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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) specification for the network

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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS), and is now submitted for the ETSI standards One-step Approval Procedure.

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.

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

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.

[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.

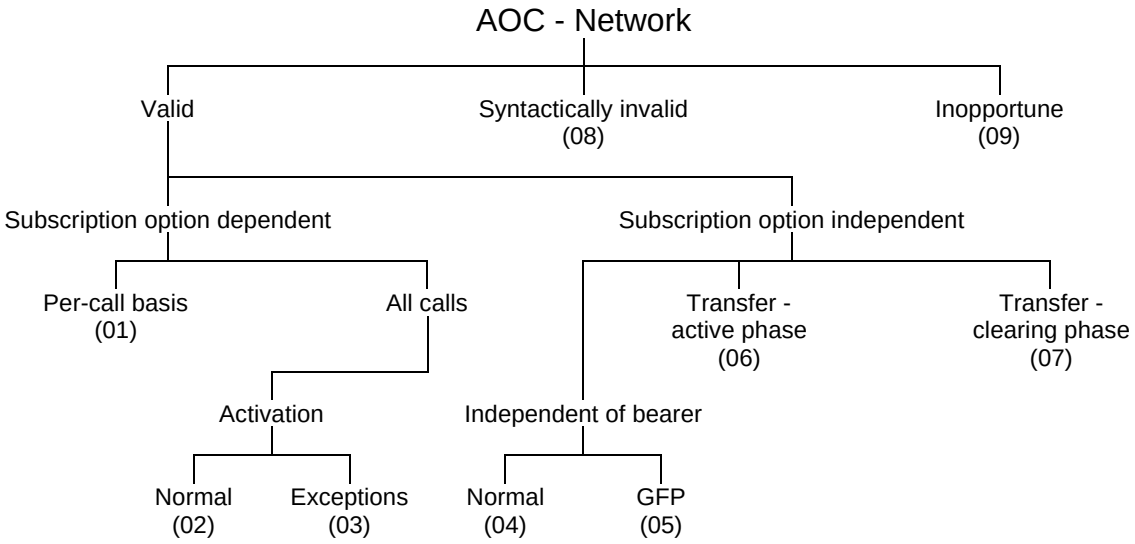
supplementary service: See ITU-T Recommendation I.210 [11], subclause 2.4.

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

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 N	User Network
<group>	=	group	2 digit field representing group reference according to TSS	
<nnn>	=	sequential number	(001-999)	

6.1.2 Source of TP definition

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

6.1.3 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> *tab* <paragraph number in base ETS> *tab* <type of test> *tab* <condition> *CR*	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> *see below for message structure* *or* <goal>	 N10 etc. /AOC-S Idle,... receiving a XXXX message to request a ....
Reaction	<action> <conditions> *if the action is sending* *see below for message structure* <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 *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 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.

AOC_N01_006 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

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 state AOC Idle.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is not controllable.

AOC_N01_007 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-E 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-E Activated state and continues normal call handling.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N01_008 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-E 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-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N01_009 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-E 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-E Activated 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 state AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is not controllable.

6.2.1.1.2 All calls

6.2.1.1.2.1 Activation

6.2.1.1.2.1.1 Normal

AOC_N02_001 subclause 9.2.1 valid optional
Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message NOT including a ChargingRequest invoke component indicating the AOC-S service and charging information is available,

returns an AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or an AOCSSpecialArr invoke component indicating "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_N02_002 subclause 9.2.1 valid optional
Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message NOT including a ChargingRequest invoke component indicating the AOC-S service and charging information is not available,

returns an AOCSCurrency or an AOCSSpecialArr invoke component indicating "chargeNotAvailable" 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-S supported. PICS: MC 10.
Selection: The supply of charging information is controllable.

AOC_N02_003 subclause 9.2.1 valid optional
Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message NOT including a ChargingRequest invoke component indicating the AOC-S service and charging information is available,

returns an AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or an AOCSSpecialArr invoke component indicating "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 an AOCSCurrency or an AOCSSpecialArr invoke component indicating "chargeNotAvailable" 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-S supported. PICS: MC 10.
Selection: The supply of charging information is not controllable.

6.2.1.1.2.1.2 Exceptions

AOC_N03_001 subclause 9.1.2 i) valid optional
Ensure that the IUT in the 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 aChargingRequest 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.

Selection: AOC-S supported. PICS: MC 10.
Selection: The supply of charging information is controllable.

