EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 287-3

December 1996

Source: ETSI TC-SPS

Reference: DE/SPS-02014

ICS: 33.080

Key words: ISDN, SS7, TCAP, ATS, PIXIT, testing

Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 3: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

Contents

Foreword

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

This ETS is part 3 of a multi-part standard covering the Signalling System No.7 Transaction Capabilities (TC) version 2 as described below:

Part 1: "Protocol specification [ITU-T Recommendations Q.771 to Q.775 (1993), modified]";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

Transposition dates	
Date of adoption	6 December 1996
Date of latest announcement of this ETS (doa):	31 March 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 September 1997
Date of withdrawal of any conflicting National Standard (dow):	30 September 1997

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1 Scope

This third part of ETS 300 287 specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the transaction sublayer, component sublayer and dialogue portion of the Transaction Capabilities (TC) for implementations conforming to ITU-T Recommendations Q.771 to Q.775 as modified by ETS 300 287-1 [1].

ISO/IEC 9646, parts 1 to 5 [5 to 9] are used as the basis for the test methodology.

2 Normative references

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

[1] ETS 300 287-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 1: Protocol specification [ITU-T Recommendations Q.771 to Q.775 (1993), modified]".

[2] ETS 300 287-2: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ETS 300 344: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities Application Part (TCAP); Test specification".

[4] ETS 300 658: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Test responder specification".

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

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

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

[8] ISO/IEC 9646-4: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 4: Test realization".

[9] ISO/IEC 9646-5: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process".

3 Definitions and abbreviations

3.1 Definitions

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

Abstract Service Primitive (ASP): See ISO/IEC 9646-1 [5].

Abstract Test Suite (ATS): See ISO/IEC 9646-1 [5].

Implementation Under Test (IUT): See ISO/IEC 9646-1 [5].

Means Of Testing (MOT): See ISO/IEC 9646-1 [5].

Protocol Conformance Test Report (PCTR): See ISO/IEC 9646-1 [5].

Protocol Implementation Conformance Statement (PICS): See ISO/IEC 9646-1 [5].

PICS proforma: See ISO/IEC 9646-1 [5].

Protocol Implementation eXtra Information for Testing (PIXIT): See ISO/IEC 9646-1 [5].

PIXIT proforma: See ISO/IEC 9646-1 [5].

System Under Test (SUT): See ISO/IEC 9646-1 [5].

3.2 Abbreviations

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

ASP	Abstract Service Primitive
ATC	Abstract Test Case
ATS	Abstract Test Suite
IUT	Implementation Under Test
MOT	Means Of Testing
MTP	Message Transfer Part
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SCCP	Signalling Connection Control Part
SUT	System Under Test
TC	Transaction Capabilities
TTCN	Tree and Tabular Combined Notation

4 General aspects

The co-ordinated test method as described in ISO/IEC 9646-2 [6] is used. It is possible that the entire test suite is not applicable for all Implementations Under Test (IUTs). A test selection procedure needs to be performed to determine the applicability of a test to a particular IUT. Such selection shall be based on the Protocol Implementation Conformance Statement (PICS) and the Protocol Implementation eXtra Information for Testing (PIXIT). The Abstract Test Cases (ATCs) contained in this ETS are a comprehensive reflection of the base standards.

4.1 Test groups and subgroups

The test suite is structured following the rules defined in ISO/IEC 9646-2 [6].

4.2 Preamble

The preamble of each test case consists of the events required to bring the IUT to the appropriate initial state. There may be alternate sequences of test steps which can be performed to initialize the IUT. These test steps in the preamble for TC have been chosen carefully, considering the test methodology and the other test co-ordination procedures that are available.

4.3 Test body

The test body is the sequence of steps within a test case that is essential to achieve the test purpose, followed by the verification of the IUTs ending state. Verdicts are assigned to the possible outcomes of the test cases.

It is important to test the observable behaviour of the IUT, which includes state transitions and Protocol Data Unit (PDU) responses.

4.4 Postamble

At the END_MSG of the execution of a test body, the IUT may not be in an "idle state". A postamble is then required to bring the IUT from the ending state to an "idle state".

