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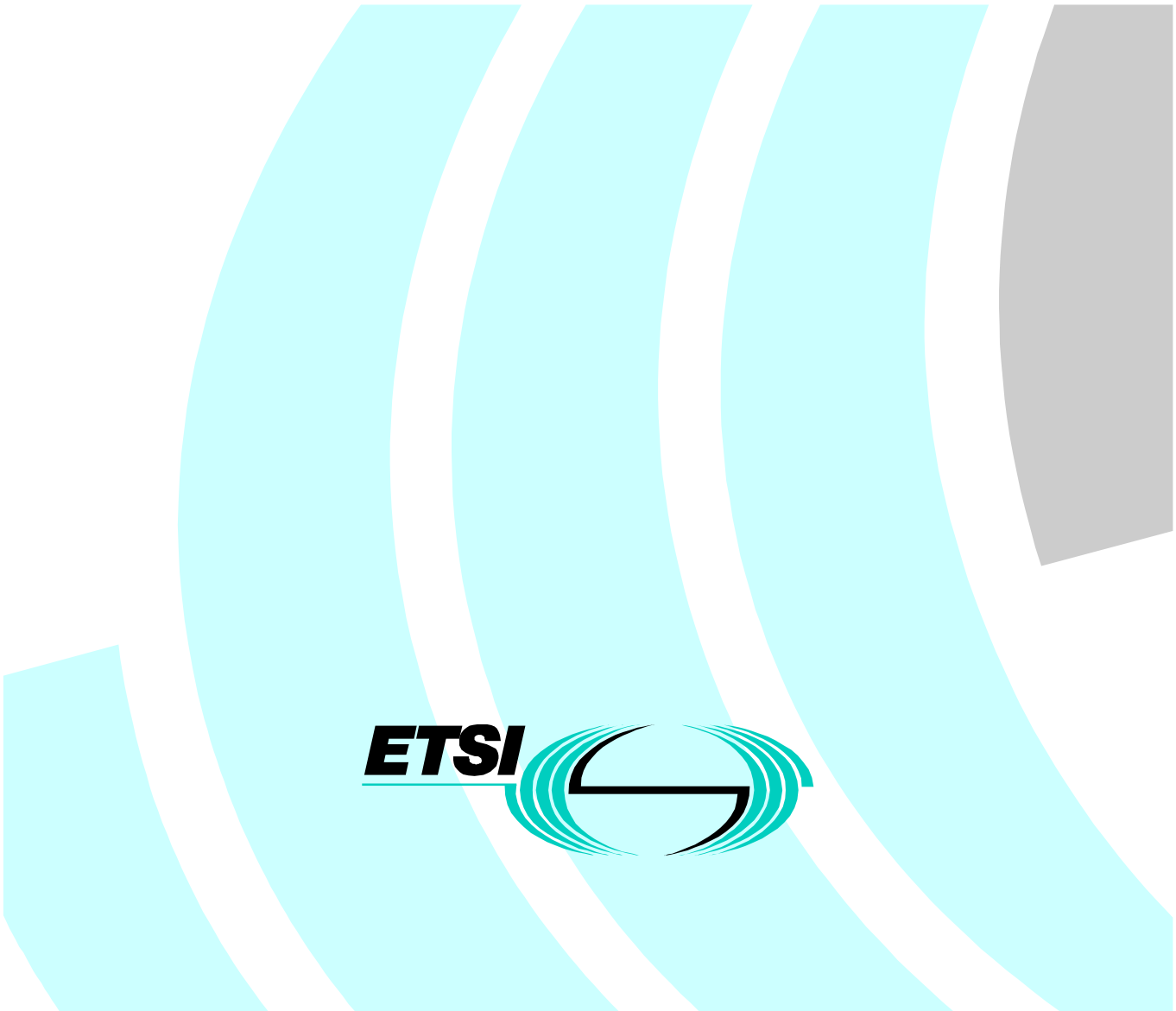
European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 6: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network



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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS), and is now submitted for the Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document is part 6 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Explicit Call Transfer (ECT) supplementary service, as described below:

Part 1: "Protocol specification";

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

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

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

Part 5: "TSS&TP specification for the network";

Part 6: "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

The present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the Network side of the T reference point or coincident S and T reference point of implementations conforming to the stage three standard for the Explicit Call Transfer (ECT) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 369-1 [1].

