



ETSI
TECHNICAL
REPORT

ETR 299-2

February 1997

Source: ETSI TC-SPS

Reference: DTR/SPS-05114-2

ICS: 33.020

Key words: ISDN, DSS1, basic, supplementary service, testing, ICS, ATS, IXIT

**Integrated Services Digital Network (ISDN);
Digital Subscriber Signalling System No. one (DSS1) protocol;
Network Integration Testing (NIT);
ISDN end-to-end testing;
Part 2: Implementation Conformance Statement (ICS) proforma,
Abstract Test Suite (ATS) and partial Implementation eXtra
Information for Testing (IXIT) proforma specification**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1997. All rights reserved.

Contents

Foreword	5
Introduction	5
1 Scope	7
2 References	7
3 Definitions and abbreviations	9
3.1 Definitions	9
3.1.1 Definitions related to conformance testing	9
3.1.2 Definitions related to ETS 300 102-1	10
3.3 Abbreviations	10
4 Conformance to this ICS and IXIT proforma specification	11
5 ATS conformance	11
Annex A: End-to-end ICS proforma	12
A.1 Guidance for completing the ICS proforma	12
A.1.1 Purpose and structure	12
A.1.2 Abbreviations and conventions	12
A.1.3 Instructions for completing the ICS proforma	13
A.2 Identification of the implementation	13
A.2.1 Date of the statement	14
A.2.2 Implementation Under Test (IUT) identification	14
A.2.3 ICS contact person	14
A.3 Identification of the document	14
A.4 Basic ISDN capabilities	15
A.5 ISDN Supplementary services	17
A.6 Interworking with PSTN	22
Annex B: Partial end-to-end IXIT proforma	23
B.1 Instructions for completing the IXIT proforma	23
B.2 Identification summary	23
B.3 Abstract test suite summary	23
B.4 IXIT items	24
Annex C: Abstract test suite	26
C.1 The TTCN Graphical form (TTCN.GR)	26
C.2 The TTCN Machine Processable form (TTCN.MP)	26
History	27

Blank page

Foreword

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

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status. An ETR may be used to publish material which is either of an informative nature, relating to the use or the application of ETSs or I-ETSs, or which is immature and not yet suitable for formal adoption as an ETS or an I-ETS.

This ETR is part 2 of a multi-part report covering the Integrated Services Digital Network (ISDN) network integration end-to-end testing, as described below:

Part 1: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 2: "Implementation Conformance Statement (ICS) proforma, Abstract Test Suite (ATS) and partial Implementation eXtra Information for Testing (IXIT) proforma specification".

Introduction

This ETR contains the Abstract Test Suite (ATS), Implementation Conformance Statement (ICS) and Implementation eXtra Information for Testing (IXIT) proforma developed in the EURESCOM project P412 "Methodology and tools for ISDN Network Integration and Traffic Route Testing", for testing the international European ISDN, covering Network Integration Testing (NIT) between ISDN-ISDN, ISDN-PSTN and PSTN-ISDN networks.

Blank page

1 Scope

This second part of ETR 299 specifies the Abstract Test Suite (ATS), the Implementation Conformance Statement (ICS) and the partial Implementation eXtra Information for Testing (IXIT) proforma for the network side of the T reference point or coincident S and T reference point (as defined in CCITT Recommendation I.411 [31]) for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, for Network Integration Testing (NIT) covering the end-to-end support of ISDN services.

2 References

- [1] ETS 300 008: "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7 Message Transfer Part (MTP) to support international interconnection".
- [2] ETS 300 011: "Integrated Services Digital Network (ISDN); Primary rate user-network interface Layer 1 specification and test principles".
- [3] ETS 300 012: "Integrated Services Digital Network (ISDN); Basic user-network interface Layer 1 specification and test principles".
- [4] ETS 300 121: "Integrated Services Digital Network (ISDN); Application of the ISDN User Part (ISUP) of CCITT Signalling System No. 7 for international ISDN interconnections (ISUP version 1)".
- [5] ETS 300 125: "Integrated Services Digital Network (ISDN); User-network interface data link layer specification Application of CCITT Recommendations Q.920/I.440 and Q.921/I.441".
- [6] ETS 300 102-1 (1990) including amendment A2 (1993): "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control".
- [7] ETS 300 356-1: Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services".
- [8] ETS 300 267-1 (1994) including amendment A1 (1996): "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [9] ETS 300 103 (1990): "Integrated Services Digital Network (ISDN); Support of CCITT Recommendation X.21, X.21bis and X.20bis based Data Terminal Equipments (DTEs) by an ISDN; Synchronous and asynchronous terminal adaption functions".
- [10] ETS 300 092-1 (1992) including amendment A2 (1994): "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [11] ETS 300 093-1 (1992): "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [12] ETS 300 097-1 (1992) including amendment A1 (1994): "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

