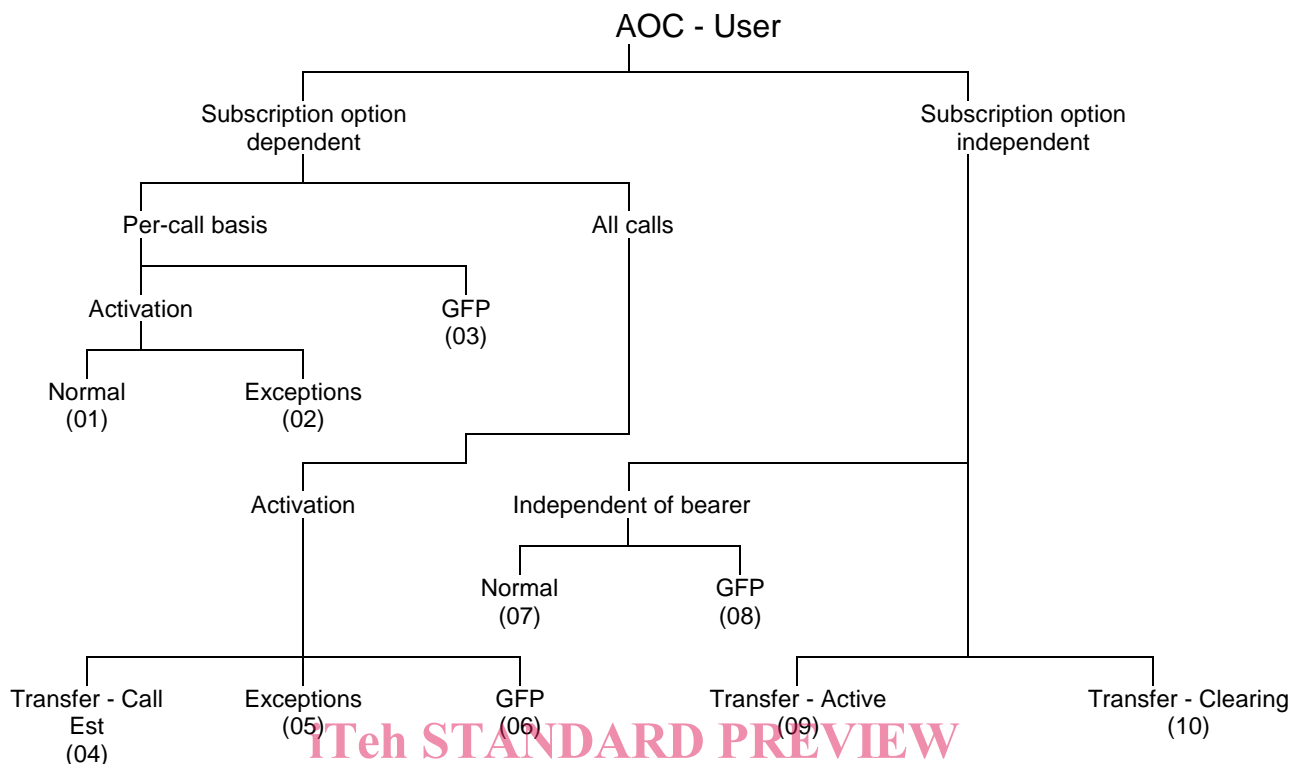
**user (T):** DSS1 protocol entity at the User side of the user-network interface where a T reference point applies (User is a Private ISDN)

## 3.2 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
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure
U00	Null call state
U02	Overlap Sending call state
U03	Outgoing Call Proceeding call state
U04	Call Delivered call state
U06	Call Present call state
U07	Call Received call state
U08	Connect Request call state
U09	Incoming Call Proceeding call state
U10	Active call state
U19	Release Request call state

## 4 Test Suite Structure (TSS)



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

**Figure 1: Test suite structure**

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## 5 Test Purposes (TP)

### 5.1 Introduction

For each test requirement a TP is defined.

#### 5.1.1 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)

### 5.1.2 Source of TP definition

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

### 5.1.3 TP 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

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>	U10 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.	

### 5.1.4 Test strategy

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.

## 5.2 User 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.

### 5.2.1 Subscription option dependent

#### 5.2.1.1 Per-call basis

**Selection:** IUT supports procedures related to the subscription option "AOC requested on a per-call basis" (this applies to whole group). PICS: SC 1 or SC 2 or SC 3.

##### 5.2.1.1.1 Activation

###### 5.2.1.1.1.1 Normal

**AOC\_U01\_001** subclause 9.1.1 **valid** **optional**

Ensure that the IUT in U00/AOC Idle state in order to activate the AOC-S supplementary service, sends a SETUP message including a Facility information element coded as chargingRequest invoke component indicating AOC-S and enters the U01/AOC Request state.

**Selection:** AOC-S supported. PICS: MC 1.

**AOC\_U01\_002** subclause 9.1.1 **valid** **optional**

Ensure that the IUT in U00/AOC Idle state in order to activate the AOC-D supplementary service, sends a SETUP message including a Facility information element coded as chargingRequest invoke component indicating AOC-D and enters the U01/AOC Request state.

**Selection:** AOC-D supported. PICS: MC 2. [SIST EN 300 182-3 V1.3.2:2003](https://standards.iteh.ai/catalog/standards/sist/4fe0b8ff-3d53-495a-9558-e4fb61d92d14/sist-en-300-182-3-v1.3.2-2003)  
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**AOC\_U01\_003** subclause 9.1.1 **valid** **optional**

Ensure that the IUT in U00/AOC Idle state in order to activate the AOC-E supplementary service, sends a SETUP message including a Facility information element coded as chargingRequest invoke component indicating AOC-E and enters the U01/AOC Request state.

**Selection:** AOC-E supported. PICS: MC 3.

**AOC\_U01\_004** subclause 9.2.1.1 **valid** **optional**

Ensure that the IUT in U01/AOC Request state, on receipt of a SETUP ACKNOWLEDGE message including a Facility information element coded as chargingRequest return result component indicating "AOCSCurrencyInfoList", enters the U02/AOC Active state.

**Selection:** AOC-S supported. PICS: MC 1.

**AOC\_U01\_005** subclause 9.2.1.1 **valid** **optional**

Ensure that the IUT in U01/AOC Request state, on receipt of a CALL PROCEEDING message including a Facility information element coded as chargingRequest return result component indicating "AOCSCurrencyInfoList", enters the U03/AOC Active state.

**Selection:** AOC-S supported. PICS: MC 1.

**AOC\_U01\_006** subclause 9.2.1.1 **valid** **optional**

Ensure that the IUT in U03/AOC Request state, on receipt of a PROGRESS message including a Facility information element coded as chargingRequest return result component indicating "AOCSCurrencyInfoList", enters the U03/AOC Active state.

**Selection:** AOC-S supported. PICS: MC 1.