AOC_N03_002 subclause 9.1.2 i) valid optional

Ensure that the IUT in the 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" 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-S supported. PICS: MC 10.
Selection: The supply of charging information is controllable.

AOC_N03_003 subclause 9.1.2 i) valid optional

Ensure that the IUT in the 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

or when no charging information is available,

returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" 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-S supported. PICS: MC 10.
Selection: The supply of charging information is not controllable.

AOC_N03_004 subclause 9.1.2 i) 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.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N03_005 subclause 9.1.2 i) 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 "NoChagingInfoAvailable" 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.

AOC_N03_006 subclause 9.1.2 i) 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

or when no charging information is available,

returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" 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 not controllable.

AOC_N03_007 subclause 9.1.2 i) 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-E 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-E Activated state.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N03_008 subclause 9.1.2 i) 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-E service and charging information is not available,

returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" 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-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N03_009 subclause 9.1.2 i) 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-E 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-E Activated state

or when no charging information is available,

returns a ChargingRequest return error component indicating "NoChargingInfoAvailable" 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-E supported. PICS: MC 12.
Selection: The supply of charging information is not controllable.

AOC_N03_010 subclause 9.1.2 a) valid optional

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message NOT including a ChargingRequest invoke component indicating the AOC-D service and charging information is not available,

returns an AOCDCurrency or an AOCDChargingUnit invoke component indicating "chargeNotAvailable" in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT, DISCONNECT, RELEASE, RELEASE COMPLETE 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.

AOC_N03_011 subclause 9.1.2 a) valid optional

Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message NOT including a ChargingRequest invoke component indicating the AOC-E service and charging information is not available,

returns an AOCECurrency or an AOCEChargingUnit invoke component indicating "chargeNotAvailable" in a Facility information element in either a SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT, DISCONNECT, RELEASE, RELEASE COMPLETE or a FACILITY message and continues normal call handling and remains in state AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

6.2.1.2 Subscription option independent

6.2.1.2.1 Independent of bearer

Selection: "Transfer of AOC-E charging information independent of a bearer" supported. PICS: MC 17.

6.2.1.2.1.1 Normal

AOC_N04_001 subclause 9.2.4.1 valid optional
Ensure that the IUT in AOC-E Activated state when the served user has invoked another supplementary service which incurs a charge and the call incurring the charge is released and charging information is available,
sends to the user, which has not got a bearer established, a FACILITY message with the dummy call reference including a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" both giving in the "AOCEBillingId" the cause of the incurred charge and including the Called party number information element containing the ISDN number used in the activation/invocation of the supplementary service for which the charge is incurred
via the already established data link,

or when the IUT is aware of a point to multipoint connection
via broadcast data link.

Selection: The supply of charging information is controllable.

AOC_N04_002 subclause 9.2.4.2 a), b) valid optional
Ensure that the IUT in AOC-E Activated state when the served user has invoked another supplementary service which incurs a charge and the call incurring the charge is released and charging information is not available or incomplete and based on currency units or only one type of charging unit,
sends to the user, which has not got a bearer established, a FACILITY message with the dummy call reference including a Facility information element coded as AOCECurrency invoke component indicating "chargeNotAvailable" and including the Called party number information element containing the ISDN number used in the activation/invocation of the supplementary service for which the charge is incurred
via the already established data link,

or when the IUT is aware of a point to multipoint connection
via broadcast data link.

Selection: The supply of charging information is controllable.

AOC_N04_003 subclause 9.2.4.2 d) valid optional
Ensure that the IUT in AOC-E Activated state when the served user has invoked another supplementary service which incurs a charge and the call incurring the charge is released and charging information is incomplete and based on more than one type of charging unit,
sends to the user, which has not got a bearer established, a FACILITY message with the dummy call reference including a Facility information element coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" containing the available charging information with the unavailable charging information fields set to "notAvailable" and including the Called party number information element containing the ISDN number used in the activation/invocation of the supplementary service for which the charge is incurred
via the already established data link,

or when the IUT is aware of a point to multipoint connection
via broadcast data link.

Selection: The supply of charging information is controllable.

AOC_N04_004 subclause 9.2.4.2, last paragraph valid optional
Ensure that the IUT in AOC-E Activated state on receipt of a FACILITY message with the dummy call reference containing a Facility information element with a reject component,
takes no protocol action and continues normal call handling and remains in AOC-E Activated state.

