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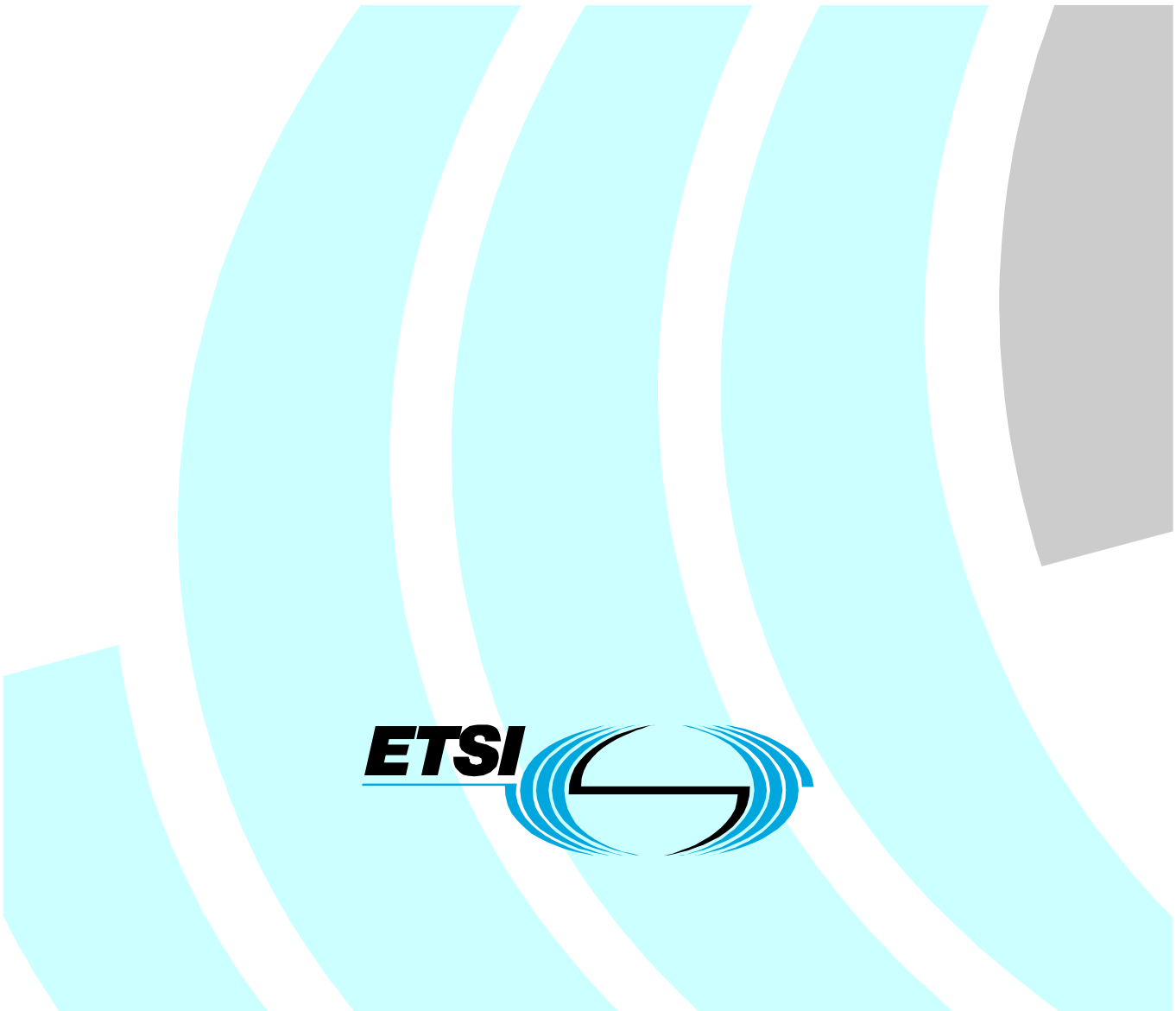
European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user



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ETSI

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

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

Siret N° 348 623 562 00017 - NAF 742 C
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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).

The present document is part 4 of a multi-part deliverable covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN); Diversion supplementary services, as identified below:

Part 1: "Protocol specification";

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

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

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

Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";

Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

National transposition dates	
Date of adoption of this EN:	16 November 2001
Date of latest announcement of this EN (doa):	28 February 2002
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1 Scope

The present document specifies the Abstract Test Suites (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the User side of the T reference point or coincident S and T reference point of implementations conforming to the stage three standard for the diversion supplementary services for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 207-1 [1].

The present document 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 Network side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 207-1 [1].

The present document contains two ATSs for different parts of the protocol; one (CDIV) for Call Forwarding Busy, Call Forwarding Unconditional, Call Forwarding No Response and Call Deflection and the other (SCF) for Selective Call Forwarding Busy, Selective Call Forwarding Unconditional and Selective Call Forwarding No Response. Common parts of the protocol are covered by the CDIV ATS.