- [13] ETS 300 098-1 (1992): "Integrated Services Digital Network (ISDN); Connected Line Identification Restriction (COLR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [14] ETS 300 138-1 (1992) including amendment A1 (1996): "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [15] ETS 300 061-1 (1992): "Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [16] ETS 300 055-1 (1992): "Integrated Services Digital Network (ISDN); Terminal Portability (TP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [17] ETS 300 286-1 (1996): "Integrated Services Digital Network (ISDN); User-to-User Signalling (UUS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [18] ETS 300 185-1 (1993) including amendment A1 (1995): "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [19] ETS 300 207-1 (1994): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [20] ETS 300 210-1 (1996): "Integrated Services Digital Network (ISDN); Freephone (FPH) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [21] ETS 300 130-1 (1992): "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [22] ETS 300 188-1 (1993): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [23] ETS 300 141-1 (1992): "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [24] ETS 300 058-1 (1992): "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [25] ETS 300 369-1 (1995): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [26] ETS 300 195-1 (1995): "Integrated Services Digital Network (ISDN); Supplementary service interactions; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [27] ETS 300 196-1 (1993) including amendment A1 (1995): "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".

- [28] TBR 8 (1994): "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice; Attachment requirements for handset terminals".
- [29] ITU-T Recommendation I.112 (1993): "Vocabulary and terms for ISDNs".
- [30] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".
- [31] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".
- [32] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".
- [33] ISO/IEC 9646-1: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 1: General Concepts".
- [34] ISO/IEC 9646-2: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite Specification".
- [35] ISO/IEC 9646-3: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".
- [36] ISO/IEC 9646-4: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 4: Test realisation".
- [37] ISO/IEC 9646-7: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 7: Implementation Conformance Statements".
- [38] ETS 300 383 (1995): "Integrated Services Digital Network (ISDN); File transfer over the ISDN; EUROFILE transfer profile".
- [39] ETS 300 388 (1995): "Integrated Services Digital Network (ISDN); File Transfer Access & Management (FTAM) over ISDN based on simple file transfer profile".

3 Definitions and abbreviations

3.1 Definitions

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

3.1.1 Definitions related to conformance testing

abstract test case: Refer to ISO/IEC 9646-1 [33].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [33].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [33].

Implementation Conformance Statement (ICS) proforma: Refer to ISO/IEC 9646-1 [33].

Implementation eXtra Information for Testing (IXIT) proforma: Refer to ISO/IEC 9646-1 [33].

System Under Test (SUT): Refer to ISO/IEC 9646-1 [33].

3.1.2 Definitions related to ETS 300 102-1

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [29], definition 308.

ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [32].

service; telecommunication service: See ITU-T Recommendation I.112 [29], definition 201.

supplementary service: See ITU-T Recommendation I.210 [30], subclause 2.4.

user: The DSS1 protocol entity at the User side of the user-network interface where a T reference point or coincident S and T reference point applies.

user (S/T): The DSS1 protocol entity at the User side of the user-network interface where a coincident S and T reference point applies.

user (T): The DSS1 protocol entity at the User side of the user-network interface where a T reference point applies (User is the Private ISDN).

3.3 Abbreviations

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

3PTY	Three-party conference
ATS	Abstract Test Suite
CD	Call Deflection
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFU	Call Forwarding Unconditional
CLI	Calling Line Identification
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COL	Connected Line identification
COLP	Connected Line identification Presentation
COLR	Connected Line identification Restriction
CONF	Conference call, add-on
CUG	Closed User Group
CW	Call Waiting
DSS1	Digital Subscriber Signalling System No. one
ECT	Explicit Call Transfer
FPH	Freephone
FTAM	File Transfer Access and Management
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
IXIT	Implementation eXtra Information for Testing
MCID	Malicious Call Identification
MHS	Message Handling Systems
MOT	Means Of Testing
NIT	Network Integration Testing
PI	Presentation Indicator
ICS	Implementation Conformance Statement
IXIT	Implementation eXtra Information for Testing
SI	Screening Indicator
SUB	Subaddressing
SUT	System Under Test
TON	Type Of Number
TP	Terminal Portability
TTCN	Tree and Tabular Combined Notation
UDI	Unrestricted Digital Information
UDI-TA	UDI with Tones/Announcements
UUS	User-to-User Signalling