EN 300 369-5 [3] specifies the Test Suite Structure and Test Purposes (TSS&TP) related to this ATS and partial PIXIT proforma specification. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the User side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 369-1 [1].

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, subsequent revisions do apply.
- 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] EN 300 369-1 (V1.2): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] EN 300 369-2 (V1.2): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] EN 300 369-5 (V1.2): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 5: Test Suite Structure and Test Purposes (TSS&TP) specification for the network".

[4] EN 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[5] EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".

[6] EN 300 403-3 (V1.2): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 3: Protocol Implementation Conformance Statement (PICS) proforma specification".

[7] EN 300 141-2 (V1.2): "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[8] ISO/IEC 9646: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework" (all parts).

[9] TR 101 101 (V1.1): "Methods for Testing and Specification (MTS); TTCN interim version including ASN.1 1994 support [ISO/IEC 9646-3] (Second Edition Mock-up for JTC1/SC21 Review)".

[10] ISO/IEC 8825-1 1994: "Information technology - Encoding Rules for Abstract Syntax Notation One (ASN.1) - Part 1: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646 [8] apply.

3.2 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
BER	Basic Encoding Rules
CM	Co-ordination Message
ECT	Explicit Call Transfer
ETS	Executable Test Suite
IUT	Implementation Under Test
MOT	Means Of Testing
MTC	Main Test Component
PCO	Point of Control and Observation
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PTC	Parallel Test Component
SUT	System Under Test
TP	Test Purpose
TTCN	Tree and Tabular Combined Notation

4 Abstract Test Method (ATM)

4.1 Description of ATM used

The requirement for testing the network IUT is to focus on the behaviour of the network IUT at the user-network interface where a T reference point or coincident S and T reference point applies. Thus the IUT is the network DSS1 protocol entity at a particular user-network interface and is not the whole network.

In practice the behaviour at a single user-network interface does not occur in isolation, but depends on the activity at other user-network interfaces. Therefore a multi-party test method is used.

The general configuration used is shown in figure 1. In this ATS the Parallel Test Component`s (PTCs) act as slaves to the Main Test Component (MTC); all active behaviour at the PTCs is initiated by CMs sent by the MTC and all verdicts are assigned by the MTC (using information sent in CMs by the PTCs where appropriate). Not all components are used in every test case and the relationship between the IUT and the tester depends on the test group.