6.2.1.2.1.2 GFP

AOC_N05_001 [6] subclauses 8.3.2.2.2 & 8.3.2.4.2 optional
Ensure that the IUT, in AOC-E Activated state receiving a FACILITY message with the dummy call reference containing a Facility information element with an invalid protocol profile,
ignores the message.

AOC_N05_002 [6] subclauses 8.3.2.2.2 & 8.3.2.4.2 optional
Ensure that the IUT, in AOC-E Activated state receiving a FACILITY message with the dummy call reference without a Facility information element,
ignores the message.

AOC_N05_003 [6] subclauses 8.3.2.2.2 & 8.3.2.4.2 optional
Ensure that the IUT, in AOC-E Activated state receiving a message other than FACILITY with a dummy call reference and this message does not apply to some other application of the dummy call reference,
ignores the message.

6.2.1.2.2 Transfer - active phase

AOC_N06_001 subclause 9.2.2.1 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, if a change in the charging rate has occurred,
transmits a FACILITY message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and remains in the same state.

Selection: AOC-S supported. PICS: MC 10.
Selection: The supply of charging information is controllable.

AOC_N06_002 subclause 9.2.2.2 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, if a change in the charging rate has occurred and no charging information is available,
takes no protocol action and continues normal call handling and remains in the same state.

Selection: AOC-S supported. PICS: MC 10.
Selection: The supply of charging information is controllable.

AOC_N06_003 subclause 9.2.2 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, if a change in the charging rate has occurred,
transmits a FACILITY message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and remains in the same state;

or when no charging information is available,
takes no protocol action and continues normal call handling and remains in the same state.

Selection: AOC-S supported. PICS: MC 10.
Selection: The supply of charging information is not controllable.

AOC_N06_004 subclause 9.2.2.1 valid optional
Ensure that the IUT in state N10/AOC-D Activated to provide charging information during a call,
transmits a FACILITY message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "subTotal" and remains in the same state.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N06_005 subclause 9.2.2.1 valid optional
Ensure that the IUT in state N10/AOC-D Activated to provide charging information during a call and no charging information is available,
takes no protocol action and continues normal call handling and remains in the same state.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N06_006 subclause 9.2.2.1 valid optional
Ensure that the IUT in state N10/AOC-D Activated to provide charging information during a call,
transmits a FACILITY message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "subTotal" and remains in the same state;

or when no charging information is available,
takes no protocol action and continues normal call handling and remains in the same state.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is not controllable.

6.2.1.2.3 Transfer - clearing phase

AOC_N07_001 subclause 9.2.3.1 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, on receipt of a DISCONNECT message and if charging information is available,
returns a RELEASE message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N19/AOC Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is controllable.

AOC_N07_002 subclause 9.2.3.1 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, on receipt of a DISCONNECT message and if charging information is available,
returns a RELEASE message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N19/AOC Idle;

or if charging information is not available or is incomplete,
returns a RELEASE message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is not controllable.

AOC_N07_003 subclause 9.2.3.2 a), b), c) valid optional
Ensure that the IUT in state N10/AOC-S Idle on receipt of a DISCONNECT message and charging information is not available or is incomplete,
returns a RELEASE message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is controllable.

AOC_N07_004 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-D Activated on receipt of a DISCONNECT message,

returns a RELEASE message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N19/AOC Idle.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N07_005 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-D Activated on receipt of a DISCONNECT message,

returns a RELEASE message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N19/AOC Idle

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is not controllable.

AOC_N07_006 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-D Activated on receipt of a DISCONNECT message and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N07_007 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-E Activated on receipt of a DISCONNECT message, if charging information is available,

returns a RELEASE message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N19/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_008 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-E Activated on receipt of a DISCONNECT message, if charging information is available,

returns a RELEASE message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N19/AOC Idle

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is not controllable.

AOC_N07_009 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-E Activated on receipt of a DISCONNECT message and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N19/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_0010 subclause 9.2.3.1 valid optional

Ensure that the IUT in the state N10/AOC-S Idle, in order to clear the call and if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N12/AOC-S Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is controllable.

AOC_N07_011 subclause 9.2.3.1 valid optional

Ensure that the IUT in the state N10/AOC-S Idle, in order to clear the call and if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N12/AOC-S Idle

or if charging information not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-S Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is not controllable.