4.5 PICS/PIXIT relationship to the ATS

There are instances when the test case flow depends on the answer to a PICS or PIXIT question. In such instances, a Boolean expression is added to the beginning of the test body. However, it should be noted that such conditional execution has no bearing on static conformance.

Annex A (normative): Partial PIXIT proforma

A.1 Identification summary

This clause is to be completed by the test laboratory.

PIXIT number:

.....

Test laboratory name:

.....

Date of issue:

.....

Issued to:

.....

The test laboratory may include client or contract references in the identification summary.

A.2 Abstract test suite summary

This clause is to be completed by the test laboratory.

Protocol specification:

.....

ATS specification:

.....

Abstract test method(s):

.....

A.3 Test laboratory

This clause is to be completed by the test laboratory.

Test laboratory identification:

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Accreditation status of the test service:

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Accreditation reference:

.....

Test laboratory manager:

.....

Test laboratory contact:

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Means of testing:

Means of testing may include any particular facilities such as: executable test suite, and upper/lower tester realizations.

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Instructions for completion:

The laboratory should include any special instructions necessary for the completion and return of the proforma by the client.

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A.4 Client

This clause is to be completed by the client.

Client identification:

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Client test manager:

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Client contact:

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Test facilities required:

The client should record any particular facilities required for testing, if a range of facilities is provided by the test laboratory.

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A.5 SUT

Name:

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Version:

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SCS reference:

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Machine configuration:

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.....

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Operating system identification:

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IUT identification:

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PICS reference for IUT:

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Limitations of the SUT:

The client may provide information explaining if any of the abstract test cases cannot be executed, e.g. non-realization of ASPs if the remote test method is used.

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Environmental conditions:

The test laboratory may specify the normal environmental conditions applying to the laboratory to be used for testing (e.g. temperature, humidity). The client should specify any tighter environmental conditions that may be necessary for the correct operation of the SUT.

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A.6 Ancillary protocols

This clause is to be completed by the client in conjunction with the test laboratory.

An ancillary protocol is any protocol included in the SUT other than the IUT itself, whose (correct) operation is relied upon during the testing of the IUT.

In the following table(s), the client identifies relevant information concerning each ancillary protocol in the SUT other than the IUT itself.

A.6.1 Message Transfer Part (MTP) protocol

The supplier of the implementation shall indicate which MTP protocol specification is implemented.

Table A.1: MTP protocol used

Protocol name	Version	PICS reference	PIXIT reference	PCTR reference
MTP level 2				
MTP level 3				

A.6.1.1 MTP layer 1 information

The client of the test laboratory is required to give information about the MTP protocol used within the SUT. Apart from the explicitly required information, the client should also give any further information which could be necessary for completing the tests of TC.

Table A.2: MTP layer 1 information

Item	Parameter	Range	Value
1	Physical interface	[S2M/T1/V.35/V.36]	
2	S2M Time slot	[0..31]	
3	S2M Framing	[CRC4/PCM30]	
4	T1 Time slot	[1..24]	
5	T1 Framing	[D4/ESF]	
6	S2M Line coding	[HDB3/AMI]	
7	T1 Line coding	[B8ZS/AMI]	

Additional information needed to complete the tests:

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A.6.1.2 MTP point codes

The client of the test laboratory is required to enter in the table A.3 the Signalling Point Code (SPC) for the SUT and for the test system. Apart from the explicitly required information, the client should also give any further information which could be necessary for completing the tests of TC.

Table A.3: MTP point codes

Item	Parameter	Range	Value
1	Point code of the SUT	[0..16383]	
2	Preferred point code of the test system	[0..16383]	
3	Network indicator	[0..3]	
4	Any limitations in the SUT	Y/N	

Additional information needed to complete the tests:

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A.6.2 Signalling Connection Control Part (SCCP) - connectionless protocol

This subclause deals only with the connectionless features of SCCP.

