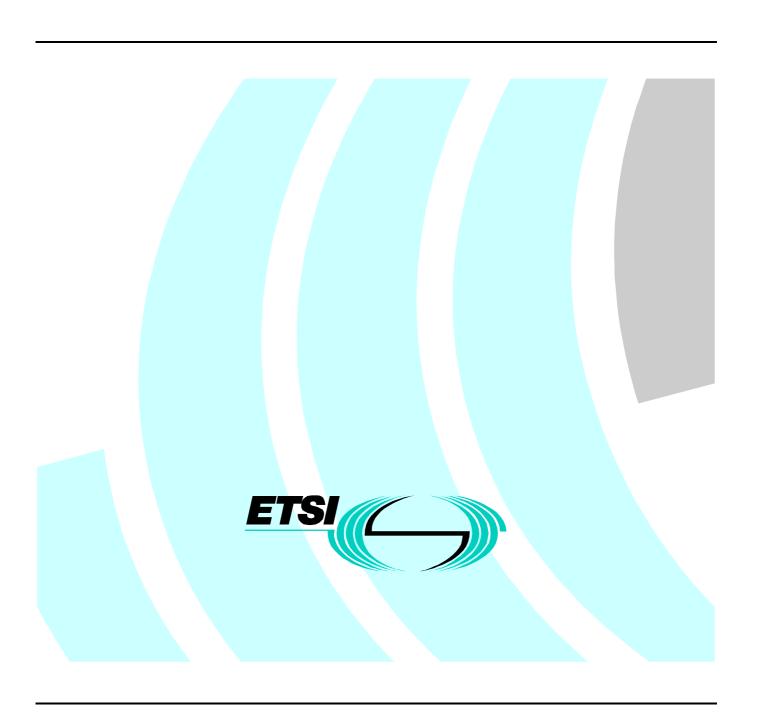# ETSI EN 300 182-5 V1.4.1 (2001-06)

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

ETSI

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

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

The present document is part 5 of a multi-part deliverable covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Advice of Charge (AOC) supplementary service, as identified below:

> Part 1: "Protocol specification";
>
> Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
>
> Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for the user";
>
> Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";
>
> **Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";**
>
> Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

The present version updates the TSS&TP as a result of changes in the protocol specification.

National transposition dates	
Date of adoption of this EN:	1 June 2001
Date of latest announcement of this EN (doa):	30 September 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 March 2002
Date of withdrawal of any conflicting National Standard (dow):	31 March 2002

1 Scope

The present document 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 [6]) of implementations conforming to the stage three standard for the Advice of Charge (AOC) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 182-1 [1].

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

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, subsequent revisions do apply.

[1] ETSI EN 300 182-1 (V1.3.6): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] ETSI EN 300 182-2 (V1.3.4): "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[4] ISO/IEC 9646-2 (1994): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".

[5] ETSI EN 300 196-1 (V1.2.2): "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".

[6] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".

[7] ETSI EN 300 403-1 (V1.3.2): "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]".

[8] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".

[9] ITU-T Recommendation E.164 (1997): "The international public telecommunication numbering plan".

[10] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".

[11] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

3 Definitions and abbreviations

For the purposes of the present document, the following terms and 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]

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 [7], clause 4.3

component: see EN 300 196-1 [5] , clause 11.2.2.1

Integrated Services Digital Network (ISDN): see ITU-T Recommendation I.112 [8], definition 308

invoke component: see EN 300 196-1 [5], clause 11.2.2.1

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164

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

return error component: see EN 300 196-1 [5], clause 11.2.2.1

return result component: see EN 300 196-1 [5], clause 11.2.2.1

served user: user who invokes the AOC supplementary service

service; telecommunication service: see ITU-T Recommendation I.112 [8], definition 201

supplementary service: see ITU-T Recommendation I.210 [10], clause 2.4

3.3   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

4   Test Suite Structure (TSS)

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

Figure 1: Test suite structure

5   Test Purposes (TP)

5.1   Introduction

For each test requirement a TP is defined.

5.1.1   TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 1).

Table 1: TP identifier naming convention scheme

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

5.1.2   Source of TP definition

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

5.1.3   TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used and this is illustrated in table 2. This table should be read in conjunction with any TP, i.e. use a TP as an example to fully understand the table.

Table 2: Structure of a single TP

TP part	Text	Example
Header	<Identifier> *tab* <paragraph number in base ETS> *tab*	see table 1 clause 0.0.0
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.	

5.1.4　　Test strategy

As the base standard EN 300 182-1 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification EN 300 182-2 [2].

The TPs are only based on conformance requirements related to the externally observable behaviour of the IUT, and are limited to conceivable situations to which a real implementation is likely to be faced (ETS 300 406 [11]).

All test purposes are mandatory unless they have selection criteria. Optional test purposes (with selection criteria) are applicable according to the configuration options of the IUT. The configuration option shall be covered by a PICS item.

