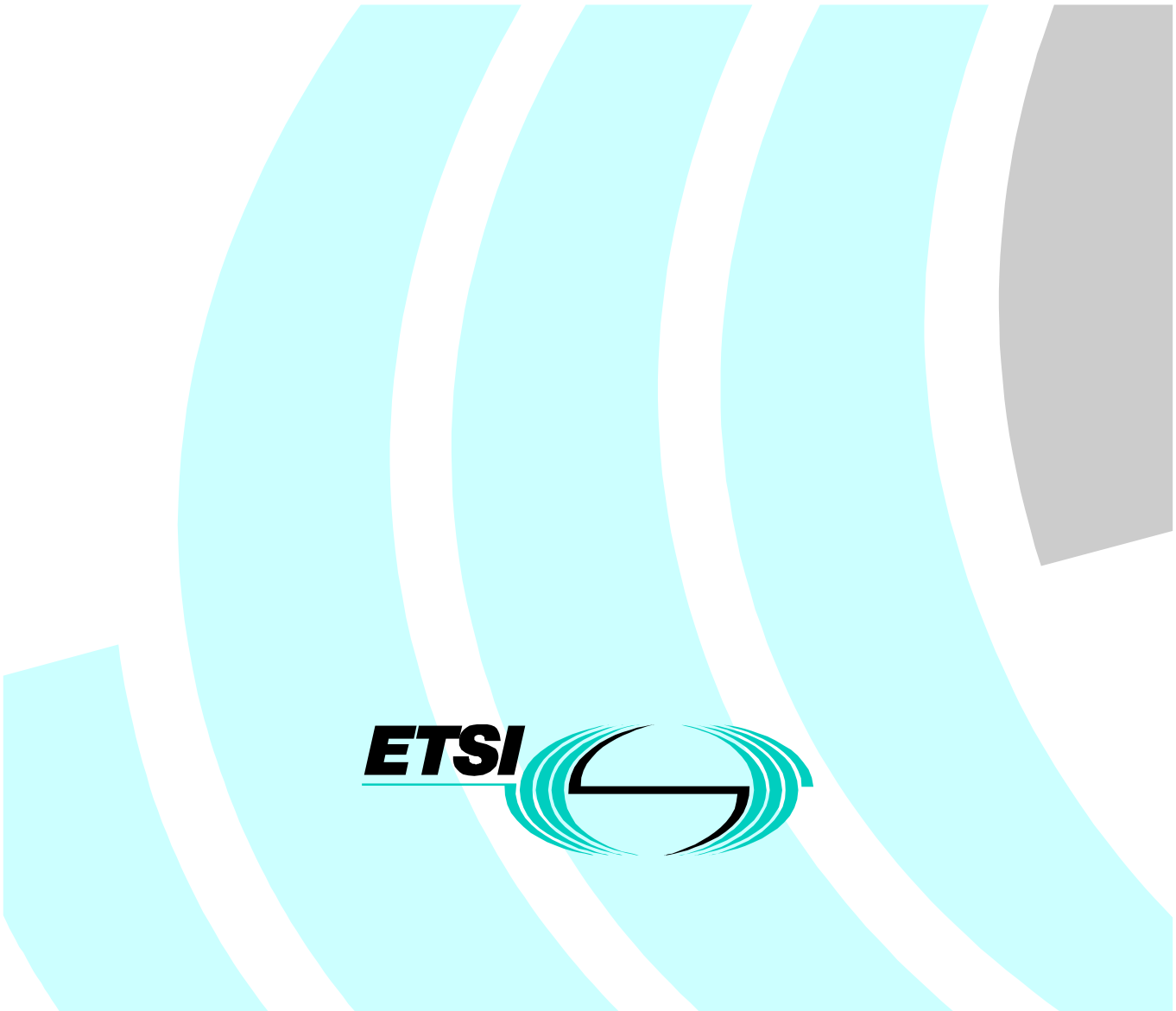
Final draft ETSI EN 301 070-4 V1.1.2 (2000-08)

European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); ISDN User Part (ISUP) version 3 interactions with the Intelligent Network Application Part (INAP); Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification



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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 Vote phase of the ETSI standards Two-step Approval Procedure.