Table A.4: SCCP protocol used

Protocol name	Version	PICS reference	PIXIT reference	PCTR reference
SCCP				

A.6.2.1 Common parameters

Table A.5: Common parameters

Item	Parameter	Range	Value
1	Protocol Class	[0..1]	
2	Return option supported	[Y/N]	

A.6.2.2 Called party address (SUT)

Apart from the explicitly required information, the client should also give any further information which could be necessary for completing the tests of TC.

Table A.6: Called party address (SUT)

Item	Parameter	Range	Value
1	Routing Indicator	[0..1]	
2	Called Party SPC		
3	Subsystem number		
4	Translation Type		
5	Encoding Scheme		
6	Numbering Plan		
7	Nature of Address Indicator		
8	Called Address Signals		

Additional information needed to complete the tests:

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A.6.2.3 Calling party address (test system)

Apart from the explicitly required information, the client should also give any further information which could be necessary for completing the tests of TC.

Table A.7: Calling party address (test system)

Item	Parameter	Range	Value
1	Routing Indicator	[0..1]	
2	Calling Party SPC		
3	Subsystem number		
4	Translation Type		
5	Encoding Scheme		
6	Numbering Plan		
7	Nature of Address Indicator		
8	Calling Address Signals		

Additional information needed to complete the tests:

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.....

A.7 Protocol identification

This clause is completed by the test laboratory and client in consultation.

Specification reference: ETS 300 287-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 1: Protocol specification [ITU-T Recommendations Q.771 to Q.775 (1993), modified]".

Version: .....

PICS reference: .....

The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in ETS 300 287-2 [2].

A.8 Hardware/interface information of the SUT

The client of the test laboratory is required to give hardware-oriented information about the SUT. Apart from the explicitly required information, the client should also give any further information which could be necessary for completing the tests of TC.

Table A.8

Item	Parameter	Range	Value
1	Link/port number		

Additional information concerning hardware/interface constraints:

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A.9 Static TC-user information

This clause identifies the static aspects of the TC-user which the client of the test laboratory has implemented in the SUT. The client is solicited to supply any additional information which could be of interest when testing the TC protocol in relation to this TC-user.

A.9.1 TC-user information

The client of the test laboratory shall enter the exact name, reference number and date of publication of the TC-user protocol which is implemented in the SUT. By default, the test responder as defined in ETS 300 658 [4] will be assumed.

Specification reference: ETS 300 658: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Test responder specification".

Version: .....

A.9.2 Dialogue portion related parameters

The value of the following parameters shall be determined by the TC-user.

Table A.9

Item	Parameter	Type	Value	Comments
1	AcceptableAC1	OBJECT IDENTIFIER		Application Context that is acceptable to the TC-user
2	AcceptableAC2	OBJECT IDENTIFIER		Application Context that is acceptable to the TC-user, it is used as an alternative for AcceptableAC1
3	UnAcceptableAC1	OBJECT IDENTIFIER		Application Context that is not acceptable to the TC-user, it will however cause the TC-user to propose an alternative AC (AcceptableAC2)
4	UnAcceptableAC2	OBJECT IDENTIFIER		Application Context that is not acceptable to the TC-user, it will cause the TC-user to abort the dialogue
5	User_info_as_id	OBJECT IDENTIFIER		Object identifier that represents the direct reference field in the user information
6	User_info_dvd	GraphicString		Character string that can be used for the data value descriptor field in the user information in the dialogue portion
7	AcceptableDPBitString	BIT STRING		Bitstring that can be used for the encoding of the dialogue portion with an AARQ request when arbitrary encoding is chosen
8	AcceptableDPOctetString	OCTET STRING		Octet string that can be used for the encoding of the dialogue portion with an AARQ request when octet aligned encoding is chosen
9	UserOctetString	OCTET STRING		String that can be used as acceptable user information
10	UserBitString	BIT STRING		Bit string that can be used as acceptable user information
11	user_info_as_ind	INTEGER		Integer that represents an indirect reference field in the user information
12	Dialogue_dvd	GraphicString		Character string that can be used for the data value descriptor field in dialogue portion

A.9.3 Timers implemented in the test suite

Some additional timers, not directly related to TC timers, are also required in the TC test suite.

If required, and after consultation with the Test laboratory, the default values for these timers may be changed by entering the required values in the box below.