4 Conformance to this ICS and IXIT proforma specification

If it claims to conform to this ETR, the actual ICS proforma to be filled in by a supplier shall be technically equivalent to the text of the ICS proforma given in annex A, and shall preserve the numbering/naming and ordering of the proforma items.

An ICS which conforms to this ETR shall be a conforming ICS proforma completed in accordance with the guidance for completion given in clause A.1.

A test realizer, producing a executable test suite for this ATS specification is required, as specified in ISO/IEC 9646-7 [37], to produce an augmented partial IXIT proforma conformant with the text of the partial IXIT proforma given in annex B.

An augmented partial IXIT proforma which conforms to this partial IXIT proforma specification shall, as a minimum, have contents which are technically equivalent to annex B. The augmented partial IXIT 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). The test laboratory may further augment the augmented partial IXIT proforma to produce a IXIT proforma conformant with this partial IXIT proforma specification.

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

5 ATS conformance

The test realizer, producing a MOT and executable test suite for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [36]. In particular, these concern the realization of an executable test suite based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

An executable test suite 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.

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

Annex A: End-to-end ICS proforma

Notwithstanding the provisions of the copyright clause related to the text of this ETR, ETSI grants that users of this ETR may freely reproduce the ICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed ICS.

A.1 Guidance for completing the ICS proforma

A.1.1 Purpose and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined by ETSI for the network side for the pan-European ISDN, may provide information about the implementation in a standardized manner.

The proforma is subdivided into subclauses for the following categories of information:

- guidance for completing the proforma;
- identification of the implementation;
- global statement of conformance.

A.1.2 Abbreviations and conventions

The ICS proforma contained in the annexes A is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [37].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Status column

The following notations, defined in ISO/IEC 9646-7 [37], are used for the status column:

m	mandatory - the capability is required to be supported
o	optional - the capability may be supported or not
n/a	not applicable - in the given context, it is impossible to use the capability
x	prohibited (excluded) - there is a requirement not to use this capability in the given context
o.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table
ci	conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [37], are used for the support column:

Y or y	supported by the implementation
N or n	not supported by the implementation
N/A, n/a or -	no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status)

It is also possible to provide a comment to an answer in the space provided at the bottom of the table.

Values allowed column

The values allowed column contains the type, the list, the range, or the length of values allowed. The following notations are used:

- range of values: <min value> .. <max value>
example: 5 .. 20
- list of values: <value1>, <value2>,, <valueN>
example: 2 ,4 ,6 ,8, 9
example: '1101'B, '1011'B, '1111'B
example: '0A'H, '34'H, '2F'H
- list of named values: <name1><val1>, <name2><val2>,, <nameN><valN>
example: reject(1), accept(2)
- length: size (<min size> .. <max size>)
example: size (1 .. 8)

Values supported column

The values supported column shall be filled in by the supplier of the implementation. In this column, the values or the ranges of values supported by the implementation shall be indicated.

A.1.3 Instructions for completing the ICS proforma

The supplier of the implementation shall complete the ICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided, using the notation described in subclause A.1.2.

If necessary, the supplier may provide additional comments in space at the bottom of the tables, or separately on sheets of paper.

More detailed instructions may be given at the beginning of the different subclauses of the ICS proforma.

A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT), the Integrated Services Digital Network provided by the European public telecommunications operator, should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS and IXIT should be named as the contact person.

A.2.1 Date of the statement

.....

A.2.2 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

A.2.3 ICS contact person

(A person to contact if there are any queries concerning the content of the ICS or IXIT)

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.3 Identification of the document

This ICS proforma apply to the following standard:

ETS 300 102-1 (1990) including **amendment A2 (1993)**: "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control".

Other ETSI standards related to ISDN, DSS1 signalling, layer 3 testing.