The present document is part 4 of a multi-part EN covering the application of Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 interactions with the Intelligent Network Application Part (INAP), as identified below:

Part 1: "Protocol specification [ITU-T Recommendation Q.1600 (1997), modified]";

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

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

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

The present document contains the validation (conformance) test specification for the interaction between ISUP v3 and INAP CS1 defined in [1]. This Recommendation applies only to exchanges having implemented the ISUP v3 protocol specification in the call control function (CCF) and the INAP CS1 in the service switching function (SSF) of the exchange. It is applicable for validation testing of all types of exchanges as defined in the ISUP v3 protocol specification. The present document does not deal with compatibility testing.

The present document presents the PIXIT, PCTR the ATS and the requirements regarding the chosen test method.

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 EN 301 070-1 (V1.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 interactions with the Intelligent Network Application Part (INAP); Part 1: Protocol specification [ITU-T Recommendation Q.1600 (1997), modified]".

[2] ETSI EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".

[3] ITU-T Recommendation Q.762: "Specifications of Signalling System No. 7 - ISDN user part".

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

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

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

[7] 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".

[8] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection -Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[9] ETSI ETS 300 374-1 (1994): "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 1: Protocol specification".

[10] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

[11] ETSI EN 301 067-3: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; Connection characteristics; Negotiation during call/connection establishment phase; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user".

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

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

- terms defined in ISDN User Part (ISUP) reference specification [1] to [2];
- terms defined in ISO/IEC 9646-1 [4], ISO/IEC 9646-3 [6] and in ISO/IEC 9646-7 [8].

In particular, the following terms apply:

Abstract Test Case (ATC): complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state (see [4], subclause 3.3.3).

Abstract Test Method (ATM): description of how an IUT is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this method (see [4], subclause 3.3.5).

Abstract Test Suite (ATS): test suite composed of abstract test cases (see [4], subclause 3.3.6).

Implementation Under Test (IUT): implementation of one or more OSI protocols in an adjacent user/provider relationship, being part of a real open system which is to be studied by testing (see [4], subclause 3.3.43).

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [10].

Means of Testing (MOT): combination of equipment and procedures that can perform the derivation, selection, parameterization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see [4], subclause 3.3.54).

PICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes the PICS.

PIXIT proforma: document, in the form of a questionnaire, which when completed for the IUT becomes the PIXIT.

Point of Control and Observation: point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method (see [4], subclause 3.3.64).

Pre-test condition : setting or state in the IUT which cannot be achieved by providing stimulus from the test environment.

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see [4], subclause 3.3.39 and subclause 3.3.80).

Protocol Implementation eXtra Information for Testing (PIXIT): statement made by a supplier or implementor of an IUT (protocol) which contains or references all of the information related to the IUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the IUT (see [4], subclause 3.3.41 and subclause 3.3.81).

System Under Test (SUT): real open system in which the IUT resides (see [4], subclause 3.3.103).

3.2 Abbreviations

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

ASE	Application Service Entity
ASP	Abstract Service Primitive
ASSP	Assisting Signalling Switching Point
ATM	Abstract Test Method
ATS	Abstract Test Suite
CCBS	Completion of Calls to Busy Subscriber
CCF	Call Control Function
CD	Call Deflection
CDIV	Call DIVersion
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CS1	capability set 1
DLE	Destination Local Exchange
ECT	Explicit Call Transfer
ICS	Implementation Conformance Statement
INAP	Intelligent Network Application Protocol
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
ISSP	Initiating Signalling Switching Point
IUT	Implementation Under Test
OLE	Originating Local Exchange
LT	Lower Tester
MCID	Malicious Call Identification
MOT	Means Of Testing
MTC	Main Test Component
MTP	Message Transfer Part
PCO	Point of Control and Observation
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PTC	Parallel Test Component
P&C	Prompt and CollectUserInformation Operation
SCCP	Signalling Connection Control Part
SSF	Service Switching Function
SP	Signalling Point
SUT	System Under Test
TP	Test Purpose (context dependent)
TCP	Test Co-ordination Procedures
TSS	Test Suite Structure
TSS&TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation

The ISUP message acronyms can be found in table 2 of ITU-T Recommendation Q.762 [3].