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.

[1] ETSI EN 300 207-1 (V2.0.1): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] ETSI EN 300 207-2 (V2.0.1): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3] ETSI EN 300 207-3 (V3.1.1): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user".

[4] ETSI 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".

NOTE: EN 300 207-1 [1] has an undated reference to EN 300 196-1 [4]. Some ASN.1 definitions from EN 300 196-1 [4] are referenced by EN 300 207-1 [1] and are reproduced in the TTCN ATSs in the present document. The version of these definitions used in the present document are based on those in EN 300 196-1 (V1.3.2). The technical changes in EN 300 196-1 (V1.3.2) have no impact on the present document.

[5] Void.

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

[7] ISO/IEC 9646-2 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

[8] ISO/IEC 9646-3 (1998): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".

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

[10] 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".

[11] ISO/IEC 8825-1: "Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)". (See also ITU-T Recommendation X.690).

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-1 [6] apply.

3.2 Abbreviations

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

ATS	Abstract Test Suite
BER	Basic Encoding Rules
CD	Call Deflection
CDIV	Call DIVersion (this is used to refer collectively to the CD, CFB, CFNR and CFU services)
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFU	Call Forwarding Unconditional
ETS	Executable Test Suite
IUT	Implementation Under Test
LT	Lower Tester
MOT	Means Of Testing
PCO	Point of Control and Observation
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SCF	Selective Call Forwarding (this is used to refer collectively to the SCFB, SCFNR and SCFU services)
SCFB	Selective Call Forwarding Busy
SCFNR	Selective Call Forwarding No Reply
SCFU	Selective Call Forwarding Unconditional
SUT	System Under Test
TP	Test Purpose
TTCN	Tree and Tabular Combined Notation

4 Abstract Test Method

The remote test method is applied for the CDIV and SCF user ATSs.

A Point of Control and Observation (PCO) resides at the service access point between layers 2 and 3 in the test system. This PCO is named "L" (for Lower). The L 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.

A second "informal" PCO, called "O" (for Operator) is used to specify control but not observation above the IUT; events at this PCO are never used to generate test case verdicts. Messages sent by the tester at this PCO explicitly indicate to the operator actions which are to be performed on the SUT. This is regarded as a preferred alternative to the use of the implicit send event.

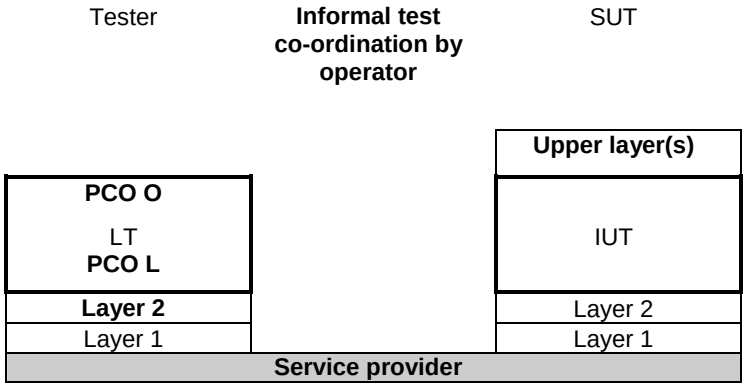

Figure 1: Remote test method with PCO O for test co-ordination

5 Untestable test purposes

There are no untestable test purposes associated with these ATSs.

6 ATS conventions

6.1 Version of TTCN used

The version of TTCN used is that defined in ISO/IEC 9646-3 [8].

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 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 [8] 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 ISO/IEC 9646-3 [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 [11]. 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 shall not 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 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: BeginECT invoke component
Description
begin3PTY_Components begin3PTY_InvokeComp { invokeID ? , operation_value localValue 4}
Detailed comments:

7 ATS to TP map

The identifiers used for the TPs see EN 300 207-3 [3] 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 PCTR, is required, as specified in ISO/IEC 9646-5 [10], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [10].

Furthermore, a test laboratory, offering testing for either 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 except that either A.6.1 or A.6.2 may be omitted. 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 either ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-4 [9], 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 except as indicated below. 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 either ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-5 [10], 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 except as indicated below. The PIXIT proforma may contain additional questions that need to be answered in order to prepare the test laboratory for a particular IUT.

In an augmented partial PIXIT proforma or PIXIT proforma applicable to testing to only one of the ATSs in the present document the items in annex B for which responses are only required for testing to the other ATS may be omitted.

10 ATS conformance

The test realizer, producing MOT and ETS for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [9]. 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 at least one 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 [10].