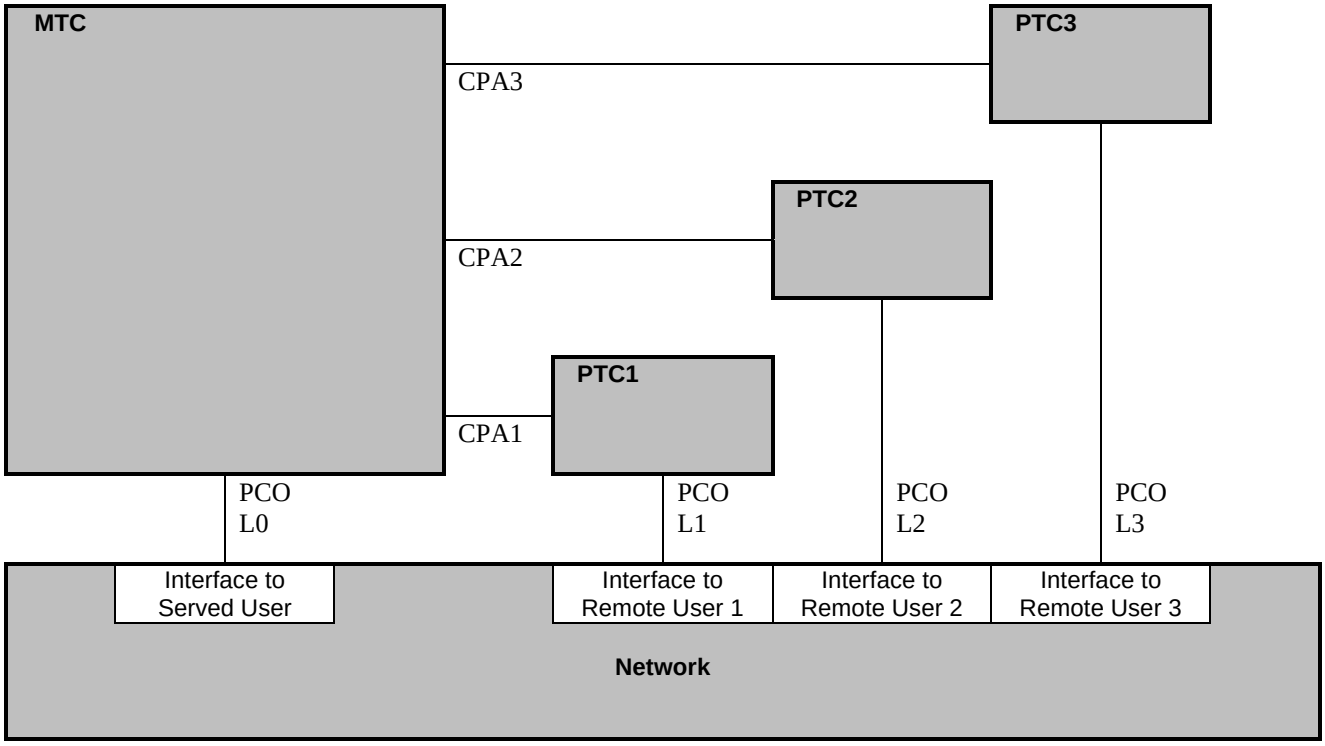

Figure 1: Multi-party test method

4.2 Served user test cases

For these test cases the IUT is connected to the MTC. Depending on the test case zero to three PTCs are used. The verdict depends only on the behaviour observed at the Point of Control and Observation (PCO) between the IUT and the MTC. The PTC(s) are used only to provoke the IUT to send messages to the MTC or to handle behaviour at the remote user interface(s) as a result of activity at the IUT interface.

In general the correlation of messages between the served and remote user interfaces (which is part of the functionality of the supplementary service rather than the protocol) is not tested. If a message is expected at the MTC as a result of an action at a remote user and is not received this usually leads to an inconclusive verdict.

PTC3 is only used in certain test cases for the explicit linkage procedures.

4.3 Remote user test cases

For these test cases the IUT is the protocol entity connected to either PTC1 or PTC2. The verdict is assigned by the MTC on the basis of behaviour reported in a CM by the PTC connected to the IUT and the behaviour of the served user attached to the MTC. A consequence of this is that incorrect behaviour by the served user can lead to a Fail verdict.

PTC3 is never used in the remote user test cases.

5 Untestable test purposes

There are no untestable test cases associated with this ATS and ATM.

6 ATS conventions

6.1 Version of TTCN used

The version of Tree and Tabular Combined Notation (TTCN) used is that defined in TR 101 101 [9].

6.2 Use of ASN.1

6.2.1 Situations where ASN.1 is used

ASN.1 has been used for three major reasons. First, types defined in ASN.1 can model problems that "pure" TTCN cannot. For instance, data structures modelling ordered or unordered sequences of data are preferably defined in ASN.1. Second, ASN.1 provides a better restriction mechanism for type definitions by using sub-type definitions. Third, it is necessary to use ASN.1 to reproduce the type definitions for remote operation components as specified in the base standards in ASN.1.

The possibility to use TTCN and ASN.1 in combination is used, i.e. referring to an ASN.1 type from a TTCN type.

6.2.2 Specification of encoding rules

There is a variation in the encoding rules applied to ASN.1 types and constraints specified in this ATS and therefore a mechanism is needed to differentiate the encoding rules. However the mechanism specified in ISO/IEC 9646-3/AM2 [8] and in TR 101 101 [9] does not facilitate definition of the encoding rules as needed for this ATS. A solution is therefore used which is broadly in the spirit of ISOIEC 9646-3/AM2 [8] in which comment fields have been used as a means of encoding rules.