The following abbreviations apply for ISUP parameters and parameter values.

AdSg	Address Signals
CgPN	Calling Party Number
GenNot	Generic Notification
TMR	Transmission Medium Requirement
USIUser	Service Indicator

4 Abstract Test Method (ATM)

The remote test method is applied for the user ATS. The Point of Control and Observation (PCO) resides at the service access point between layers 2 and 3. This PCO is named "L0" (for Lower). The L0 PCO is used to control and observe the behaviour of the Implementation Under Test (IUT) and test case verdicts are assigned depending on the behaviour observed at this PCO.

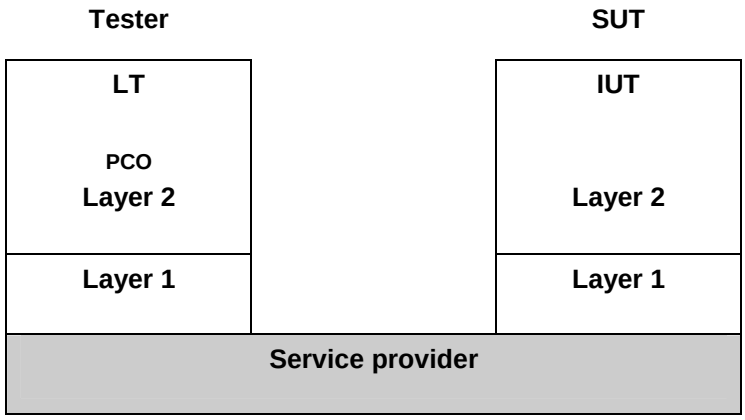

Figure 1: Remote test method

ISO/IEC 9646-2 [5] allows the informal expression of Test Co-ordination Procedures (TCP) between the System Under Test (SUT) upper layer(s) and the Lower Tester (LT). In the ATS contained in annex C, TCP is achieved by use of a second "informal" PCO, called "O" (for Operator). This PCO is used to specify control but not observation above the IUT and consequently, events at this PCO are never used to generate test case verdicts. The use of this O PCO is regarded as a preferred alternative to the use of the implicit send event, in that it allows the ATS to specify in a clear and meaningful way what actions are required to be performed on the IUT.

5 Untestable test purposes

There are no untestable test purposes associated with this ATS.

6 ATS to TP map

The identifiers used for the TPs (see EN 301 067-3 [11]) are reused as test case names. Thus there is a straightforward one-to-one mapping.

7 PCTR conformance

A test laboratory, when requested by a client to produce a PCTR, is required, as specified in ISO/IEC 9646-5 [7], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [7].

Furthermore, a test laboratory, offering testing for the ATS specification contained in annex C, when requested by a client to produce a PCTR, is required to produce a PCTR conformant with the PCTR proforma contained in annex A of the present document.

A PCTR which conforms to this PCTR proforma specification shall preserve the content and ordering of the clauses contained in annex A. Clause A.6 of the PCTR may contain additional columns. If included, these shall be placed to the right of the existing columns. Text in italics may be retained by the test laboratory.

8 PIXIT conformance

A test realizer, producing an executable test suite for the Abstract Test Suite (ATS) specification contained in annex C, is required, as specified in ISO/IEC 9646-4 [12], to produce an augmented partial PIXIT proforma conformant with this partial PIXIT proforma specification.

An augmented partial PIXIT proforma which conforms to this partial PIXIT proforma specification shall, as a minimum, have contents which are technically equivalent to annex B. The augmented partial PIXIT proforma may contain additional questions that need to be answered in order to prepare the Means Of Testing (MOT) for a particular Implementation Under Test (IUT).