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

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 300 207-1 *Name(s) of service(s) tested*
PICS:	
Previous PCTRs (if any):	

A.1.3 Testing environment

PIXIT Reference number:	
ATS Specification:	EN 300 207-4 CDIV/SCF *(Delete CDIV or SCF as applicable)*
Abstract Test Method:	Remote 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 the present document) 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/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 the present document) 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

A.6.1 Test campaign report for CDIV

This clause is only included in the PCTR if the test campaign was for one or more of CFB, CFU, CFNR or CD.

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
CDIV_U01_CFB_001	Yes/No	Yes/No		
CDIV_U01_CFB_002	Yes/No	Yes/No		
CDIV_U01_CFB_003	Yes/No	Yes/No		
CDIV_U01_CFB_004	Yes/No	Yes/No		
CDIV_U01_CFB_005	Yes/No	Yes/No		
CDIV_U01_CFB_006	Yes/No	Yes/No		
CDIV_U01_CFB_007	Yes/No	Yes/No		
CDIV_U01_CFB_008	Yes/No	Yes/No		
CDIV_U01_CFB_009	Yes/No	Yes/No		
CDIV_U01_CFB_010	Yes/No	Yes/No		
CDIV_U01_CFB_011	Yes/No	Yes/No		
CDIV_U01_CFB_012	Yes/No	Yes/No		
CDIV_U01_CFB_013	Yes/No	Yes/No		
CDIV_U01_CFB_014	Yes/No	Yes/No		
CDIV_U01_CFB_015	Yes/No	Yes/No		
CDIV_U01_CFB_016	Yes/No	Yes/No		
CDIV_U01_CFB_017	Yes/No	Yes/No		
CDIV_U01_CFB_018	Yes/No	Yes/No		
CDIV_U01_CFB_019	Yes/No	Yes/No		
CDIV_U01_CFB_020	Yes/No	Yes/No		
CDIV_U01_CFB_021	Yes/No	Yes/No		
CDIV_U01_CFB_022	Yes/No	Yes/No		
CDIV_U01_CFB_023	Yes/No	Yes/No		
CDIV_U01_CFB_024	Yes/No	Yes/No		
CDIV_U01_CFB_025	Yes/No	Yes/No		
CDIV_U01_CFB_026	Yes/No	Yes/No		
CDIV_U01_CFB_027	Yes/No	Yes/No		
CDIV_U01_CFB_028	Yes/No	Yes/No		
CDIV_U01_CFB_029	Yes/No	Yes/No		
CDIV_U01_CFB_030	Yes/No	Yes/No		
CDIV_U01_CFB_031	Yes/No	Yes/No		
CDIV_U01_CFB_032	Yes/No	Yes/No		
CDIV_U01_CFB_033	Yes/No	Yes/No		
CDIV_U01_CFB_034	Yes/No	Yes/No		
CDIV_U01_CFNR_001	Yes/No	Yes/No		
CDIV_U01_CFNR_002	Yes/No	Yes/No		

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
CDIV_U01_CFNR_003	Yes/No	Yes/No		
CDIV_U01_CFNR_004	Yes/No	Yes/No		
CDIV_U01_CFNR_005	Yes/No	Yes/No		
CDIV_U01_CFNR_006	Yes/No	Yes/No		
CDIV_U01_CFNR_007	Yes/No	Yes/No		
CDIV_U01_CFNR_008	Yes/No	Yes/No		
CDIV_U01_CFNR_009	Yes/No	Yes/No		
CDIV_U01_CFNR_010	Yes/No	Yes/No		
CDIV_U01_CFNR_011	Yes/No	Yes/No		
CDIV_U01_CFNR_012	Yes/No	Yes/No		
CDIV_U01_CFNR_013	Yes/No	Yes/No		
CDIV_U01_CFNR_014	Yes/No	Yes/No		
CDIV_U01_CFNR_015	Yes/No	Yes/No		
CDIV_U01_CFNR_016	Yes/No	Yes/No		
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CDIV_U01_CFNR_019	Yes/No	Yes/No		
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CDIV_U01_CFNR_023	Yes/No	Yes/No		
CDIV_U01_CFNR_024	Yes/No	Yes/No		
CDIV_U01_CFNR_025	Yes/No	Yes/No		
CDIV_U01_CFNR_026	Yes/No	Yes/No		
CDIV_U01_CFNR_027	Yes/No	Yes/No		
CDIV_U01_CFNR_028	Yes/No	Yes/No		
CDIV_U01_CFNR_029	Yes/No	Yes/No		
CDIV_U01_CFNR_030	Yes/No	Yes/No		
CDIV_U01_CFNR_031	Yes/No	Yes/No		
CDIV_U01_CFNR_032	Yes/No	Yes/No		
CDIV_U01_CFU_001	Yes/No	Yes/No		
CDIV_U01_CFU_002	Yes/No	Yes/No		
CDIV_U01_CFU_003	Yes/No	Yes/No		
CDIV_U01_CFU_004	Yes/No	Yes/No		
CDIV_U01_CFU_005	Yes/No	Yes/No		
CDIV_U01_CFU_006	Yes/No	Yes/No		
CDIV_U01_CFU_007	Yes/No	Yes/No		
CDIV_U01_CFU_008	Yes/No	Yes/No		
CDIV_U01_CFU_009	Yes/No	Yes/No		
CDIV_U01_CFU_010	Yes/No	Yes/No		
CDIV_U01_CFU_011	Yes/No	Yes/No		
CDIV_U01_CFU_012	Yes/No	Yes/No		
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CDIV_U01_CFU_017	Yes/No	Yes/No		
CDIV_U01_CFU_018	Yes/No	Yes/No		
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CDIV_U01_CFU_022	Yes/No	Yes/No		
CDIV_U01_CFU_023	Yes/No	Yes/No		
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CDIV_U01_CFU_025	Yes/No	Yes/No		
CDIV_U01_CFU_026	Yes/No	Yes/No		
CDIV_U01_CFU_027	Yes/No	Yes/No		
CDIV_U01_CFU_028	Yes/No	Yes/No		
CDIV_U01_CFU_029	Yes/No	Yes/No		
CDIV_U01_CFU_030	Yes/No	Yes/No		
CDIV_U01_CFU_031	Yes/No	Yes/No		
CDIV_U01_CFU_032	Yes/No	Yes/No		

