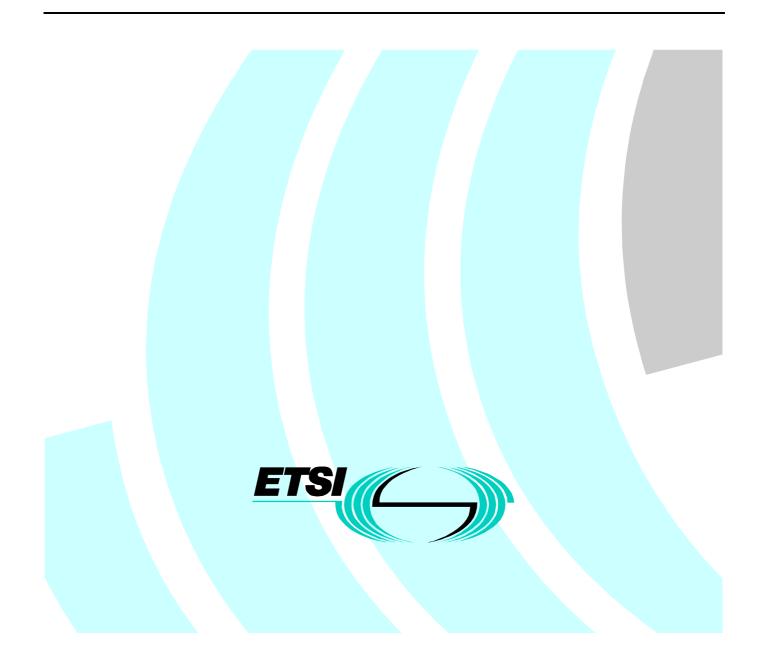Draft **ETSI EN 301 003-5** V1.2.1 (2000-05)

European Standard (Telecommunications series)

Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 5: Test Suite Structure and Test Purposes (TSS&TP) specification for the network

Reference

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Contents

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Foreword

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

The present document is part 5 of a multi-part standard covering the Digital Subscriber Signalling System No. 2 (DSS2) protocol specification for the B-ISDN Peak cell rate modification by the connection owner, as identified:

Part 1:   "Protocol specification [ITU-T Recommendation Q.2963.1 [8] (1996), modified]";

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".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

1 Scope

This fifth part of EN 301 003 specifies the network Test Suite Structure and Test Purposes (TSS&TP) for the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [[5]]) of implementations conforming to the standards for the signalling user-network layer 3 specification for Peak cell rate modification by the connection owner of the Digital Subscriber Signalling System No. 2 (DSS2) protocol for the pan-European Broadband Integrated Services Digital Network (B-ISDN), EN 301 003-1 [3].

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.

2 References

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

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

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

- For a non-specific reference, the latest version applies.

- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

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

[2]   ETSI EN 300 443-1 (V1.3): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 1: Protocol specification [ITU-T Recommendation Q.2931 (1995), modified]".

[3]   ETSI EN 301 003-1 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 1: Protocol specification [ITU-T Recommendation Q.2963.1 (1996), modified]".

[4]   ETSI EN 301 003-2 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Peak cell rate modification by the connection owner; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[5]   ITU-T Recommendation I.413 (1993): "B-ISDN user-network interface".

[6]   ISO/IEC 9646-1: "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

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

[8]   ITU-T Recommendation Q.2963.1: "Digital Subscriber Signalling System No. 2 - Connection modification: Peak cell rate modification by the connection owner".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 003-1 [3] and EN 300 443-1 [2] and the following apply:

3.1.1 Definitions related to conformance testing

abstract test case: refer to ISO/IEC 9646-1 [6]

Abstract Test Method (ATM): refer to ISO/IEC 9646-1 [6]

Abstract Test Suite (ATS): refer to ISO/IEC 9646-1 [6]

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [6]

lower tester: refer to ISO/IEC 9646-1 [6]

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [6]

PICS proforma: refer to ISO/IEC 9646-1 [6]

Protocol Implementation eXtra Information for Testing (PIXIT): refer to ISO/IEC 9646-1 [6]

PIXIT proforma: refer to ISO/IEC 9646-1 [6]

Test Purpose (TP): refer to ISO/IEC 9646-1 [6]