For any table entry which is not completed, the default value stated below will be used.

Table A.10

Item	Parameter	Default value	Requested value
1	Max. waiting time for an IUT response, T_ACK	10 s	
2	Max. waiting time for IUT reaction to external procedure, T_WAIT, T_TCUSER	60 s	
3	Waiting time to ensure IUT inactivity, T_NACK	60 s	
5	Maximum value of class 1 timer. TCL1	10 s	
6	Maximum value of class 2 timer, TCL2	10 s	
7	Maximum value of class 3 timer, TCL3	10 s	
8	Maximum value of class 4 timer, TCL4	10 s	

A.9.4 Implemented operation codes

The client of the test laboratory is required to give information about the operation codes and parameters of the TC-user which are implemented in the IUT.

Table A.11

Item	Parameter	Type	Value	Parameters
1	Class 1 operation code	INTEGER		
2	Class 2 operation code	INTEGER		
3	Class 3 operation code	INTEGER		
4	Class 4 operation code	INTEGER		
5	Operation Code to obtain segmented results	INTEGER		
6	Global operation code	OBJECT IDENTIFIER		
7	Unknown operation code	INTEGER		

A.9.5 Implemented error codes

The client of the test laboratory is required to give information about the error codes and parameters of the TC-user which are implemented in the IUT.

Table A.12

Item	Parameter	Type	Value	Parameters
1	Correct error code for A.9.4-1&2	INTEGER		
2	Unrecognized error code	INTEGER		
3	Unexpected error code for A.9.4.-1	INTEGER		

A.9.6 Implemented User abort information

The client of the test laboratory is required to give information about the correct value of the User abort information for the IUT.

Table A.13

Item	Parameter	Value	Comments
1	User Abort Information		

A.10 Dynamic TC-user information

This clause deals with the information about the implemented TC-user. To complete the tests, it is necessary to have exact information about the TC-user operations used to achieve a special message flow. The message flow between IUT and the tester, derived from ETS 300 344 [3], is given in tables A.14 to A.17. The client of the test laboratory is asked whether a special message flow is applicable in the IUT and, if Yes, to indicate in the "TC-user ref." column a reference to a subclause of the TC-user documentation that describes the requested flow.

The Transaction Sublayer message flow is shown in tables A.14 to A.16. Table A.17 shows all existing message flow patterns in Component sublayer.

A.10.1 Table abbreviations and representation

The following abbreviations are used to mark the transactions:

U	Unidirectional	AU	User Abort
B	Begin	AP	P-Abort
C	Continue	u	unknown transaction
E	End	-	send/receive nothing

The following abbreviations are used to mark the components:

I	Invoke	R	Reject
RL	Return Result Last	RE	Return Error
RNL	Return Result Not Last	u	unknown component
-	send/receive nothing		

The used representation for message flow display:

IUT send / IUT receive / IUT send / IUT receive / ...

A.10.2 Transaction sublayer message flow

The client of the test laboratory is required to indicate the applicability of and give complete information about the TC-user operations in each transaction needed for each specific message flow in table A.14.