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
CDIV_U01_CFU_033	Yes/No	Yes/No		
CDIV_U01_CFU_034	Yes/No	Yes/No		
CDIV_U02_CFB_001	Yes/No	Yes/No		
CDIV_U02_CFB_002	Yes/No	Yes/No		
CDIV_U02_CFB_003	Yes/No	Yes/No		
CDIV_U02_CFB_004	Yes/No	Yes/No		
CDIV_U02_CFB_005	Yes/No	Yes/No		
CDIV_U02_CFB_006	Yes/No	Yes/No		
CDIV_U02_CFB_007	Yes/No	Yes/No		
CDIV_U02_CFB_008	Yes/No	Yes/No		
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CDIV_U02_CFB_011	Yes/No	Yes/No		
CDIV_U02_CFB_012	Yes/No	Yes/No		
CDIV_U02_CFB_013	Yes/No	Yes/No		
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CDIV_U02_CFB_016	Yes/No	Yes/No		
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CDIV_U02_CFNR_001	Yes/No	Yes/No		
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CDIV_U02_CFNR_019	Yes/No	Yes/No		
CDIV_U02_CFNR_020	Yes/No	Yes/No		
CDIV_U02_CFNR_020	Yes/No	Yes/No		
CDIV_U02_CFNR_021	Yes/No	Yes/No		
CDIV_U02_CFU_001	Yes/No	Yes/No		
CDIV_U02_CFU_002	Yes/No	Yes/No		
CDIV_U02_CFU_003	Yes/No	Yes/No		
CDIV_U02_CFU_004	Yes/No	Yes/No		
CDIV_U02_CFU_005	Yes/No	Yes/No		
CDIV_U02_CFU_006	Yes/No	Yes/No		
CDIV_U02_CFU_007	Yes/No	Yes/No		
CDIV_U02_CFU_008	Yes/No	Yes/No		
CDIV_U02_CFU_009	Yes/No	Yes/No		
CDIV_U02_CFU_010	Yes/No	Yes/No		
CDIV_U02_CFU_011	Yes/No	Yes/No		
CDIV_U02_CFU_012	Yes/No	Yes/No		
CDIV_U02_CFU_013	Yes/No	Yes/No		
CDIV_U02_CFU_014	Yes/No	Yes/No		
CDIV_U02_CFU_015	Yes/No	Yes/No		
CDIV_U02_CFU_016	Yes/No	Yes/No		