A test laboratory, offering testing for the ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-5 [7], to further augment the augmented partial PIXIT proforma to produce a PIXIT proforma conformant with this partial PIXIT proforma specification.

A PIXIT proforma which conforms to this partial PIXIT proforma specification shall, as a minimum, have contents which are technically equivalent to annex B. The PIXIT proforma may contain additional questions that need to be answered in order to prepare the test laboratory for a particular IUT.

9 ATS conformance

The test realizer, producing a Means Of Testing (MOT) and Executable Test Suite (ExTS) for this Abstract Test Suite (ATS) specification, shall comply with the requirements of ISO/IEC 9646-4 [12]. In particular, these concern the realization of an Executable Test Suite (ExTS) based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

An ExTS which conforms to this ATS specification shall contain test groups and test cases which are technically equivalent to those contained in the ATS in annex C. All sequences of test events comprising an abstract test case shall be capable of being realized in the executable test case. Any further checking which the test system might be capable of performing is outside the scope of this ATS specification and shall not contribute to the verdict assignment for each test case.

Test laboratories running conformance test services using this ATS shall comply with ISO/IEC 9646-5 [7].

A test laboratory which claims to conform to this ATS specification shall use an MOT which conforms to this ATS.

Annex A (normative): Protocol Conformance Test Report (PCTR) Proforma for ISDN User Part (ISUP) v3 and INAP CS1

The PCTR Proforma is based on ISO/IEC 9646-5. Any additional information needed can be found in the present document.

A.1 Identification summary

A.1.1 Protocol conformance test report

PCTR Number:	
PCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

A.1.2 IUT identification

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

A.1.3 Testing environment

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	Distributed multiparty test method
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

A.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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A.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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A.2 IUT Conformance status

This IUT has/has not been shown by conformance assessment to be non-conforming to the referenced protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause A.3 in this report) and there are no "FAIL" verdicts to be recorded (in clause A.6) strike the word "has/". Otherwise strike the words "/has not".

A.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

A.4 Dynamic conformance summary

The test campaign did/did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause A.6 of this report) strike the word "did/". Otherwise strike the words "/did not".

Summary of the results of groups of test:

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A.5 Static conformance review report

If clause A.3 indicates non-conformance, this subclause itemizes the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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A.6 Test campaign report

Table A.1: Test campaign report - IDP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_1_1_1				
ISN_V_1_1_2				
ISN_V_1_1_3				
ISN_V_1_1_4				
ISN_V_1_1_5				
ISN_V_1_1_6				
ISN_V_1_1_7				
ISN_V_1_1_8				
ISN_V_1_1_9				
ISN_V_1_1_10				
ISN_V_1_1_11				
ISN_V_1_1_12				
ISN_V_1_1_13				
ISN_V_1_1_14				

Table A.2: Test campaign report - CON

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_1_2_1				
ISN_V_1_2_2				
ISN_V_1_2_3				
ISN_V_1_2_4				
ISN_V_1_2_5				
ISN_V_1_2_6				
ISN_V_1_2_7				
ISN_V_1_2_8				
ISN_V_1_2_9				
ISN_V_1_2_10				
ISN_V_1_2_11				
ISN_V_1_2_12_a				
ISN_V_1_2_12_b				
ISN_V_1_2_13_a				
ISN_V_1_2_13_b				
ISN_V_1_2_14_a				
ISN_V_1_2_14_b				
ISN_V_1_2_15_a				
ISN_V_1_2_15_b				
ISN_V_1_2_16				
ISN_V_1_2_17				
ISN_V_1_2_18				
ISN_V_1_2_19				
ISN_V_1_2_20				

Table A.3: Test campaign report - OIN

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_1_3_1				
ISN_V_1_3_2				
ISN_V_1_3_3				
ISN_V_1_3_4				
ISN_V_1_3_5				
ISN_V_1_3_6				