AOC_N07_012 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-S Idle, in order to clear the call and charging information not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-S Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is controllable.

AOC_N07_013 subclause 9.2.3.1 valid optional

Ensure that in state N10/AOC-D Activated in order to clear the call the IUT, if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N12/AOC-D Activated.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N07_014 subclause 9.2.3.1 valid optional

Ensure that in state N10/AOC-D Activated in order to clear the call the IUT, if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N12/AOC-D Activated

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-D Activated.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is not controllable.

AOC_N07_015 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-D Activated, in order to clear the call and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-D Activated.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N07_016 subclause 9.2.3.1 valid optional

Ensure that in state N10/AOC-E Activated in order to clear the call the IUT, if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N12/AOC-E Activated.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_017 subclause 9.2.3.1 valid optional

Ensure that in state N10/AOC-E Activated in order to clear the call the IUT, if charging information is available,

transmits a DISCONNECT message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N12/AOC-E Activated

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-E Activated.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is not controllable.

AOC_N07_018 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-E Activated, in order to clear the call and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

transmits a DISCONNECT message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N12 and remains in state AOC-E Activated.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_019 subclause 9.2.3.1 valid optional
Ensure that the IUT in the state N12/AOC-S Idle, having received no response to a DISCONNECT message which included charging information (timeout T305),
transmits a RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and enters state N19/AOC-S Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.

AOC_N07_020 subclause 9.2.3.1 valid conditional
Ensure that the IUT in the state N12/AOC-D Activated, having received no response to a DISCONNECT message which included charging information (timeout T305),
transmits a RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and enters state N19/AOC-D Activated.

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

AOC_N07_021 subclause 9.2.3.1 valid conditional
Ensure that the IUT in the state N12/AOC-E Activated, having received no response to a DISCONNECT message which included charging information (timeout T305),
transmits a RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and enters state N19/AOC-E Activated.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_022 subclause 9.2.3.1 valid optional
Ensure that the IUT in the state N19/AOC-S Idle, having received no response to a RELEASE message which included charging information, sent after no response to a DISCONNECT message (1st expiry of T308),
retransmits the RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and subsequent RELEASE message and remains in state N19 and enters AOC Idle state.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.

AOC_N07_023 subclause 9.2.3.1 valid conditional
Ensure that the IUT in the state N19/AOC-D Activated, having received no response to a RELEASE message which included charging information, sent after no response to a DISCONNECT message (1st expiry of T308),
retransmits the RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and subsequent RELEASE message and remains in state N19 and enters AOC Idle state.

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

AOC_N07_024 subclause 9.2.3.1 valid conditional
Ensure that the IUT in the state N19/AOC-E Activated, having received no response to a RELEASE message which included charging information, sent after no response to a DISCONNECT message (1st expiry of T308),
retransmits the RELEASE message with a Facility information element containing the same charging information as sent in the original DISCONNECT message and subsequent RELEASE message and remains in state N19 and enters AOC Idle state.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_025 subclause 9.2.3.1 valid optional
Ensure that the IUT in the state N10/AOC-S Idle, on receipt of a RELEASE message as the first clearing message, if charging information is available,
returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N00/AOC Idle.

Selection: AOC-S supported. PICS: MC 10.
Selection: AOC-S in clearing phase supported. PICS: MC 16.
Selection: The supply of charging information is controllable.

AOC_N07_026 subclause 9.2.3.1 valid optional

Ensure that the IUT in the state N10/AOC-S Idle, on receipt of a RELEASE message as the first clearing message, if charging information is available,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCSCurrency invoke component indicating "AOCSCurrencyInfoList" or coded as AOCSSpecialArr invoke component indicating "AOCSSpecialArrInfo" and enters state N00/AOC Idle

or if charging information is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

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

Selection: AOC-S in clearing phase supported. PICS: MC 16.

Selection: The supply of charging information is not controllable.

AOC_N07_027 subclause 9.2.3.2 a), b), c) valid optional

Ensure that the IUT in state N10/AOC-S Idle on receipt of a RELEASE message as the first clearing message and charging information is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCSCurrency invoke component or coded as AOCSSpecialArr invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

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

Selection: AOC-S in clearing phase supported. PICS: MC 16.

Selection: The supply of charging information is controllable.

AOC_N07_028 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-D Activated on receipt of a RELEASE message as the first clearing message, if charging information is available,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N00/AOC Idle.