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
CDIV_U02_CFU_017	Yes/No	Yes/No		
CDIV_U02_CFU_018	Yes/No	Yes/No		
CDIV_U02_CFU_019	Yes/No	Yes/No		
CDIV_U02_CFU_020	Yes/No	Yes/No		
CDIV_U02_CFU_021	Yes/No	Yes/No		
CDIV_U02_CFU_022	Yes/No	Yes/No		
CDIV_U03_001	Yes/No	Yes/No		
CDIV_U03_002	Yes/No	Yes/No		
CDIV_U03_003	Yes/No	Yes/No		
CDIV_U03_004	Yes/No	Yes/No		
CDIV_U03_005	Yes/No	Yes/No		
CDIV_U03_006	Yes/No	Yes/No		
CDIV_U03_007	Yes/No	Yes/No		
CDIV_U03_008	Yes/No	Yes/No		
CDIV_U03_009	Yes/No	Yes/No		
CDIV_U03_010	Yes/No	Yes/No		
CDIV_U03_011	Yes/No	Yes/No		
CDIV_U03_012	Yes/No	Yes/No		
CDIV_U03_013	Yes/No	Yes/No		
CDIV_U04_CFB_001	Yes/No	Yes/No		
CDIV_U04_CFB_002	Yes/No	Yes/No		
CDIV_U04_CFB_003	Yes/No	Yes/No		
CDIV_U04_CFB_004	Yes/No	Yes/No		
CDIV_U04_CFB_005	Yes/No	Yes/No		
CDIV_U04_CFB_006	Yes/No	Yes/No		
CDIV_U04_CFB_007	Yes/No	Yes/No		
CDIV_U04_CFB_008	Yes/No	Yes/No		
CDIV_U04_CFB_009	Yes/No	Yes/No		
CDIV_U04_CFB_010	Yes/No	Yes/No		
CDIV_U04_CFB_011	Yes/No	Yes/No		
CDIV_U04_CFB_012	Yes/No	Yes/No		
CDIV_U04_CFB_013	Yes/No	Yes/No		
CDIV_U04_CFB_014	Yes/No	Yes/No		
CDIV_U04_CFNR_001	Yes/No	Yes/No		
CDIV_U04_CFNR_002	Yes/No	Yes/No		
CDIV_U04_CFNR_003	Yes/No	Yes/No		
CDIV_U04_CFNR_004	Yes/No	Yes/No		
CDIV_U04_CFNR_005	Yes/No	Yes/No		
CDIV_U04_CFNR_006	Yes/No	Yes/No		
CDIV_U04_CFNR_007	Yes/No	Yes/No		
CDIV_U04_CFNR_008	Yes/No	Yes/No		
CDIV_U04_CFNR_009	Yes/No	Yes/No		
CDIV_U04_CFNR_010	Yes/No	Yes/No		
CDIV_U04_CFNR_011	Yes/No	Yes/No		
CDIV_U04_CFNR_012	Yes/No	Yes/No		
CDIV_U04_CFNR_013	Yes/No	Yes/No		
CDIV_U04_CFNR_014	Yes/No	Yes/No		
CDIV_U04_CFU_001	Yes/No	Yes/No		
CDIV_U04_CFU_002	Yes/No	Yes/No		
CDIV_U04_CFU_003	Yes/No	Yes/No		
CDIV_U04_CFU_004	Yes/No	Yes/No		
CDIV_U04_CFU_005	Yes/No	Yes/No		
CDIV_U04_CFU_006	Yes/No	Yes/No		
CDIV_U04_CFU_007	Yes/No	Yes/No		
CDIV_U04_CFU_008	Yes/No	Yes/No		
CDIV_U04_CFU_009	Yes/No	Yes/No		
CDIV_U04_CFU_010	Yes/No	Yes/No		
CDIV_U04_CFU_011	Yes/No	Yes/No		
CDIV_U04_CFU_012	Yes/No	Yes/No		
CDIV_U04_CFU_013	Yes/No	Yes/No		
CDIV_U04_CFU_014	Yes/No	Yes/No		
CDIV_U05_CFB_001	Yes/No	Yes/No		

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
CDIV_U05_CFB_002	Yes/No	Yes/No		
CDIV_U05_CFB_003	Yes/No	Yes/No		
CDIV_U05_CFB_004	Yes/No	Yes/No		
CDIV_U05_CFNR_001	Yes/No	Yes/No		
CDIV_U05_CFNR_002	Yes/No	Yes/No		
CDIV_U05_CFU_001	Yes/No	Yes/No		
CDIV_U05_CFU_002	Yes/No	Yes/No		
CDIV_U05_CFU_003	Yes/No	Yes/No		
CDIV_U05_CFU_004	Yes/No	Yes/No		
CDIV_U06_001	Yes/No	Yes/No		
CDIV_U06_002	Yes/No	Yes/No		
CDIV_U06_003	Yes/No	Yes/No		
CDIV_U06_004	Yes/No	Yes/No		
CDIV_U06_005	Yes/No	Yes/No		
CDIV_U06_006	Yes/No	Yes/No		
CDIV_U06_007	Yes/No	Yes/No		
CDIV_U06_008	Yes/No	Yes/No		
CDIV_U06_009	Yes/No	Yes/No		
CDIV_U06_010	Yes/No	Yes/No		
CDIV_U06_011	Yes/No	Yes/No		
CDIV_U06_012	Yes/No	Yes/No		
CDIV_U06_013	Yes/No	Yes/No		
CDIV_U06_014	Yes/No	Yes/No		
CDIV_U06_015	Yes/No	Yes/No		
CDIV_U06_016	Yes/No	Yes/No		
CDIV_U06_017	Yes/No	Yes/No		
CDIV_U06_018	Yes/No	Yes/No		
CDIV_U07_001	Yes/No	Yes/No		
CDIV_U07_002	Yes/No	Yes/No		
CDIV_U08_001	Yes/No	Yes/No		
CDIV_U08_002	Yes/No	Yes/No		
CDIV_U08_003	Yes/No	Yes/No		
CDIV_U08_004	Yes/No	Yes/No		
CDIV_U09_001	Yes/No	Yes/No		
CDIV_U09_002	Yes/No	Yes/No		
CDIV_U10_001	Yes/No	Yes/No		
CDIV_U10_002	Yes/No	Yes/No		
CDIV_U10_003	Yes/No	Yes/No		
CDIV_U10_004	Yes/No	Yes/No		
CDIV_U10_005	Yes/No	Yes/No		
CDIV_U10_006	Yes/No	Yes/No		
CDIV_U10_007	Yes/No	Yes/No		
CDIV_U10_008	Yes/No	Yes/No		
CDIV_U11_001	Yes/No	Yes/No		
CDIV_U11_002	Yes/No	Yes/No		
CDIV_U11_003	Yes/No	Yes/No		
CDIV_U11_004	Yes/No	Yes/No		
CDIV_U11_005	Yes/No	Yes/No		
CDIV_U11_006	Yes/No	Yes/No		
CDIV_U11_007	Yes/No	Yes/No		
CDIV_U11_008	Yes/No	Yes/No		
CDIV_U11_009	Yes/No	Yes/No		
CDIV_U11_010	Yes/No	Yes/No		
CDIV_U11_011	Yes/No	Yes/No		
CDIV_U11_012	Yes/No	Yes/No		