Table A.14

Item	Message flow	Test reference (see ETS 300 344 [3])	Support	TC-user ref.
1	U	1.1.1-1		
2	B	1.1.2.1.1-2 1.2.2.2-1		
3	B / E	1.1.2.1.2.2-3 1.2.1.4-1 1.2.2.5-1		
4	B / AU	1.1.2.1.2.2-1		
5	B / AP	1.1.2.1.2.2-2 1.2.1.5-1 1.2.1.5-2 1.2.2.2-2 1.2.2.6-1		
6	B / C / E	1.1.2.2.1.1-1		
7	B / C	1.2.2.3-1		
8	B / C / AU	1.1.2.2.1.1-3		
9	B / C / C / E	1.1.2.4-1		
10	B / C / AP	1.2.1.2-1 1.2.2.3-2 1.2.2.3-3 1.2.2.3-4 1.2.2.3-5 1.2.3.2-1		
11	B / C / - / E	1.1.2.2.2.2-1		
12	B / C / - / AP	1.1.2.2.2.2-2		
13	B / C / - / AU	1.1.2.2.2.2-3		
14	B / C / - / C / AP	1.2.1.3-1		
15	B / C / - / C	1.2.2.4-1		
16	B / C / - / B2 / E2 / E	1.4.1-2		
17	B / C / - / C2 / AP/ E	1.4.2-2		
18	B / u / AP	1.2.2.7-3		
19	B / B2 / E2 / E	1.4.1-1		
20	B / C2 / AP / E	1.4.2-1		
21	- / U	1.1.1-2		
22	- / B	1.2.1.1-1 1.2.1.1-2		
23	- / B / E	1.1.2.1.2.1-1 1.1.3.1.1.1-1 1.1.3.1.1.1-2 1.1.3.1.1.2-1 1.1.3.1.1.3-1 1.1.3.2.1-1 1.1.3.2.1-2		
24	- / B / AU	1.1.2.1.2.1-3		
25	- / B / AP	1.2.3.1-1		
26	- / B / C / E	1.1.2.2.1.2-1		
27	- / B / C / AP	1.1.2.2.1.2-2		
28	- / B / C / AU	1.1.2.2.1.2-3		
29	- / B / C / - / E	1.1.2.2.2.1-1		
30	- / B / C / - / AU	1.1.2.2.2.1-3		
31	- / B / C / C / E	1.1.2.4-2		
32	- / B / C / C / AP	1.2.2.4-2		
33	- / C / AP	1.3.1-1		
34	- / E	1.3.2-1		
35	- / AP	1.3.3-1		
36	- / u	1.2.2.7-1		
37	- / u / AP	1.2.2.7-2		
38	(ffs)	1.1.2.5		

A.10.3 Pre-arranged end message flow

If pre-arranged end message flow is supported by the IUT (see ETS 300 287-2 [2], subclause A.5.1, item A.1/1), the client is required to provide information about the testability of the procedure with the TC-user of the SUT and to give complete information about the TC-user operations in each transaction needed for each specific message flow in table A.15.

Table A.15

Item	Message flow	Test reference (see ETS 300 344 [3])	Support	TC-user ref.
1	B	1.1.2.1.1-1		
2	B / C	1.1.2.2.1.1-2		
3	- / B	1.1.2.1.2.1-2		
4	- / B / C	1.1.2.2.2.1-2		

A.10.4 No component portion message flow

The client of the test laboratory is required to give information about the existence of messages without component portion of the TC protocol which is implemented in the SUT. The client is further required to indicate the applicability of and give complete information about the TC-user operations in each transaction needed for each specific message flow in table A.16.

Table A.16

Item	Message flow	Test reference (see ETS 300 344 [3])	Support	TC-user ref.
1	B / C / E	1.1.2.3.1		
2	- / B / C / E	1.1.2.3.2		
3	- / U	1.2.2.1-1		

A.10.5 Component sublayer component flow

The client of the test laboratory is required to indicate the applicability of and give complete information about the TC-user operations in each component and an indication of the required message flow needed for each specific component flow.