5.2　　Network TPs for AOC

Unless specified:

- the messages indicated are valid and contain at least the mandatory information elements and possibly optional information elements;

- the information elements indicated are valid and contain at least the mandatory parameters and possibly optional parameters;

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

5.2.1　　Behaviour

5.2.1.1　　Subscription option dependent

5.2.1.1.1　　Per-call basis

AOC_N01_001　　**clause 8.2.1**

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　　**clause 8.2.1**

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   **clause 8.2.1**

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   **clause 8.1.1**

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   **clause 8.1.1**

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   **clause 8.1.1**

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 **clause 8.1.1**

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 **clause 8.1.1**

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 **clause 8.1.1**

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.

5.2.1.1.2   All calls

5.2.1.1.2.1   Activation

5.2.1.1.2.1.1   Normal

AOC_N02_001   clause 8.2.1

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   clause 8.2.1

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   clause 8.2.1

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.

5.2.1.1.2.1.2   Exceptions

AOC_N03_001   clause 8.1.2 i)

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   clause 8.1.2 i)

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   clause 8.1.2 i)

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   clause 8.1.2 i)

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   **clause 8.1.2 i)**

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" 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   **clause 8.1.2 i)**

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   **clause 8.1.2 i)**

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   **clause 8.1.2 i)**

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 **clause 8.1.2 i)**

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 **clause 8.1.2 a)**

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 **clause 8.1.2 a)**

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.

5.2.1.2 Subscription option independent

5.2.1.2.1 Independent of bearer

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

5.2.1.2.1.1 Normal

AOC_N04_001 **clause 8.2.4.1**

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 **clause 8.2.4.2 a), b)**

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 **clause 8.2.4.2 d)**

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   **clause 8.2.4.2, last paragraph**

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.

5.2.1.2.1.2   GFP

AOC_N05_001   [6] **clauses 8.3.2.2.2 & 8.3.2.4.2**

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] **clauses 8.3.2.2.2 & 8.3.2.4.2**

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] **clauses 8.3.2.2.2 & 8.3.2.4.2**

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.

5.2.1.2.2   Transfer - active phase

AOC_N06_001   **clause 8.2.2.1**

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   **clause 8.2.2.2**

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   **clause 8.2.2**

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   **clause 8.2.2.1**

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   **clause 8.2.2.1**

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   **clause 8.2.2.1**

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.

5.2.1.2.3 Transfer - clearing phase

AOC_N07_001 **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the all calls subscription option selected, 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 **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated with the all calls subscription option selected, 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 **clause 8.2.3.2 a), b), c)**

Ensure that the IUT in state N02/AOC-S Activated with the all calls subscription option selected 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 **clause 8.2.3.1**

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 **clause 8.2.3.1**

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 **clause 8.2.3.2 a), b), c)**

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 **clause 8.2.3.1**

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 **clause 8.2.3.1**

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 **clause 8.2.3.2 a), b), c)**

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 **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the all calls subscription option selected, 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 **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the all calls subscription option selected, 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 **clause 8.2.3.2 a), b), c)**

Ensure that the IUT in state N02/AOC-S Activated, with the all calls subscription option selected, 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   clause 8.2.3.1

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   clause 8.2.3.1

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   clause 8.2.3.2 a), b), c)

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   clause 8.2.3.1

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   **clause 8.2.3.1**

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   **clause 8.2.3.2 a), b), c)**

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   **clause 8.2.3.1**

Ensure that the IUT in the state N12/AOC-S Idle, with the all calls subscription option selected and during premature call clearing, 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   **clause 8.2.3.1**   **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   **clause 8.2.3.1**   **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   **clause 8.2.3.1**

Ensure that the IUT in the state N19/AOC-S Idle, with the all calls subscription option selected and during premature call clearing, 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   **clause 8.2.3.1**   **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   **clause 8.2.3.1**   **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   **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the all calls subscription option selected, 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   **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the all calls subscription option selected, 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   **clause 8.2.3.2 a), b), c)**

Ensure that the IUT in state N02/AOC-S Activated, with the all calls subscription option selected 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   **clause 8.2.3.1**

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 **clause 8.2.3.1**

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 **clause 8.2.3.2 a), b), c)**

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 **clause 8.2.3.1**

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 **clause 8.2.3.1**

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   clause 8.2.3.2 a), b), c)

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   clause 8.2.3.2

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   clause 8.2.3.2

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   clause 8.2.3.2

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   clause 8.2.3.2

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   **clause 8.2.3.2 d)**

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   **clause 8.2.3.2 d)**

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   **clause 8.2.3.2 d)**

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   **clause 8.2.3.2 d)**

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   **clause 8.2.3.2 d)**

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   clause 8.2.3.2 d)

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.