Table A.4: Test campaign report - INCD

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_2_1				
ISN_V_2_2				

Table A.5: Test campaign report - DPP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_3_1				
ISN_V_3_2				
ISN_V_3_3				
ISN_V_3_4				
ISN_V_3_5				
ISN_V_3_6				
ISN_V_3_7				
ISN_V_3_8				
ISN_V_3_9				
ISN_V_3_10				

Table A.6: Test campaign report - SCS

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_4_1_1				
ISN_V_4_1_2_a				
ISN_V_4_1_2_b				
ISN_V_4_1_3_a				
ISN_V_4_1_3_b				
ISN_V_4_1_4_a				
ISN_V_4_1_4_b				
ISN_V_4_1_5_a				
ISN_V_4_1_5_b				

Table A.7: Test campaign report - ACON

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_4_2_1				
ISN_V_4_2_2				
ISN_V_4_2_3_a				
ISN_V_4_2_3_b				
ISN_V_4_2_3_c				

Table A.8: Test campaign report - IPC

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_5_1_1				
ISN_V_5_1_2				
ISN_V_5_1_3				
ISN_V_5_1_4				
ISN_V_5_1_5				
ISN_V_5_1_6				
ISN_V_5_1_7				
ISN_V_5_1_8				
ISN_V_5_1_9				
ISN_V_5_1_10				
ISN_V_5_1_11				
ISN_V_5_1_12				
ISN_V_5_1_13				
ISN_V_5_1_14				
ISN_V_5_1_15				
ISN_V_5_1_16				
ISN_V_5_1_17				
ISN_V_5_1_18				
ISN_V_5_1_19				
ISN_V_5_1_20				
ISN_V_5_1_21				
ISN_V_5_1_22				

Table A.9: Test campaign report - AM_ISSP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_5_2_1				
ISN_V_5_2_2				
ISN_V_5_2_3				
ISN_V_5_2_4				
ISN_V_5_2_5_a				
ISN_V_5_2_5_b				
ISN_V_5_2_5_c				
ISN_V_5_2_6				
ISN_V_5_2_7				
ISN_V_5_2_8				
ISN_V_5_2_9				
ISN_V_5_2_10				
ISN_V_5_2_11				
ISN_V_5_2_12				
ISN_V_5_2_13_a				
ISN_V_5_2_13_b				
ISN_V_5_2_13_c				
ISN_V_5_2_13_d				
ISN_V_5_2_14				
ISN_V_5_2_15				

Table A.10: Test campaign report - HOM_ISSP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_5_3_1				
ISN_V_5_3_2				

Table A.11: Test campaign report - HOM_ASSP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_5_4_1				
ISN_V_5_4_2				
ISN_V_5_4_3				

Table A.12: Test campaign report - CG

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_6_1				
ISN_V_6_2				
ISN_V_6_3				
ISN_V_6_4				
ISN_V_6_5				
ISN_V_6_6				
ISN_V_6_7				

Table A.13: Test campaign report - SF

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_7_1				
ISN_V_7_2				
ISN_V_7_3				
ISN_V_7_4				
ISN_V_7_5				
ISN_V_7_6				

Table A.14: Test campaign report - SCS

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause A.7)
ISN_V_8_1_1				
ISN_V_8_1_2				

A.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex B (normative): PIXIT proforma for ISDN User Part (ISUP) v3 and INAP CS1

The PIXIT proforma enlists all the parameters and data that are needed to configure the ATS (and/or the IUT) before executing the testing campaign. It is to be filled out as part of the preparation for testing by e.g. the test client. The testing laboratory then inputs this data into the implementation of the ATS. More information about the purpose and intent of the PIXIT can be found in ISO/IEC 9646-5.