For ASN.1 used in this ATS, two variations of encoding rules are used. One is the commonly known Basic Encoding Rules (BER) as specified in ISO/IEC 8825-1 [10]. In the second case the encoding is according to ISDN, i.e. the ASN.1 data types are a representation of structures contained within the ISDN specification (basic call, Generic functional protocol or individual supplementary service). For example, if octets of an information element are specified in ASN.1 as a SEQUENCE then this should be encoded in an Executable Test Suite (ETS) as any other ISDN information element specified using tabular TTCN. This ISDN encoding variation is the default encoding rule for this ATS. This means that all ASN.1 constraint tables are encoded using ISDN (non-BER) encoding unless stated otherwise. BER encoding should never be applied to an ASN.1 constraint where BER encoding has not been specified. This encoding rule is sometimes named "Direct Encoding".

For BER encoding, an indication is given in the comments field of the table header. For this ATS such indications appear in the ASN.1 type constraint declaration tables only. In the first line of the table header comment field, the notation "ASN1_Encoding: *BER*" is used.

Note that within BER, there are a number of variations for the encoding of lengths of fields. According to EN 300 196-1 [4], an IUT should be able to interpret all length forms within BER for received Protocol Data Unit's (PDUs). When sending PDUs containing BER encoding, EN 300 196-1 [4] gives guidelines but makes no restrictions on the length forms within BER which an IUT may apply.

In this particular ATS all ASN.1 type constraints which are of type "Component" are to be encoded using BER.

Table 1: ASN.1 type constraint declaration showing use of encoding variation

ASN.1 Type Constraint Declaration
Constraint Name : Beg3PTYinv **ASN.1 Type** : Component **Derivation Path** : **Comments** : ASN1_Encoding: BER Receive component: Begin3PTY invoke component
Description
begin3PTY_Components begin3PTY_InvokeComp { invokeID ? , operation_value localValue 4}
Detailed comments :

6.3 Conventions for variables and parameters

MTCA

call reference	CREF1	
B channel (basic)	bch_num1	(to PTC1)
channel nr (primary)	CH_NUM1	
call reference	CREF2	
B channel (basic)	bch_num2	(to PTC2)
channel nr (primary)	CH_NUM2	
call reference	CREF3	
B channel (basic)	bch_num3	(to PTC3)
channel nr (primary)	CH_NUM3	
PCO L0	IPN0, LIPN0	

PTC1

call reference	P1CREF
B channel (basic)	P1_bch_num
channel nr (primary)	P1_CH_NUM
PCO L1	IPN1, LIPN1

PTC2

call reference	P2CREF
B channel (basic)	P2_bch_num
channel nr (primary)	P2_CH_NUM
PCO L2	IPN2, LIPN2

PTC3

call reference	P3CREF
B channel (basic)	P3_bch_num
channel nr (primary)	P3_CH_NUM
PCO L3	IPN3, LIPN3

NOTE: In most TCs the calls identified by CREF1, CREF2 and CREF3 correspond to those identified by CR1, CR2 and CR3 respectively in the Test Purpose (TP). In a small number of TCs CREF1 refers to CR2 and CREF2 refers to CR1.

7 ATS to TP map

The identifiers used for the TPs are reused as test case names. Thus there is a straightforward one-to-one mapping.

8 PCTR conformance

A test laboratory, when requested by a client to produce a Protocol Conformance Test Report (PCTR), is required, as specified in ISO/IEC 9646-5 [8], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [8].

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.

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.

9 PIXIT conformance

A test realizer, producing an executable test suite for the ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-4 [8], 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 IUT.

A test laboratory, offering testing for the ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-5 [8], 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.

10 ATS conformance

The test realizer, producing MOT and ETS for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [8]. In particular, these concern the realization of an ETS based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

An EN 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 [8].