3.1.2 Definitions related to EN 301 003-1

network: DSS2 protocol entity at the Network side of the user-network interface where a T_B reference point or coincident S_B and T_B reference point applies

network (S_B/T_B): DSS2 protocol entity at the Network side of the user-network interface where a coincident S_B and T_B reference point applies

network (T_B): DSS2 protocol entity at the Network side of the user-network interface where a T_B reference point applies (user is the private ISDN)

3.2 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
B-ISDN	Broadband Integrated Services Digital Network
CR	Call Reference
DSS2	Digital Subscriber Signalling System No. two
IE_AI	Information element action indicator
IE_flag	Information element instruction indicator flag
IUT	Implementation Under Test
N0	Null link state
N1	Call Initiated link state
N10	Active link state
N12	Disconnect Indication call state
N3	Outgoing Call Proceeding link state
N4	Call Delivered link state
N6	Call Present link state

N7	Call Received link state
N9	Incoming Call Proceeding link state
PCR	Peak Cell Rate
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure

4   Test Suite Structure (TSS)

Signalling procedures at the coincident S_B/T_B and at the T_B reference points

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 01, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite (see table 1).

Table 1: TP identifier naming convention scheme

Identifier:	**\<suite_id\>_\<group\>_\<nnn\>**		
\<suite_id\>	=	service + type of IUT:	"MODN" for modification, IUT = **Network**
\<group\>	=	group number:	two character field representing the group reference according to TSS
\<nn\>	=	sequential number:	(01-99)

5.1.2   Source of TP definition

The TPs are based on EN 301 003-1 [3].

5.1.3   Test strategy

As the base standard EN 301 003-1 [3] 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 301 003-2 [4].

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 [1]).

5.1.4   Test of call states

Many TPs include a reference to the IUT's final call state after the realization of the TP. In these cases the TP includes the requirement to ensure that the IUT has entered this particular final call state. Ensuring that the IUT is in a particular call state shall be realized by following the procedures described in subclause 5.6.11 of EN 300 443-1 [2]. According to these procedures, the IUT on receipt of a STATUS ENQUIRY message, shall respond with a STATUS message indicating, in the fifth octet of the Call state information element, the current call state of the IUT. This exchange of messages is not mentioned explicitly in each TP but is considered to be implicit in the reference to the final call state. This way of phrasing the TPs has been used to avoid over-complicating the text and structure of the TPs and to improve the readability.

5.2   TPs for the Peak cell rate modification, network

All PICS items referred to in this subclause are as specified in EN 301 003-2 [4] unless indicated otherwise by another numbered reference.

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.

5.2.1   Signalling procedures at the coincident S_B/T_B and at the T_B reference points

> NOTE: Unless otherwise specified, the connection defined by the requested ATM traffic descriptor is available for use.

5.2.1.1   Modification procedures at the requesting entity

Test purposes for EN 301 003-1 [3] subclause 9.1.

Selection: The iut support the requirements for the modification requesting entity. PICS: R 2.1.

5.2.1.1.1   Valid behaviour (01)

MODN_01_01
Ensure that the IUT in N10, to indicate that a PCR modification has been requested,
- sends a MODIFY REQUEST message and enters N13.

MODN_01_02
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message including a Broadband report type information element, with type of report field different from "Modification confirmation"
- sends no message or optionally send a STATUS message (cause value: 100, call state: 10) and enters N10.

MODN_01_03

Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message without broadband report type information element,

- sends no message and enters N10.

MODN_01_04

Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message including an empty Broadband report type information element,

- sends no message and enters N10.

MODN_01_05

Ensure that the IUT in N10, having received a MODIFY ACKNOWLEDGE message, including a broadband report type information element requesting confirmation, to indicate that the modification of the connection has been confirmed by the remote user,

- sends a CONNECTION AVAILABLE message and remains in N10.

MODN_01_06

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message,

- sends no message and enters N10.

MODN_01_07

Ensure that the IUT in N13, on receipt of a STATUS message (call state: 10, cause value: 97) with diagnostic identifying of the MODIFY REQUEST message,

- sends no message and enters N10.

MODN_01_08

Ensure that the IUT in N13, on receipt of a STATUS message (call state: 10, cause value: 97 or 101) without diagnostic identifying of the MODIFY REQUEST message,

- sends a STATUS ENQUIRY message and remains in N13.