B.1 Identification summary

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

B.2 Abstract test suite summary

Protocol Specification:	EN 301 070-1 (V1.2)
ATS Specification:	N-ISDN/INAP CS-1 INTERACTION
Abstract Test Method:	Distributed multiparty test method

B.3 Test laboratory

Test Laboratory Identification:	
Test Laboratory Manager:	
Test Laboratory contact:	
Means of Testing:	
Instructions for completion:	

B.4 Client identification

Client Identification:	
Client Test manager:	
Test Facilities required:	

B.5 System under test

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating system identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental conditions:	

B.6 Ancillary protocols

Protocol name	Version No.	PICS Ref.	PIXIT Ref.	PCTR Ref.
MTP				
TCAP				

B.7 Protocol information for ISUP

B.7.1 Protocol identification

ISUP '97

Name:	EN 300 356-1 (V3.2)
Version:	
PICS references:	

INAP-CS1

Name:	ETS 300 374-1 (1994)
Version:	
PICS references:	

B.7.2 IUT information-PIXIT proforma tables

The PIXIT information requested in the following tables is needed to provide the necessary information for the execution of the testing campaign. It is assumed that one exchange role is tested at one time. The answers to some PIXIT questions are related to an individual role. A typical example is the nature of address indicator of the called party number value, which is different in the case of international gateways and national exchanges. That is why if several roles are to be tested, one completed copy of the PIXIT proforma for each role is needed.

B.7.2.1 General configuration

Signalling point codes

Two signalling point codes - one incoming and one outgoing have to be defined for the IUT in case the exchange is a gateway between two networks.

Circuit identification codes

From a formal point of view, in most test cases it is sufficient to use only one CIC per signalling link in order to execute the testing. From a practical point of view the tester could select any CIC within a range of CICs belonging to a route, when initiating a call setup. The tester can, however, use the first CIC in the circuit group, without reducing the generality. The ATS requires the first CIC in the group as an answer to the PIXIT questions B.1/5 and B.1/6 in table B.1.

Table B.1: General configuration

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_NI_C	BIT_2	SS No. 7 Network indicator on the AC interface	
2	TSP_NI_D	BIT_2	SS No. 7 Network indicator on the AD interface	
3	TSP_SLS_C	BIT_4	SS No. 7 Signalling link selection on the AC interface	
4	TSP_SLS_D	BIT_4	SS No. 7 Signalling link selection on the AD interface	
5	TSP_CIC_C_PTC	BIT_12	SS No. 7 Circuit identification code on the AC interface	
6	TSP_CIC_D_PTC	BIT_12	SS No. 7 Circuit identification code on the AD interface	
7	TSP_SPC	BIT_14	SS No. 7 Signalling point code of the tester on the AC interface (C_PTC)	
8	TSP_SPD	BIT_14	SS No. 7 Signalling point code of the tester on the AD interface (D_PTC)	
9	TSP_SPB	BIT_14	SS No. 7 Signalling point code of the tester on the AB interface (B_PTC)	
10	TSP_SPA_B	BIT_14	SS No. 7 Signalling point code of the SUT on the AD interface (MTC-D_PTC)	
11	TSP_SPA_C	BIT_14	SS No. 7 Signalling point code of the SUT on the AC interface (MTC-C_PTC)	
12	TSP_SPA_D	BIT_14	SS No. 7 Signalling point code of the SUT on the AD interface (MTC-D_PTC)	

B.7.2.2 Parameter values

Called party numbers

The called party numbers have to be specified for each role which is to be tested.

Table B.2: Parameter values

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_Nb_SPD_ AddressSignals	HEX_N	Subscriber number for which the call will be routed to signalling point D (SP D)	
2	TSP_Nb_SPC_ AddressSignals	HEX_N	Subscriber number for which the call will be routed to signalling point C (SP C)	
3	TSP_Nb_SPB_ AddressSignals	HEX_N	Subscriber number for which the call will be routed to SP_B (SCP)	
4	TSP_IN_Nb_A1_ AddressSignals	HEX_N	First subscriber number for which the call will be routed to the virtual signalling point D, e.g. IN trigger number in SP_A	
5	TSP_IN_Nb_ ASSISTING_SSP_ AddressSignals	HEX_N	Number of Assisting SSP	
6	TSP_Dest_ISDN_ access	BIT_1	Use of ISDN access at destination ('1' b) or non-ISDN access ('0' b)	
7	TSP_Orig_ISDN_ access	BIT_1	Use of ISDN access at origination ('1' b) or non-ISDN access ('0' b)	
8	TSP_LocNb	HEX_N	Location number to which the call will be routed	
9	TSP_RgNb	HEX_N	Redirecting number for which the call was routed before the destination was reached	
10	TSP_orig_CdNb	HEX_N	Original Called number to which the call was routed originally	
11	TSP_NatAdrI	BOOLEAN	Use of international (TRUE) or national (FALSE) numbers	