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

Selection: The supply of charging information is controllable.

AOC_N07_029 subclause 9.2.3.1 valid optional

Ensure that the IUT in state N10/AOC-D Activated on receipt of a RELEASE message as the first clearing message, if charging information is available,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" with (for either case) the TypeOfChargingInfo set to "total" and enters state N00/AOC Idle

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

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

Selection: The supply of charging information is not controllable.

AOC_N07_030 subclause 9.2.3.2 a), b), c) valid optional
Ensure that the IUT in state N10/AOC-D Activated on receipt of a RELEASE message as the first clearing message and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCDCurrency invoke component or coded as AOCDChargingUnit invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

Selection: AOC-D supported. PICS: MC 11.
Selection: The supply of charging information is controllable.

AOC_N07_031 subclause 9.2.3.1 valid optional
Ensure that the IUT in N10/AOC-E Activated state on receipt of a RELEASE message as the first clearing message, if charging information is available,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N00/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_032 subclause 9.2.3.1 valid optional
Ensure that the IUT in N10/AOC-E Activated state on receipt of a RELEASE message as the first clearing message, if charging information is available,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N00/AOC Idle

or if charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is not controllable.

AOC_N07_033 subclause 9.2.3.2 a), b), c) valid optional
Ensure that the IUT in state N10/AOC-E Activated on receipt of a RELEASE message as the first clearing message and charging information is based on currency units or only on one type of charging unit and is not available or is incomplete,

returns a RELEASE COMPLETE message containing a Facility information element either coded as AOCECurrency invoke component or coded as AOCEChargingUnit invoke component indicating "chargeNotAvailable" and enters state N00/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.
Selection: The supply of charging information is controllable.

AOC_N07_034 subclause 9.2.3.2 valid optional
Ensure that the IUT in state N03/AOC-D Activated, on the expiry of T310 and the IUT (network) knows that charges have been applied to the call,

transmits a DISCONNECT message cause #18 "no user responding", a FACILITY message or a RELEASE COMPLETE message (in response to the previously received RELEASE message) containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" and enters state N12/AOC Idle, N03/AOC-D Activated, and N00/AOC Idle respectively.

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

AOC_N07_035 subclause 9.2.3.2 valid optional
Ensure that the IUT in state N04/AOC-D Activated, on the expiry of T301 and the IUT (network) knows that charges have been applied to the call,
transmits a DISCONNECT message cause #19 "no answer from user (user alerted)", a FACILITY message or a RELEASE COMPLETE message (in response to the previously received RELEASE message) containing a Facility information element either coded as AOCDCurrency invoke component indicating "AOCDCurrencyInfo" or coded as AOCDChargingUnit invoke component indicating "AOCDChargingUnitInfo" and enters state N12/AOC Idle, N04/AOC-D Activated, and N00/AOC Idle respectively.

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

AOC_N07_036 subclause 9.2.3.2 valid optional
Ensure that the IUT in state N03/AOC-E Activated, on the expiry of T310 and the IUT (network) knows that charges have been applied to the call,
transmits a DISCONNECT message cause #18 "no user responding", a FACILITY message or a RELEASE COMPLETE message (in response to the previously received RELEASE message) containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N12/AOC Idle, N03/AOC-E Activated, and N00/AOC Idle respectively.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_037 subclause 9.2.3.2 valid optional
Ensure that the IUT in state N04/AOC-E Activated, on the expiry of T301 and the IUT (network) knows that charges have been applied to the call,
transmits a DISCONNECT message cause #19 "no answer from user (user alerted)", a FACILITY message or a RELEASE COMPLETE message (in response to the previously received RELEASE message) containing a Facility information element either coded as AOCECurrency invoke component indicating "AOCECurrencyInfo" or coded as AOCEChargingUnit invoke component indicating "AOCEChargingUnitInfo" and enters state N12/AOC Idle, N04/AOC-E Activated, and N00/AOC Idle respectively.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_038 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-D Activated on receipt of a DISCONNECT message and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
returns a RELEASE message containing a Facility information element with an AOCDChargingUnit invoke component including AOCDChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N19/AOC Idle.

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

AOC_N07_039 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-E Activated on receipt of a DISCONNECT message and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
returns a RELEASE message containing a Facility information element with an AOCEChargingUnit invoke component including AOCEChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N19/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_040 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-D Activated in order to clear the call and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
transmits a DISCONNECT message containing a Facility information element with an AOCDChargingUnit invoke component including AOCDChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N12 and remains in state AOC-D Activated until call clearing is completed.