MODN_01_09

Ensure that the IUT in N13, (having sent a STATUS ENQUIRY message), on receipt of a STATUS message (call state: 14),

- sends no message and remains in N13.

MODN_01_10

Ensure that the IUT in N13, (having sent a STATUS ENQUIRY message), on receipt of a STATUS message (call state: 10),

- sends no message and enters N10.

MODN_01_11

Ensure that the IUT in N13, on receipt of a RELEASE message,

- enters N11.

MODN_01_12

Ensure that the IUT in N13, on receipt of a clearing indication at the remote interface,

- sends a RELEASE message and enters N12.

5.2.1.1.2   Handling of errors conditions (02)

MODN_02_01

Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a protocol discriminator other than '09'O,

- sends no message and remains in N13.

MODN_02_02

Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unused Call Reference (CR),

- sends a RELEASE COMPLETE message (CR of the MODIFY ACKNOWLEDGE message, cause value: 81) and remains in N13.

MODN_02_03
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type; IE_flag = 0,),
- sends a STATUS message (cause value: 100, call state: 10) and enters N10.

MODN_02_04
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type, IE_flag = 1, IE_AI = clear call),
- sends a RELEASE message (cause value: 100) and enters N12.

MODN_02_05
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type, IE_flag = 1, IE_AI = discard message and report status),
- sends a STATUS message (cause value: 100, call state: 13) and remains in N13.

MODN_02_06
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type, IE_flag = 1, IE_AI = discard message and ignore),
- sends no message and remains in N13.

MODN_02_07
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type, IE_flag = 1, IE_AI = discard IE, proceed and report),
- sends a STATUS message (cause value: 100, call state: 10), ignores the IE (sends the MODIFY ACKNOWLEDGE message on the remote interface without this IE) and enters N10.

MODN_02_08
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with a non mandatory IE content error (Broadband report type, IE_flag = 1, IE_AI = discard IE and proceed),
- sends no message, ignores the IE (sends the MODIFY ACKNOWLEDGE message on the remote interface without this IE) and enters N10."

MODN_02_09
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 0),
- sends a STATUS message (cause value: 99, call state: 10), ignores the IE (sends the MODIFY ACKNOWLEDGE message on the remote interface without this IE) and enters N10.

MODN_02_10
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 1, IE_AI = clear call),
- sends a RELEASE message (cause value: 99) and enters N12.

MODN_02_11
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 1, IE_AI = discard message and report status),
- sends a STATUS message (cause value: 99, call state: 13) and remains in N13.

MODN_02_12
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 1, IE_AI = discard message and ignore),
- sends no message and remains in N13.

MODN_02_13
Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 1, IE_AI = discard IE, discard IE, proceed and report status),
- sends a STATUS message (cause:99, call state: 10), ignores the IE (sends the MODIFY ACKNOWLEDGE message on the remote interface without this IE) and enters N10.

MODN_02_14

Ensure that the IUT in N13, on receipt of a MODIFY ACKNOWLEDGE message with an unrecognized IE (IE_flag = 1, IE_AI = discard IE, and proceed),
- sends no message, ignores the IE (sends a valid MODIFY ACKNOWLEDGE message on the remote interface) and enters N10.

MODN_02_15

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a protocol discriminator other than '09'O,
- sends no message and remains in N13.

MODN_02_16

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with an unused CR,
- sends a RELEASE COMPLETE message (CR of the MODIFY REJECT message, cause value: 81) and remains in N13.

MODN_02_17

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE, IE_flag = 0),
- sends a STATUS message (cause value: 100, call state: 13) and remains in N13.

MODN_02_18

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE missing (Cause IE),
- sends a STATUS message (cause value: 96, call state: 13) and remains in N13.

MODN_02_19

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE; IE_flag = 1, IE_AI = clear call),
- sends a RELEASE message (cause value: 100) and enters N12.

MODN_02_20

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE; IE_flag = 1, IE_AI = discard message and report status),
- sends a STATUS message (cause value: 100, call state: 13) and remains in N13.

MODN_02_21

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE, IE_flag = 1, IE_AI = discard message and ignore),
- sends no message and remains in N13.