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

11 Configurations required in testing

For some test cases it is necessary to configure the System Under Test (SUT) in specific ways, this is described in table 13 below. In this table L0, L1 and L2 refer to the network interfaces connected to PCOs L0, L1 and L2 respectively. Except where specified otherwise the following configurations apply:

- For S/T reference point test cases (Groups ECT_N01, ECT_N02 and ECT_N03);
  - L0 configured as S/T reference point;
  - L1 and L2 configured as S/T reference point for remote user tests (group ECT_N03);
  - ECT subscribed at L0 as served user;
  - HOLD subscribed at L0 as served user; and
  - L1 and L2 supporting ECT and HOLD as remote users.
- For T reference point test cases (Groups ECT_N04, ECT_N05 and ECT_N06);
  - L0 configured as T reference point;
  - L1 and L2 configured as T reference point for remote user tests (group ECT_N06);
  - ECT subscribed at L0 as served user; and
  - L1 and L2 supporting ECT as remote users.

Table 2: SUT configurations for specific test cases

Test case	Special configuration	PIXIT reference
ECT_N01_004 - 006 ECT_N02_025 - 030 ECT_N05_013 - 015	L0 shall not be subscribed to the ECT service	2.1
ECT_N01_007 - 009 ECT_N02_031 - 036 ECT_N05_016 - 018	It shall not be possible to transfer the calls L0-L1 and L0-L1 because of a looping condition.	2.2
ECT_N01_049 - 051 ECT_N02_065 - 070 ECT_N05_039 - 041	It shall not be possible to transfer the calls L0-L1 and L0-L1 because of supplementary service interactions	2.3
ECT_N02_013 - 018 ECT_N05_007 - 009	It shall not be possible to assign a LinkID for the call L0-L2.	2.4
ECT_N02_037 - 042 ECT_N05_019 - 021	It shall not be possible to transfer the calls L0-L1 and L0-L2 because of internal restrictions	2.5
ECT_N03_001, 006, 010, 013 ECT_N06_002 005, 006	The SUT shall be configured so that Connected number information with presentation allowed is available from L2 (i.e. COLR is not activated or is activated in the temporary mode with default presentation not restricted).	2.7
ECT_N03_002, 007, 011, 014	The SUT shall be configured so that presentation of Connected number information from L2 is restricted (i.e. COLR is activated in the permanent mode or in the temporary mode with default presentation restricted).	2.8
ECT_N03_003, 008, 012, 015	The SUT shall be configured so that the IUT does not receive any connected number information from L2.	2.9
ECT_N04_001	It shall be possible to perform a loop check at L0 for the call L0-L1	2.10
ECT_N04_002	It shall not be possible to perform a loop check at L0 for the call L0-L1	2.11

Annex A (normative): Protocol Conformance Test Report (PCTR) proforma

A.1 Identification summary

A.1.1 Protocol conformance test report

PCTR number:	
PCTR date:	
Corresponding SCTR number:	
Corresponding SCTR date:	
Test laboratory identification:	
Test laboratory manager:	
Signature:	

A.1.2 IUT identification

Name:	
Version:	
Protocol specification:	EN 300 369-1
PICS:	
Previous PCTRs (if any):	

A.1.3 Testing environment

PIXIT reference number:	
ATS specification:	EN 300 369-6
Abstract test method:	Multi-party test method (see ISO/IEC 9646-2)
Means of testing identification:	
Dates of testing:	
Conformance log reference(s):	
Retention date for log reference(s):	

A.1.4 Limits and reservations

Additional information relevant to the technical contents or further use of the test report, or to 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 specified 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 of this report) and there are no "FAIL" verdicts to be recorded (in clause A.6) strike the words "has", otherwise strike the words "has not".

A.3 Static conformance summary

The PICS for this IUT is / 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 tests:

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A.5 Static conformance review report

If clause A.3 indicates non-conformance, this clause 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