Table A.17

Item	Component flow	Test reference (see ETS 300 344 [3])			Support	TC-user ref.
1	I	2.1.1.1.5 2.1.1.4.1	2.1.1.2.2	2.1.1.3.2		
2	I / I	2.1.2.2.1				
3	I / I / R	2.3.1.1				
4	I / I / RE / RL	2.1.2.1.3				
5	I / I / RRL / RRL	2.1.2.1.1				
6	I / I / R / RL	2.1.4.1.2	2.1.4.1.3			
7	I / R	2.1.3.1.1 2.1.3.3.2	2.1.3.2.1 2.1.3.3.3	2.1.3.3.1 2.1.3.3.4		
8	I / R / RL	2.3.2.4				
9	I / RL	2.1.1.1.1	2.1.1.3.1	2.1.8.1		
10	I / RL / R	2.1.4.2.1				
11	I / RL / R	2.1.6	2.3.3.1	2.3.3.2		
12	I / RL / R	2.2.2.2.1	2.2.2.2.2	2.2.2.2.3		
13	I / RE	2.1.1.1.3	2.1.1.2.1			
14	I / RE / R	2.1.4.3.1	2.1.4.3.2	2.1.4.3.3		
15	I / RE / R	2.2.2.3.1 2.3.3.6	2.2.2.3.2	2.3.3.5		
16	I / RNL / R	2.3.3.3	2.3.3.4			
17	I / RNL / - / RL	2.1.5.1.1	2.1.5.2.1			
18	I / RNL2 / R2 / RNL / R	2.3.2.2				
19	I / RL2 / R2 / RL / R	2.3.2.1				
20	I / RE2 / R2 / RE / R	2.3.2.3				
21	- / I / I	2.1.2.2.2				
22	- / I / I / R	2.1.3.1.2				
23	- / I / I / RL / RL	2.1.2.1.2				
24	- / I / I / RE / RL	2.1.2.1.4				
25	- / I / RE	2.1.1.1.4				
26	- / I / RE / R	2.1.3.1.4	2.1.3.2.3			
27	- / I / RL / R	2.1.3.1.3	2.1.3.2.2			
28	- / I / R	2.1.4.1.1 2.1.8.3 2.2.2.1.1 2.2.3.2	2.1.4.1.4 2.2.1.1 2.2.2.1.2 2.2.3.3	2.1.7.4.2 2.2.1.2 2.2.3.1		
29	- / I / RNL / - / RL	2.1.5.1.2				
30	- / RRL	2.1.1.1.2 2.1.7.3 2.1.8.2	2.1.7.1 2.1.7.4.1.1	2.1.7.2 2.1.7.4.1.2		
31	- / u / R	2.2.2.4.1	2.2.2.4.2			

A.10.6 Dialogue portion message flow

The client of the test laboratory is required to give information about the existence of messages with the dialogue portion of the TC protocol which is implemented in the SUT. The client is required to indicate the applicability of and give complete information about the TC-user operations in each transaction needed for each specific message flow in table A.18. The test reference in table A.18 refers to the corresponding testcase(s) in the TC ATS in annex B.

Table A.18

Item	Message flow	Test reference (see annex B)	Support	TC-user ref.
1	- / B / E	TC2111101		
2	B / C / E	TC2111102, TC2111201		
3	B / E	TC2111103, TC2111202, TC2111501, TC2111701, TC2111702, TC2111703, TC2111704, TC2111705, TC2111706, TC2111707, TC2111708, TC2111709, TC2111710, TC2111802		
4	C	TC2111203		
5	E	TC2111204		
6	B / AP	TC222501, TC222506, TC222507, TC222508, TC222509, TC234001		
7	B / AU	TC2111301, TC2111801		
8	C / AP	TC222502, TC222503, TC222504, TC234002, TC234003, TC234006		
9	C / AU	TC2111401		
10	C / E	TC2111502		
11	B / C / C / E	TC2111503		
12	E / B	TC2111504, TC2111505		
13	U / U	TC2111601, TC2111804		
14	U	TC2111803, TC222505, TC234005		
15	B / C / C / AP	TC234004		
16	E / AP	TC234007		

Annex B (normative): Abstract test suite

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [7].

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the contents table. The ATS itself contains a Test Suite Overview Part which provides additional information and references.

B.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in a Postscript file (DE102873.PS[1)]) which accompanies this ETS.

B.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (DE102873.MP[1)]) which accompanies this ETS.

NOTE: According to ISO/IEC 9646-3 [7], in case of a conflict in interpretation of the operational semantics of TTCN.GR and TTCN.MP, the operational semantics of the TTCN.GR representation takes precedence.

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1) This file is located in an archive file named 2873_E1.LZH. Other file formats are available on request.

History

Document history			
December 1995	Public Enquiry	PE 97:	1995-12-04 to 1996-04-12
October 1996	Vote	V 112:	1996-10-07 to 1996-11-29
December 1996	First Edition		

ISBN 2-7437-1154-X - Edition complète - Edition 2
ISBN 2-7437-1198-1 - Partie 3 - Edition 1
Dépôt légal : Décembre 1996