MODN_02_22

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE, IE_flag = 1, IE_AI = discard IE, proceed and report),
- sends a STATUS message (cause value: 100, call state: 10), ignores the IE (sends the MODIFY REJECT message on the remote interface with one of the cause values: 31 or 47) and enters N10.

MODN_02_23

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with a mandatory IE content error (Cause IE, IE_flag = 1, IE_AI = discard IE and proceed),
- sends no message, ignores the IE (sends the MODIFY REJECT message on the remote interface with one of the cause values = 31 or 47) and enters N10.

MODN_02_24

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with an unrecognized IE (IE_flag = 0),
- sends a STATUS message (cause value: 99, call state: 10) and enters N10.

MODN_02_25

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with an unrecognized IE (IE_flag = 1, IE_AI = clear call),
- sends a RELEASE message (cause value: 99) and enters N12.

MODN_02_26

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with an unrecognized IE (IE_flag = 1, IE_AI = discard message and report status),

- sends a STATUS message (cause value: 99, call state: 13) and remains in N13.

MODN_02_27

Ensure that the IUT in N13, on receipt of a MODIFY REJECT message with an unrecognized IE (IE_flag = 1, IE_AI = discard message and ignore),

- sends no message and remains in N13.

MODN_02_28

Ensure that the IUT in N10 on receipt of a MODIFY ACKNOWLEDGE message (MSG_flag = 0),

- sends a STATUS message (cause value: 101, call state: 10) and remains in N10.

MODN_02_29

Ensure that the IUT in N10, on receipt of a MODIFY ACKNOWLEDGE message (MSG_flag = 1; MSG_AI = clear call),

- sends a RELEASE message (cause value: 101) and enters N12.

MODN_02_30

Ensure that the IUT in N10, on receipt of a MODIFY ACKNOWLEDGE message (MSG_flag = 1; MSG_AI = discard message and ignore),

- sends no message and remains in N10.

MODN_02_31

Ensure that the IUT in N10, on receipt of a MODIFY ACKNOWLEDGE message (MSG_flag = 1; MSG_AI = discard message and report status),

- sends a STATUS message (cause value: 101, call state: 10) and remains in N10.

MODN_02_32

Ensure that the IUT in N10 on receipt of a MODIFY REJECT message(MSG_flag = 0),

- sends a STATUS message (cause value: 101, call state: 10) and remains in N10.

MODN_02_33

Ensure that the IUT in N10, on receipt of a MODIFY REJECT message(MSG_flag = 1; MSG_AI = clear call),

- sends a RELEASE message (cause value: 101) and enters N12.

MODN_02_34

Ensure that the IUT in N10, on receipt of a MODIFY REJECT message(MSG_flag = 1; MSG_AI = discard and ignore),

- sends no message and remains in N10.

MODN_02_35

Ensure that the IUT in N10, on receipt of a MODIFY REJECT message(MSG_flag = 1; MSG_AI = discard and report status),

- sends a STATUS message (cause value: 101, call state: 10) and remains in N10.

MODN_02_36

Ensure that the IUT in N12, on receipt of a MODIFY ACKNOWLEDGE message (MSG_flag = 0)

- sends a STATUS message (cause value: 101, call state: 12) and remains in N12.

MODN_02_37

Ensure that the IUT in N12, on receipt of a MODIFY REJECT message (MSG_flag = 0)

- sends a STATUS message (cause value: 101, call state: 12) and remains in N12."

5.2.1.1.3   Timers (03)

Test purposes for EN 301 003-1 [3] subclause 9.1.5.

MODN_03_01

Ensure that the IUT in N13, on expiry of timer T360,

- sends a RELEASE message with a cause information element indicating a cause value 102 "Recover on timer expiry" and enters N12.

5.2.1.2   Modification procedures at the responding entity

Test purposes for EN 301 003-1 [3] subclause 9.2.

> **Selection:**   The iut support the requirements for the modification responding entity. PICS: R 2.2.

5.2.1.2.1   Valid behaviour (04)

MODN_04_01
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message, with compatible parameters in the ATM traffic descriptor information element,
- sends no message and enters call state N14.

MODN_04_02
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message, with an incompatible combination of parameters in the ATM traffic descriptor information element,
- sends a MODIFY REJECT message with a cause information element indicating a cause value 73 "Unsupported combination of traffic parameters" and re-enters the state N10.