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

AOC_N07_041 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-E Activated in order to clear the call and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
transmits a DISCONNECT message containing a Facility information element with an AOCEChargingUnit invoke component including AOCEChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N12 and remains in state AOC-E Activated until call clearing is completed.

Selection: AOC-E supported. PICS: MC 12.

AOC_N07_042 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-D Activated on receipt of a RELEASE message as the first clearing message and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
returns a RELEASE COMPLETE message containing a Facility information element with an AOCDChargingUnit invoke component including AOCDChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N00/AOC Idle.

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

AOC_N07_043 subclause 9.2.3.2 d) valid optional
Ensure that the IUT in state N10/AOC-E Activated on receipt of a RELEASE message as the first clearing message and more than one type of charging unit is used and charging information related to all charging unit types is not completely available,
returns a RELEASE COMPLETE message containing a Facility information element with an AOCEChargingUnit invoke component including AOCEChargingUnitInfo containing the available charging information with the unavailable charging information fields set to "notAvailable" and enters state N00/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.

6.2.2 Syntactically invalid behaviour

AOC_N08_001 subclause 9.1.1 invalid mandatory
Ensure that the IUT in state N00/AOC Idle on receipt of a SETUP message including a Facility information element with a ChargingRequest invoke component containing an invalid ChargingCase argument,
continues normal call handling, does not invoke any AOC service and optionally, returns a Reject component.

6.2.3 Inopportune behaviour

NOTE: The TPs in this group test subclause 9.1.2, item d) and apply whether AOC is activated for all calls or on a per-call basis.

AOC_N09_001 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N10/AOC Idle on receipt of a FACILITY message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-S service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a FACILITY or INFORMATION message and remains in state N10.

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

AOC_N09_002 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N00/AOC Idle on receipt of a RESUME message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-S service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a RESUME ACKNOWLEDGE message and continues normal call handling, remains in AOC Idle state and enters state N10.

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

AOC_N09_003 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N10/AOC Idle on receipt of a FACILITY message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-D service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a FACILITY or INFORMATION message and remains in state N10/AOC Idle.

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

AOC_N09_004 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N00/AOC Idle on receipt of a RESUME message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-D service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a RESUME ACKNOWLEDGE message and enters state N10/AOC Idle.

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

AOC_N09_005 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N10/AOC Idle on receipt of a FACILITY message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-E service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a FACILITY or INFORMATION message and remains in state N10/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.

AOC_N09_006 subclause 9.1.2 d) inopportune optional
Ensure that the IUT in state N00/AOC Idle on receipt of a RESUME message including a Facility information element coded as ChargingRequest invoke component indicating the AOC-E service,
returns a ChargingRequest return error component indicating "invalidCallState" in a Facility information element in a RESUME ACKNOWLEDGE message and enters state N10/AOC Idle.

Selection: AOC-E supported. PICS: MC 12.

AOC_N09_007 subclause 9.1.2 f), 9.2.1.2, 9.2.2.2, 9.2.3.2 inopportune mandatory
Ensure that the IUT in state N00/AOC Idle on receipt of a reject component,
takes no protocol action and continues normal call handling and remains in AOC Idle state.

7 Compliance

An ATS which complies with this TSS&TP specification shall:

a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 6;

b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 5;

c) use the same naming conventions for the test groups and test cases;

d) maintain the relationship specified in clause 6 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection;

e) comply with ISO/IEC 9646-2 [4].

In the case of a) or b) above, a subset shall be used only where a particular Abstract Test Method (ATM) makes some TPs untestable. All testable TPs from clause 6 shall be included in a compliant ATS.

8 Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [4], shall be used by any organization claiming to provide a comprehensive testing service for network equipment claiming conformance to EN 300 182-1 [1].

Annex A (informative): Changes with respect to the previous ETS 300 182-5

The following changes have been done:

- conversion to EN layout;
- replacement of references to ETS 300 102 with EN 300 403;
- substitution of non-specific references to basic standards where the intention is to refer to the latest version.

History

Document history		
Edition 1	September 1996	Publication as ETS 300 182-5
V1.2.3	February 1998	One-step Approval Procedure OAP 9824: 1998-02-13 to 1998-06-12