A.6.2 Test campaign report for SCF

This clause is only included in the PCTR if the test campaign was for one or more of SCFB, SCFU or SCFNR.

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
SCF_U01_001	Yes/No	Yes/No		
SCF_U01_002	Yes/No	Yes/No		
SCF_U01_003	Yes/No	Yes/No		
SCF_U01_004	Yes/No	Yes/No		
SCF_U01_005	Yes/No	Yes/No		
SCF_U01_006	Yes/No	Yes/No		
SCF_U01_007	Yes/No	Yes/No		
SCF_U01_008	Yes/No	Yes/No		
SCF_U01_009	Yes/No	Yes/No		
SCF_U01_010	Yes/No	Yes/No		
SCF_U01_011	Yes/No	Yes/No		
SCF_U01_012	Yes/No	Yes/No		
SCF_U01_013	Yes/No	Yes/No		
SCF_U01_014	Yes/No	Yes/No		
SCF_U01_015	Yes/No	Yes/No		
SCF_U01_016	Yes/No	Yes/No		
SCF_U01_017	Yes/No	Yes/No		
SCF_U01_018	Yes/No	Yes/No		
SCF_U01_019	Yes/No	Yes/No		
SCF_U02_001	Yes/No	Yes/No		
SCF_U02_002	Yes/No	Yes/No		
SCF_U02_003	Yes/No	Yes/No		
SCF_U02_004	Yes/No	Yes/No		
SCF_U02_005	Yes/No	Yes/No		
SCF_U02_006	Yes/No	Yes/No		
SCF_U02_007	Yes/No	Yes/No		
SCF_U02_008	Yes/No	Yes/No		
SCF_U02_009	Yes/No	Yes/No		
SCF_U02_010	Yes/No	Yes/No		
SCF_U02_011	Yes/No	Yes/No		
SCF_U02_012	Yes/No	Yes/No		
SCF_U03_001	Yes/No	Yes/No		
SCF_U03_002	Yes/No	Yes/No		
SCF_U03_003	Yes/No	Yes/No		
SCF_U03_004	Yes/No	Yes/No		
SCF_U03_005	Yes/No	Yes/No		
SCF_U03_006	Yes/No	Yes/No		
SCF_U03_007	Yes/No	Yes/No		
SCF_U03_008	Yes/No	Yes/No		
SCF_U03_009	Yes/No	Yes/No		
SCF_U03_010	Yes/No	Yes/No		
SCF_U03_011	Yes/No	Yes/No		
SCF_U03_012	Yes/No	Yes/No		
SCF_U03_013	Yes/No	Yes/No		
SCF_U03_014	Yes/No	Yes/No		
SCF_U03_015	Yes/No	Yes/No		
SCF_U03_016	Yes/No	Yes/No		
SCF_U03_017	Yes/No	Yes/No		
SCF_U03_018	Yes/No	Yes/No		
SCF_U03_019	Yes/No	Yes/No		
SCF_U04_001	Yes/No	Yes/No		
SCF_U04_002	Yes/No	Yes/No		
SCF_U04_003	Yes/No	Yes/No		
SCF_U04_004	Yes/No	Yes/No		
SCF_U04_005	Yes/No	Yes/No		
SCF_U04_006	Yes/No	Yes/No		
SCF_U04_007	Yes/No	Yes/No		
SCF_U04_008	Yes/No	Yes/No		