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
ECT_N01_001				
ECT_N01_002				
ECT_N01_003				
ECT_N01_004				
ECT_N01_005				
ECT_N01_006				
ECT_N01_007				
ECT_N01_008				
ECT_N01_009				
ECT_N01_010				
ECT_N01_011				
ECT_N01_012				
ECT_N01_013				
ECT_N01_014				
ECT_N01_015				
ECT_N01_016				
ECT_N01_017				
ECT_N01_018				
ECT_N01_019				
ECT_N01_020				
ECT_N01_021				
ECT_N01_022				
ECT_N01_023				
ECT_N01_024				
ECT_N01_025				
ECT_N01_026				
ECT_N01_027				
ECT_N01_028				
ECT_N01_029				
ECT_N01_030				
ECT_N01_031				
ECT_N01_032				
ECT_N01_033				
ECT_N01_034				
ECT_N01_035				
ECT_N01_036				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
ECT_N01_037				
ECT_N01_038				
ECT_N01_039				
ECT_N01_040				
ECT_N01_041				
ECT_N01_042				
ECT_N01_043				
ECT_N01_044				
ECT_N01_045				
ECT_N01_046				
ECT_N01_047				
ECT_N01_048				
ECT_N01_049				
ECT_N01_050				
ECT_N01_051				
ECT_N02_001				
ECT_N02_002				
ECT_N02_003				
ECT_N02_004				
ECT_N02_005				
ECT_N02_006				
ECT_N02_007				
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ECT_N02_025				
ECT_N02_026				
ECT_N02_027				
ECT_N02_028				
ECT_N02_029				
ECT_N02_030				
ECT_N02_031				
ECT_N02_032				
ECT_N02_033				
ECT_N02_034				
ECT_N02_035				
ECT_N02_036				
ECT_N02_037				
ECT_N02_038				
ECT_N02_039				
ECT_N02_040				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
ECT_N02_041				
ECT_N02_042				
ECT_N02_043				
ECT_N02_044				
ECT_N02_045				
ECT_N02_046				
ECT_N02_047				
ECT_N02_048				
ECT_N02_049				
ECT_N02_050				
ECT_N02_051				
ECT_N02_052				
ECT_N02_053				
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ECT_N03_009				
ECT_N03_010				
ECT_N03_011				
ECT_N03_012				
ECT_N03_013				
ECT_N03_014				
ECT_N03_015				
ECT_N04_001				
ECT_N04_002				
ECT_N04_003				
ECT_N05_001				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
ECT_N05_002				
ECT_N05_003				
ECT_N05_004				
ECT_N05_005				
ECT_N05_006				
ECT_N05_007				
ECT_N05_008				
ECT_N05_009				
ECT_N05_010				
ECT_N05_011				
ECT_N05_012				
ECT_N05_013				
ECT_N05_014				
ECT_N05_015				
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ECT_N05_023				
ECT_N05_024				
ECT_N05_025				
ECT_N05_026				
ECT_N05_027				
ECT_N05_028				
ECT_N05_029				
ECT_N05_030				
ECT_N05_031				
ECT_N05_032				
ECT_N05_033				
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ECT_N05_038				
ECT_N05_039				
ECT_N05_040				
ECT_N05_041				
ECT_N05_042				
ECT_N05_043				
ECT_N05_044				
ECT_N06_001				
ECT_N06_002				
ECT_N06_003				
ECT_N06_004				
ECT_N06_005				
ECT_N06_006				

A.7 Observations

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

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Annex B (normative): Partial PIXIT proforma

B.1 Identification summary

PIXIT number:

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Test laboratory name:

.....

Date of issue:

.....

Issued to:

.....

B.2 Abstract test suite summary

Protocol specification:	EN 300 369-1
ATS specification:	EN 300 369-6
Abstract test method:	Multi-party test method (see ISO/IEC 9646-2)

B.3 Test laboratory

Test laboratory identification:

.....

Accreditation status of the test service:

.....

Accreditation reference:

.....

Test laboratory manager:

.....

Test laboratory contact:

.....

Means of testing:

.....

Test laboratory instructions for completion:

.....

B.4 Client (of the test laboratory)

Client identification:

.....

Client test manager:

.....

Client contact:

.....

Test facilities required:

.....

B.5 System Under Test (SUT)

Name:

.....

Version:

.....

SCS reference:

.....

Machine configuration:

.....

Operating system identification:

.....

IUT identification:

.....

PICS (all layers):

.....

.....

Limitations of the SUT:

.....

Environmental conditions:

.....

B.6 Protocol information

B.6.1 Protocol identification

Specification reference: EN 300 369-1

Protocol version:

PICS reference:

NOTE: The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in EN 300 369-2.

