



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 182-5

September 1996

Source: ETSI TC-SPS

Reference: DE/SPS-05061-K-5

ICS: 33.080

Key words: ISDN, DSS1, supplementary service, AOC, testing, TSS&TP, network

**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**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1996. All rights reserved.

Contents

Foreword	5
1 Scope	7
2 Normative references	7
3 Definitions	8
3.1 Definitions related to conformance testing	8
3.2 Definitions related to ETS 300 182-1	8
4 Abbreviations	9
5 Test Suite Structure (TSS)	9
6 Test Purposes (TP)	10
6.1 Introduction	10
6.1.1 TP naming convention	10
6.1.2 Source of TP definition	10
6.1.3 TP structure	10
6.1.4 Test strategy	11
6.2 Network TPs for AOC	12
6.2.1 Valid behaviour	12
6.2.1.1 Subscription option dependent	12
6.2.1.1.1 Per-call basis	12
6.2.1.1.2 All calls	14
6.2.1.1.2.1 Activation	14
6.2.1.1.2.1.1 Normal	14
6.2.1.1.2.1.2 Exceptions	15
6.2.1.2 Subscription option independent	17
6.2.1.2.1 Independent of bearer	17
6.2.1.2.1.1 Normal	17
6.2.1.2.1.2 GFP	18
6.2.1.2.2 Transfer - active phase	18
6.2.1.2.3 Transfer - clearing phase	19
6.2.2 Syntactically invalid behaviour	27
6.2.3 Inopportune behaviour	28
7 Compliance	29
8 Requirements for a comprehensive testing service	29
History	30

Blank page

Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS 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: "TSS&TP specification for the network";

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

Transposition dates	
Date of adoption of this ETS:	30 August 1996
Date of latest announcement of this ETS (doa):	31 December 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1997
Date of withdrawal of any conflicting National Standard (dow):	30 June 1997

Blank page

1 Scope

This fifth part of ETS 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, ETS 300 182-1 [1].

A further part of this ETS specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on this ETS. 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 ETS 300 182-1 [1].

2 Normative references

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

- [1] ETS 300 182-1 (1993): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [2] ETS 300 182-2 (1995): "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 (1993): "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] ETS 300 102-1 (1990): "ISDN user-network interface layer 3 specification for basic call control".
- [9] ITU-T Recommendation I.112 (1993): "Vocabulary and terms for ISDNs".
- [10] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".
- [11] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".

3 Definitions

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

3.1 Definitions related to conformance testing

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

Abstract Test Suite (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 ETS 300 182-1

call reference: See ETS 300 102-1 [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.

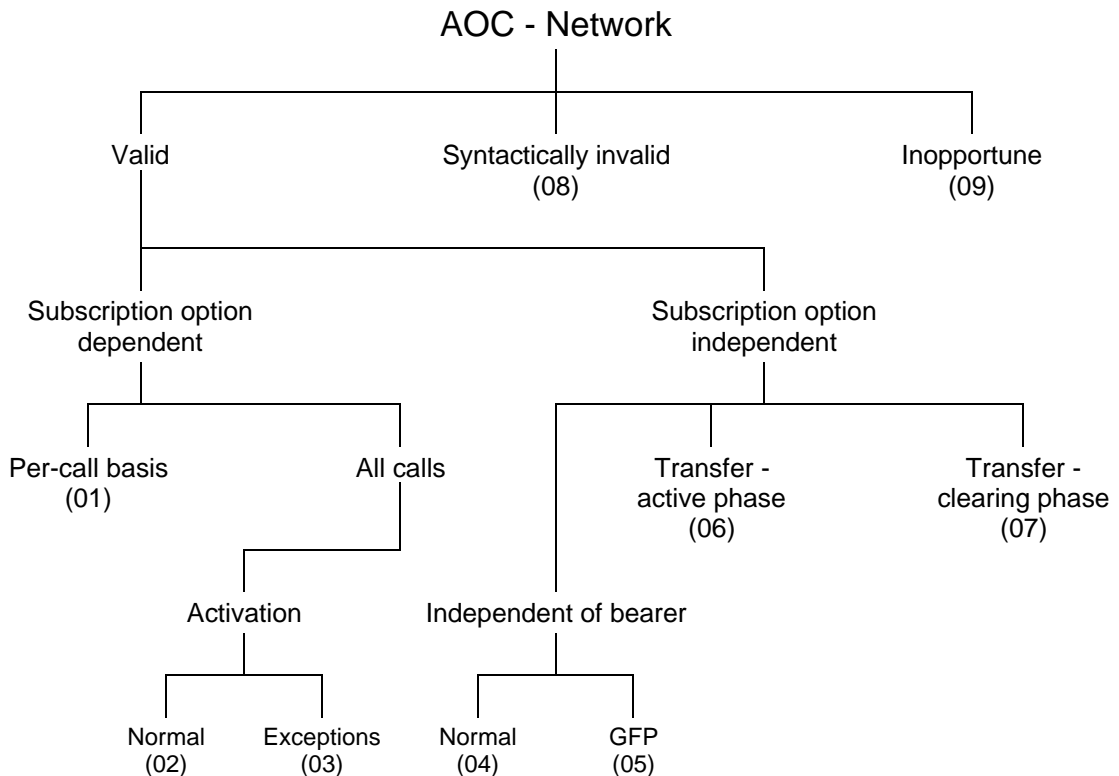
supplementary service: See ITU-T Recommendation I.210 [11], subclause 2.4.

4 Abbreviations

For the purposes of this ETS, 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 User N 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 ETS 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> <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>, <i>etc.</i> 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.	

6.1.4 Test strategy

As the base standard ETS 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 ETS 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 ETS 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 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.
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 ETS 300 182-1 [1].

History

Document history			
October 1995	Public Enquiry	PE 94:	1995-10-23 to 1996-02-16
May 1996	Vote	V 103:	1996-05-20 to 1996-08-23
September 1996	First Edition		