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
SCF_U04_009	Yes/No	Yes/No		
SCF_U04_010	Yes/No	Yes/No		
SCF_U04_011	Yes/No	Yes/No		
SCF_U04_012	Yes/No	Yes/No		
SCF_U05_001	Yes/No	Yes/No		
SCF_U05_002	Yes/No	Yes/No		
SCF_U05_003	Yes/No	Yes/No		
SCF_U05_004	Yes/No	Yes/No		
SCF_U05_005	Yes/No	Yes/No		
SCF_U05_006	Yes/No	Yes/No		
SCF_U05_007	Yes/No	Yes/No		
SCF_U05_008	Yes/No	Yes/No		
SCF_U05_009	Yes/No	Yes/No		
SCF_U05_010	Yes/No	Yes/No		
SCF_U05_011	Yes/No	Yes/No		
SCF_U05_012	Yes/No	Yes/No		
SCF_U05_013	Yes/No	Yes/No		
SCF_U05_014	Yes/No	Yes/No		
SCF_U05_015	Yes/No	Yes/No		
SCF_U05_016	Yes/No	Yes/No		
SCF_U05_017	Yes/No	Yes/No		
SCF_U05_018	Yes/No	Yes/No		
SCF_U05_019	Yes/No	Yes/No		
SCF_U06_001	Yes/No	Yes/No		
SCF_U06_002	Yes/No	Yes/No		
SCF_U06_003	Yes/No	Yes/No		
SCF_U06_004	Yes/No	Yes/No		
SCF_U06_005	Yes/No	Yes/No		
SCF_U06_006	Yes/No	Yes/No		
SCF_U06_007	Yes/No	Yes/No		
SCF_U06_008	Yes/No	Yes/No		
SCF_U06_009	Yes/No	Yes/No		
SCF_U06_010	Yes/No	Yes/No		
SCF_U06_011	Yes/No	Yes/No		
SCF_U06_012	Yes/No	Yes/No		
SCF_U07_001	Yes/No	Yes/No		
SCF_U07_002	Yes/No	Yes/No		
SCF_U07_003	Yes/No	Yes/No		
SCF_U07_004	Yes/No	Yes/No		
SCF_U07_005	Yes/No	Yes/No		
SCF_U07_006	Yes/No	Yes/No		
SCF_U07_007	Yes/No	Yes/No		
SCF_U07_008	Yes/No	Yes/No		
SCF_U07_009	Yes/No	Yes/No		
SCF_U07_010	Yes/No	Yes/No		
SCF_U07_011	Yes/No	Yes/No		
SCF_U07_012	Yes/No	Yes/No		
SCF_U08_001	Yes/No	Yes/No		
SCF_U08_002	Yes/No	Yes/No		
SCF_U08_003	Yes/No	Yes/No		
SCF_U08_004	Yes/No	Yes/No		
SCF_U08_005	Yes/No	Yes/No		
SCF_U08_006	Yes/No	Yes/No		
SCF_U08_007	Yes/No	Yes/No		
SCF_U08_008	Yes/No	Yes/No		
SCF_U08_009	Yes/No	Yes/No		

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:

.....

Test laboratory name:

.....

Date of issue:

.....

Issued to:

.....

B.2 Abstract test suite summary

Protocol specification: EN 300 207-1;

ATS specification: EN 300 207-4;

Abstract test method: Remote test method (see ISO/IEC 9646-2).

NOTE: Two separate ATSs cover the user side of EN 300 207-1. The CDIV ATS covers the CFB, CFU, CFNR and CD services and the SCF ATS covers the SCFB, SCFU and SCFNR services. This PIXIT proforma is applicable to both ATSs. If the IUT is only to be tested to one of the ATSs then it is not necessary for items indicated as only applicable to the other ATS to be completed.

B.3 Test laboratory

Test laboratory identification:

.....

Accreditation status of the test service:

.....

Accreditation reference:

.....

Test laboratory manager:

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Test laboratory contact:

.....

Means of testing:

.....

Test laboratory instructions for completion:

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B.4 Client (of the test laboratory)

Client identification:

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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 300 207-1

Protocol version:

PICS reference:

NOTE: The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in EN 300 207-2.

B.6.2 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 for BA, 2 for PRA	
1.3	Which value will be included by the IUT into the basicService parameter of ActivationDiversion, DeactivationDiversion and InterrogationDiversion invoke components? (see note)			
NOTE: Item 1.3 is only required for CDIV testing. The test campaign has to be run once for each basic service for which the call diversion services can be requested.				

B.6.3 Sending of messages by IUT

B.6.3.1 Sending of messages by IUT for CDIV testing

Table B.2 only is only required for CDIV testing.