MODN_04_03
Ensure that the IUT in N14, to indicate that a modification of the connection parameters has been accepted by the remote user not requesting confirmation,
- sends a MODIFY ACKNOWLEDGE message without a Broadband report type IE and enters N10.

MODN_04_04
Ensure that the IUT in N14, to indicate that a modification of the connection parameters has been accepted by the remote user requesting confirmation of modification,
- sends a MODIFY ACKNOWLEDGE message with a Broadband report type IE (type of report = modification confirmation) and enters N10."

MODN_04_05
Ensure that the IUT in N10, having sent a MODIFY ACKNOWLEDGE message including a broadband report type information element requesting confirmation, on receipt of a CONNECTION AVAILABLE message,
- sends no message and remains in N10.

MODN_04_06
Ensure that the IUT in N14, to indicate that a modification of the connection parameters has been rejected by the remote user,
- sends a MODIFY REJECT (including the originating cause value) message and enters N10.

MODN_04_07
Ensure that the IUT in N14, on receipt of a RELEASE message,
- enters N11.

MODN_04_08
Ensure that the IUT in N14, on receipt of a clearing indication at the remote interface,
- sends a RELEASE message and enters N12."

5.2.1.2.2   Handling of error conditions (05)

MODN_05_01
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a protocol discriminator other than '09'O,
- sends no message and remains in N10.

MODN_05_02
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a unused CR,
- sends a RELEASE COMPLETE message (CR of the MODIFY REQUEST message, cause value: 81) and remains in N10.

MODN_05_03
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a mandatory IE missing (ATM traffic descriptor IE),
- sends a STATUS message (cause value: 96, call state: 10) and remains in N10.

MODN_05_04
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a mandatory IE content error (ATM traffic descriptor IE; IE_flag = 0),
- sends a STATUS message (cause value: 100, call state: 10) and remains in N10.

MODN_05_05
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a mandatory IE content error (ATM traffic descriptor IE; IE_flag = 1, IE_AI = clear call),
- sends a RELEASE message (cause value: 100) and enters N12.

MODN_05_06
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a mandatory IE content error (ATM traffic descriptor IE; IE_flag = 1, IE_AI = discard message and report status),
- sends a STATUS message (cause value: 100, call state: 10) and remains in N10.

MODN_05_07
Ensure that the IUT in N10, on receipt of a MODIFY REQUEST message with a mandatory IE content error (ATM traffic descriptor IE; IE_flag = 1, IE_AI = discard message and ignore),
- sends no message and remains in N10.

MODN_05_08
Ensure that the IUT in N0, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a RELEASE COMPLETE message (cause value: 81) and remains in N0.

MODN_05_09
Ensure that the IUT in N3, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 3) and remains in N3.

MODN_05_10
Ensure that the IUT in N4, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 4) and remains in N4.

MODN_05_11
Ensure that the IUT in N6, on receipt of a MODIFY REQUEST message, (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 6) and remains in N6.

MODN_05_12
Ensure that the IUT in N7, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 7) and remains in N7.

MODN_05_13
Ensure that the IUT in N9, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 9) and remains in N9.

MODN_05_14
Ensure that the IUT in N12, on receipt of a MODIFY REQUEST message (MSG_flag = 0),
- sends a STATUS message (cause value: 101, call state: 12) and remains in N12.

MODN_05_15
Ensure that the IUT in N0, on receipt of a MODIFY REQUEST message (MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE COMPLETE message (causevalue: 81) and remains in N0.

MODN_05_16
Ensure that the IUT in N3, on receipt of a MODIFY REQUEST message (MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE message (cause value: 101) and enters N12.

MODN_05_17
Ensure that the IUT in N4, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE message (cause value: 101) and enters N12.

MODN_05_18
Ensure that the IUT in N6, on receipt of a MODIFY REQUEST message, (MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE message (cause value: 101) and enters N12.

MODN_05_19
Ensure that the IUT in N7, on receipt of a MODIFY REQUEST message (MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE message (cause value: 101) and enters N12.

MODN_05_20
Ensure that the IUT in N9, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = clear call),
- sends a RELEASE message (cause value: 101) and enters N12.

MODN_05_21
Ensure that the IUT in N12, on receipt of a MODIFY REQUEST message (MSG_flag = 1; MSG_AI = clear call),
- sends no message and remains in N12.