B.6.2 IUT information

B.6.2.1 Parameter values

Table B.1: Parameter values

Item	Question	Supported? (Y/N)	Allowed values	Value
1.1	Does the IUT support basic access?		N/A	N/A
1.2	What length of Call Reference is used?		1, 2	

B.6.2.2 Configuration of IUT

Table B.2: Actions required to configure the IUT

Item	Action: What actions, if possible, have to be taken to configure the IUT ...	Supported? (Y/N)	Stimulus (action taken)
2.1	for access NOT subscribed to ECT supplementary service?		
2.2	for a presence of a looping condition?		
2.3	for transfer of a call not to be possible due to interactions with another supplementary service?		
2.4	for inability to assign a LinkId value?		
2.5	for internal network restrictions not allowing the provision of the ECT service?		
2.6	for accepting three calls at one CES (two calls in the Idle, one call in the Call held auxiliary state)?		
2.7	so that Connected number information with presentation allowed is available (i.e. COLR is not activated or is activated in the temporary mode with default presentation not restricted)?		
2.8	so that presentation of Connected number information is restricted (i.e. COLR is activated in the permanent mode or in the temporary mode with default presentation restricted).		
2.9	so that Connected number information is not available?		
2.10	for loop checking to be supported for a particular call?		
2.11	for loop checking not to be supported for a particular call?		

B.6.2.3 Timer values

Table B.3: Timer values

Item	Timer: Give a value for the timer that is used to ...	Value (in seconds)
3.1	wait for the test operator to perform an implicit send action or to wait for a PTC to react (TWAIT)	
3.2	wait for the IUT to respond to a stimulus sent by the tester (TAC)	
3.3	control that the IUT does not respond to a stimulus sent by the tester (TNOAC)	
NOTE:	The IUT provider may fill in a value range rather than a fixed value for the test management timers. During test execution the test laboratory will choose specific values for the timers dependant on the means of testing used. These specific values may be beyond the range given by the IUT provider, if this is necessary for achieving satisfactory test results.	

B.7 Basic call PIXIT items

B.7.1 Parameter values - information element codings

Table B.4: Codings of information elements

Item	Information element: provide, if possible, ...	Supported? (Y/N)	Value
N1.1	a coding of a Bearer Capability information element, which the IUT is compatible with, for the purpose of accepting received SETUP messages and which may be used in SETUP messages to be transmitted		
N1.2	a coding of a High layer compatibility information element, which the IUT is compatible with, for the purpose of accepting received SETUP messages and which may be used in SETUP messages to be transmitted		
N1.3	a coding of a Low layer compatibility information element, which the IUT is compatible with, for the purpose of accepting received SETUP messages and which may be used in SETUP messages to be transmitted		
N1.4	a Called party number information element, which the IUT is compatible with, for ...		
N1.4.1	served user access		
N1.4.2	first remote user access		
N1.4.3	second remote user access		
N1.4.4	third remote user access		
N1.5	preferred channel number to be used for the purpose of accepting received SETUP messages, for ... (note 1)		
N1.5.1	single call at served user side		
N1.5.2	second call at served user side		
N1.5.3	first call at remote user side		
N1.5.4	second call at remote user side		
N1.5.5	third call at remote user side		
NOTE 1:	Items N1.5.1 to N1.5.5 are applicable for primary rate access only.		
NOTE 2:	As this is a general table used for all supplementary services, all items N1.4.1 to N1.4.4, and N1.5.1 to N1.5.5 (if primary rate access is supported), are not always required, but should be supplied if possible.		

Annex C (normative): Abstract Test Suite (ATS)

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [8].

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.

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

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (ECT_N05.PDF contained in archive 3f1i0ipc.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 (ECT_N05.MP contained in archive 3f1i0ipc.ZIP) which accompanies the present document.

NOTE: According to ISO/IEC 9646-3 [8], 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.

Bibliography

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

- ITU-T Recommendation X 690 (1994): "Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

History

Document history			
Edition 1	May 1997	Publication as ETS 300 369-6	
V1.2.2	January 1999	Public Enquiry	PE 9918: 1999-01-01 to 1999-04-30