Table B.2: Actions required to stimulate IUT (private ISDN) to send messages (CDIV)

Item	Action: What actions, if possible, have to be taken to cause the IUT to ...	Supported? (Y/N)	Stimulus (action taken)
2.1	divert an incoming call within or beyond the private ISDN?		
2.2	divert an incoming call within or beyond the private ISDN and to request partial re-routing for that call?		
2.3	activate a call forwarding service for the whole access?		
2.4	activate a call forwarding service for a DDI range?		
NOTE: These items are only required where the IUT is a private ISDN.			

B.6.3.2 Sending of messages by IUT for SCF testing

Table B.2a only is only required for SCF testing.

Table B.2a: Actions required to stimulate IUT to send messages (SCF)

Item	Action: What actions, if possible, have to be taken to configure the IUT ...	Supported? (Y/N)	Stimulus (action taken)
2a.1	invoke activation of each supported SCF service.		
2a.2	invoke deactivation of each supported SCF service.		
2a.3	invoke interrogation of the instances of the SCF service for all screening lists.		
2a.4	invoke interrogation of the instances of the SCF service for active screening lists.		
2a.5	invoke interrogation of a specific screening list.		
2a.6	activate an each supported SCF service for the whole access? (see note)		
2a.7	activate an each supported SCF service for a DDI range? (see note)		
NOTE: These items are only required where the IUT is a private ISDN.			

B.6.4 Timer values

Table B.3: Timer values

Item	Timer: Give a value for the timer that is used to …	Supported? (Y/N)	Allowed values	Value
3.1	wait for the test operator to perform an implicit send action (TWAIT).		N/A	s
3.2	wait for the IUT to respond to a stimulus sent by the tester (TAC).		N/A	s
3.3	check that the IUT does not respond to a stimulus sent by the tester (TNOAC). (see note 2)		N/A	s
3.4	wait before expecting T-ACTIVATE (nominally 4 000 ms) to expire in the IUT (T_ACTIVATE_MIN). (see note 3)		< 4 000 ms	ms
3.5	wait until after T-ACTIVATE (nominally 4000 ms) has expired in the IUT (T_ACTIVATE_MAX). (see note 3)		> 4 000 ms	ms
3.6	wait before expecting T-DEACTIVATE (nominally 4 000 ms) to expire in the IUT (T_DEACTIVATE_MIN). (see note 3)		< 4 000 ms	ms
3.7	wait until after T-DEACTIVATE (nominally 4 000 ms) has expired in the IUT (T_DEACTIVATE_MAX). (see note 3)		> 4 000 ms	ms
3.8	wait before expecting T-INTERROGATE (nominally 4 000 ms) to expire in the IUT (T_INTERROGATE_MIN). (see note 3)		< 4 000 ms	ms
3.9	wait until after T-INTERROGATE (nominally 4000 ms) has expired in the IUT (T_INTERROGATE_MAX). (see note 3)		> 4 000 ms	ms
NOTE 1: The IUT provider may fill in a 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 outside the range given by the IUT provider if this is necessary for achieving satisfactory test results. NOTE 2: For SCF testing the duration of TNOAC should be less than each of T_ACTIVATE_MIN, T_DEACTIVATE_MIN and T_INTERROGATE_MIN. NOTE 3: Items 3.4 to 3.9 are only required for SCF testing. The values should be chosen taking into account the tolerance on the timers in the IUT.				

B.6.5 Information element codings

Table B.4 is only applicable to CDIV testing.

Table B.4: Information element codings

Item	Parameter values: Give a ...	Value
4.1	coding of a Bearer capability information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.2	coding of a High layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.3	coding of a Low layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls.	
4.4	coding of a Called party number information element, which the IUT is compatible with.	
4.5	value for the preferred channel number (used in Channel identification information element) to be used for incoming calls (Primary rate access only).	

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].

This 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 the CDIV ATS is contained in an Adobe Portable Document Format™ file (CDIV_U05.PDF contained in archive en_30020704v030101p0.zip) which accompanies the present document.

The TTCN.GR representation of the SCF ATS is contained in an Adobe Portable Document Format™ file (SCF_U03.PDF contained in archive en_30020704v030101p0.zip) which accompanies the present document.

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

The TTCN.MP representation corresponding to this CDIV ATS is contained in an ASCII file (CDIV_U05.MP contained in archive en_30020704v030101p0.zip) which accompanies the present document.

The TTCN.MP representation corresponding to this SCF ATS is contained in an ASCII file (SCF_U03.MP contained in archive en_30020704v030101p0.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.

Annex D (informative): Bibliography

- ETSI ETS 300 196-2 (1996): "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- ETSI 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]".

History

Document history		
Edition 1	September 1997	Publication as ETS 300 207-4
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V3.1.1	July 2001	One-step Approval Procedure OAP 20011116: 2001-07-18 to 2001-11-16
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