B.7.2.3 Timer values

Table B.3: Timer values

Item	Parameter	Parameter Type	Type	Value
1	TSP_TWAIT	INTEGER	wait for an event	
2	TSP_TGUARD	INTEGER	Guard timer for the test case	
3	TSP_T8	INTEGER	10..15 sec	
4	TSP_T34	INTEGER	2..4 sec	
5	TSP_TnoReply	INTEGER	SCF controlled (by the MTC)	
6	TSP_Tsus	INTEGER	T6 (Q.764) or 4..10 sec or 0 sec (default) respectively	
7	TSP_tol	INTEGER	Tolerance for ISUP timers in percent	
8	TSP_TwaitFor Termination	INTEGER	Time tolerance for termination	
9	TSP_TCall_Duration	INTEGER	Duration of a call	
10	TSP_TCont_Check	INTEGER	Time between an IAM with Continuity Check required on this circuit and sending of a COT	
11	TSP_TSGM	INTEGER	Time between an IAM and sending of a SGM	
12	TSP_TRing_Time	INTEGER	Time until ANM is sent after ACM	

B.7.2.4 INAP related information

Table B.4: INAP related information

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_ServiceKey	INTEGER	Service Key of an Initial DP	
2	TSP_CutPaste_val	INTEGER	TSP contains the value of the CutandPaste I.E. which is used in the CONNECT operation	
3	TSP_DestRoutAddr	HEX_N	Destination Routing Address	

B.7.2.5 PICS related Test Suite Parameter

Table B.5: PICS related information

Item	Parameter	Parameter Type	Explanation	Value
1	SII	BOOLEAN	This variable indicates if the IUT has implemented the service interaction indicators. If they are implemented, the TSO_comp_SII shall be implemented in the appropriated way.	
2	SII_no_eACM	BOOLEAN	SII implemented and the IUT sends no early ACM.	
3	ColInf_eRBCSM	BOOLEAN	Send an EventReportBCSM op. to the MTC (SCP) after the specified number of digits were collected by the exchange, if a ReqRepBCSMEvent op. accompanied by a CollectInf. op. to arm DP2 was sent by the MTC.	
4	ColInf_CodInf	BOOLEAN	Send an CollectedInformation op. To the MTC (SCP) after the specified number of digits were collected by the exchange, if a ReqRepBCSMEvent op. Accompanied by a CollectInf. op. to arm DP2 was sent by the MTC.	

Annex C (normative): ATS for ISDN User Part (ISUP) v3 - INAP CS1

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

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the table of contents. The ATS itself contains a test suite overview part which provides additional information and references.

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

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (sps1044_4.PDF contained in archive en_30107004v010102v0.ZIP) which accompanies the present document.

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

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (sps1044_4.MP contained in archive en_30107004v010102v0.ZIP) which accompanies the present document.

NOTE: Where an ETSI Abstract Test Suite (in TTCN) is published in both .GR and .MP format these two forms shall be considered equivalent. In the event that there appears to be syntactical or semantic differences between the two then the problem shall be resolved and the erroneous format (whichever it is) shall be corrected.

Bibliography

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

ETSI ETR 318 (1996): "Intelligent Network (IN); IN Capability Set 1 (CS1); Distributed functional plane".

ITU-T Recommendation Q.784.1 (1996): "ISUP basic call test specification".

History

Document history			
V1.1.2	January 2000	Public Enquiry	PE 200018: 2000-01-05 to 2000-05-05
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