MODN_05_22
Ensure that the IUT in **N0**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),
- sends a RELEASE COMPLETE message (causevalue: 81) and remains in N0.

MODN_05_23
Ensure that the IUT in **N0**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),
- sends a RELEASE COMPLETE message (causevalue: 81) and remains in N0.

MODN_05_24
Ensure that the IUT in **N3**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),
- sends no message and remains in N9.

MODN_05_25
Ensure that the IUT in **N3**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),
- sends a STATUS message (cause value: 101, call state: 3) and remains in N9.

MODN_05_26
Ensure that the IUT in **N4**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),
- sends no message and remains in N9.

MODN_05_27
Ensure that the IUT in **N4**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),
- sends a STATUS message (cause value: 101, call state: 4) and remains in N9.

MODN_05_28
Ensure that the IUT in **N6**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),
- sends no message and remains in N9.

MODN_05_29
Ensure that the IUT in **N6**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),
- sends a STATUS message (cause value: 101, call state: 9) and remains in N9.

MODN_05_30
Ensure that the IUT in **N7**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),
- sends no message and remains in N7.

MODN_05_31

Ensure that the IUT in **N7**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),

- sends a STATUS message (cause value: 101, call state: 7) and remains in N7.

MODN_05_32

Ensure that the IUT in **N7**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = reserved),

- sends a STATUS message (cause value: 101, call state: 7) and remains in N7.

MODN_05_33

Ensure that the IUT in **N9**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),

- sends no message and remains in N9.

MODN_05_34

Ensure that the IUT in **N9**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),

- sends a STATUS message (cause value: 101, call state: 9) and remains in N9.

MODN_05_35

Ensure that the IUT in **N9**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = reserved),

- sends a STATUS message (cause value: 101, call state: 9) and remains in N9.

MODN_05_36

Ensure that the IUT in **N12**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and ignore),

- sends no message and remains in N9.

MODN_05_37

Ensure that the IUT in **N12**, on receipt of a MODIFY REQUEST message(MSG_flag = 1; MSG_AI = discard message and report status status),

- sends a STATUS message (cause value: 101, call state: 12) and remains in N9.

MODN_05_38

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with a protocol discriminator other than '09'O,

- ignores the message (no CONNECTION AVAILABLE message is sent at the remote interface), sends no message and remains in N10.

MODN_05_39

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with a unused CR,

- sends a RELEASE COMPLETE message (CR of the CONNECTION AVAILABLE message, cause value: 81) and remains in N10.

MODN_05_40

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with an unrecognized IE
(IE_flag = 1, IE_AI = clear call),

- sends a RELEASE message (cause value: 99) and enters N12.

MODN_05_41

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with an unrecognized IE
(IE_flag = 1, IE_AI = discard message and report status),

- ignores the message (no CONNECTION AVAILABLE message is sent at the remote interface), sends a STATUS message (cause value: 99, call state: 10) and remains in N10.

MODN_05_42

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with an unrecognized IE
(IE_flag = 1, IE_AI = discard message and ignore),

- ignores the message (no CONNECTION AVAILABLE message is sent at the remote interface), sends no message and remains in N10.

MODN_05_43

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with an unrecognized IE
(IE_flag = 1, IE_AI = discard IE, discard IE, proceed and report status),
- transports the message (a valid CONNECTION AVAILABLE message is sent at the remote interface), sends a STATUS message (cause: 99, call state: 10), and remains in N10.

MODN_05_44

Ensure that the IUT in N10, on receipt of a CONNECTION AVAILABLE message with an unrecognized IE
(IE_flag = 1, IE_AI = discard IE, and proceed),
- transports the message (a valid CONNECTION AVAILABLE message is sent at the remote interface), sends no message and remains in N10.

6   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 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 [7].

In the case of a) or b), a subset shall be used only where a particular Abstract Test Method (ATM) makes some TPs untestable. All testable TPs from clause 5 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 [7], shall be used by any organization claiming to provide a comprehensive testing service for network equipment claiming conformance to EN 301 003-1 [3].

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

ISO/IEC 9646-3: "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".

History

Document history		
V1.1.3	November 1999	Publication
V1.2.1	May 2000	One-step Approval Procedure OAP 20000929: 2000-05-31 to 2000-09-29