AOC_N07_044   clause 8.2.3.1

Ensure that the IUT in the state N02/AOC-S Activated, with the per call subscription option selected, on receipt of a DISCONNECT message and if charging information is available,

- returns a RELEASE message containing a Facility information element or a FACILITY message containing a Facility information element followed by a RELEASE message with the Facility information element coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "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_045   clause 8.2.3.1

Ensure that the IUT in the state N02/AOC-S Activated with the per call subscription option selected, on receipt of a DISCONNECT message and if charging information is available,

- returns a RELEASE message containing a Facility information element or a FACILITY message containing a Facility information element followed by a RELEASE message with the Facility information element coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "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 or a FACILITY message containing a Facility information element followed by a RELEASE message with the Facility information element coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" 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_046   clause 8.2.3.2 a), b), c)

Ensure that the IUT in state N02/AOC-S Activated with the per call subscription option selected on receipt of a DISCONNECT message and charging information is not available or is incomplete,

- returns a RELEASE message containing a Facility information element or a FACILITY message containing a Facility information element followed by a RELEASE message with the Facility information element coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" 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_047   **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated, with the per call subscription option selected, in order to clear the call and if charging information is available,

- sends a DISCONNECT message containing a Facility information element or a FACILITY message containing a Facility information element followed by a DISCONNECT message with the Facility information element coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "AOCSSpecialArrInfo" and enters state N12/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_048   **clause 8.2.3.1**

Ensure that the IUT in the state N02/AOC-S Activated with the per call subscription option selected, , in order to clear the call and if charging information is available,

- sends a DISCONNECT message containing a Facility information element or a FACILITY message containing a Facility information element followed by a DISCONNECT message with the Facility information element coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "AOCSSpecialArrInfo" and enters state N12/AOC Idle; or

if charging information is not available or is incomplete,

- sends a DISCONNECT message containing a Facility information element or a FACILITY message containing a Facility information element followed by a DISCONNECT message with the Facility information element coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" and enters state N12/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_049   **clause 8.2.3.2 a), b), c)**

Ensure that the IUT in state N02/AOC-S Activated with the per call subscription option selected , in order to clear the call and charging information is not available or is incomplete,

- sends a DISCONNECT message containing a Facility information element or a FACILITY message containing a Facility information element followed by a DISCONNECT message with the Facility information element coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" and enters state N12/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_050   **clause 8.2.3.1**

Ensure that the IUT in the state N12/AOC-S Idle, with the per call subscription option selected and during premature call clearing, 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_051   clause 8.2.3.1

Ensure that the IUT in the state N19/AOC-S Idle, with the per call subscription option selected and during premature call clearing, 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_052   clause 8.2.3.1

Ensure that the IUT in the state N02/AOC-S Activated, with the per call subscription option selected, on receipt of a RELAESE message and if charging information is available,

-    returns a RELEASE COMPLETE message containing a Facility information coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "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_053   clause 8.2.3.1

Ensure that the IUT in the state N02/AOC-S Activated with the per call subscription option selected, on receipt of a RELEASE message and if charging information is available,

-    returns a RELEASE COMPLETE message containing a Facility information coded as ChargingRequest return result component indicating "AOCSCurrencyInfoList" or "AOCSSpecialArrInfo" and enters state N00/AOC Idle; or

if charging information is not available or is incomplete,

-    returns a RELEASECOMPLETE message containing a Facility information coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" 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_054   clause 8.2.3.2 a), b), c)

Ensure that the IUT in state N02/AOC-S Activated with the per call subscription option selected on receipt of a RELEASE message and charging information is not available or is incomplete,

-    returns a RELEASECOMPLETE message containing a Facility information coded as ChargingRequest return error component indicating "NoChargingInfoAvailable" 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.

5.2.2 Syntactically invalid behaviour

AOC_N08_001   **clause 8.1.1**

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.

5.2.3 behaviour

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

AOC_N09_001   **clause 8.1.2 d)**

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   **clause 8.1.2 d)**

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   **clause 8.1.2 d)**

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   **clause 8.1.2 d)**

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   **clause 8.1.2 d)**

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   clause 8.1.2 d)

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   clause 8.1.2 f), 8.2.1.2, 8.2.2.2, 8.2.3.2

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.

6   Compliance

An ATS, which complies with the present document, shall:

a)   consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 5;

b)   use a TSS which is an appropriate subset of the whole of the TSS specified in clause 4;

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

d)   maintain the relationship specified in clause 5 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.

7   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 EN 300 182-5 V1.2.4

The following changes have been done:

- TPs in clause 5.2.1.2.3 concerning AOC-S changed according to modifications to clause 8.2.3 in EN 300 182-1 [1] and new TPs added to cover new procedures for AOC-S per call;

- references to EN 300 182-1 [1] updated (clauses have been renumbered in that document);

- renumbered to comply with drafting rules.

History

Document history			
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