A.4 Basic ISDN capabilities

Table A.1: Access characteristics

Item	Access	Reference	Status	Support
1	layer 1 access protocol conform to ETS 300 012 for basic rate interface	ETS 300 012	o.1	
2	layer 1 access protocol conform to ETS 300 011 for primary rate interface	ETS 300 011	o.1	
3	layer 2 access protocol conform to ETS 300 125	ETS 300 125	m	
4	layer 3 access protocol conform to ETS 300 102	ETS 300 102	m	
Please specify any national deviations:				

o.1: It is mandatory to support at least one of these options

Table A.2: Network signalling protocol

Item	Network	Reference	Status	Support
1	Message Transfer Part (MTP) protocol conform to ETS 300 008	ETS 300 008	m	
2	User part protocol conform to ETS 300 121 (ISUP version 1) in international gateway	ETS 300 121	m	
3	User part protocol conform to ETS 300 356 (ISUP version 2) in international gateway	ETS 300 356	o	
Please specify any national deviations:				

Table A.3: Services based on bearer capability speech

Item	Service	Reference	Status	Support
1	bearer service speech	ETS 300 102	m	
2	telephony 3,1 kHz teleservice	TBR 8	m	

Table A.4: Services based on bearer capability unrestricted digital information

Item	Service	Reference	Status	Support
1	bearer service unrestricted digital information	ETS 300 102	m	
2	telex group 4 teleservice		o	
3	teletex basic and mixed mode terminals		o	
4	teletex basic and processable mode terminals		o	
5	teletex basic mode terminals		o	
6	international videotex interworking		o	
7	telex service		o	
8	Message Handling Systems (MHS)		o	
9	OSI applications		o	
10	videotelephony teleservice (using unrestricted digital information)	ETS 300 267	o	
11	terminal adapters V.110/X.30 for synchronous traffic with rate adaption information coded in bearer capability information element	ETS 300 103	o	
12	terminal adapters V.110/X.30 for synchronous traffic with rate adaption information coded in low layer capability information element		o	
13	terminal adapters V.110/X.30 for asynchronous traffic with rate adaption information coded in bearer capability information element		o	
14	terminal adapters V.110/X.30 for asynchronous traffic with rate adaption information coded in low layer capability information element		o	
15	syntax-based videotex teleservice	ETS 300 102	o	
16	File Transfer Access & Management (FTAM) over ISDN teleservice	ETS 300 388	o	
17	EUROFILE transfer teleservice	ETS 300 383	o	

Table A.5: Services based on bearer capability 3,1 kHz audio

Item	Service	Reference	Status	Support
1	bearer service 3,1 kHz audio	ETS 300 102	m	
2	teleservice telex group 2/3		o	
3	voice band data via modem coded in low layer capability information element		o	

Table A.6: Services based on bearer capability unrestricted digital information with tones/announcements

Item	Service	Reference	Status	Support
1	bearer service unrestricted digital information with tones/announcements (former 7 kHz audio)	ETS 300 102	o	
2	telephony 7 kHz teleservice	ETS 300 267	o	
3	videotelephony teleservice		o	

Table A.7: Cause values for unsuccessful call

Item	Service	Reference	Status	Support
1	cause values to the calling and called users according to ETS 300 102 on unsuccessful calls	ETS 300 102	m	

A.5 ISDN Supplementary services

Table A.8: CLIP service

Item	Service	Reference	Status	Support
1	Calling Line Identification Presentation (CLIP), with CLI provided by the calling user, including subaddress	ETS 300 092	o	
2	CLIP, with CLI provided by the network		o	
Please specify any national deviations:				

Table A.9: CLIR service

Item	Service	Reference	Status	Support
1	Calling Line Identification Restriction (CLIR), when CLI is provided by the calling user, including subaddress	ETS 300 093	o	
Please specify any national deviations:				

Table A.10: COLP service

Item	Service	Reference	Status	Support
1	Connected Line Identification Presentation (COLP), with COL provided by the connected user, including subaddress	ETS 300 097	o	
2	COLP, with COL provided by the network		o	
Please specify any national deviations:				

Table A.11: COLR service

Item	Service	Reference	Status	Support
1	Connected Line Identification Restriction (COLR), when COL is provided by the connected user, with subaddress	ETS 300 098	o	
Please specify any national deviations:				

Table A.12: CUG service

Item	Service	Reference	Status	Support
1	Closed User Group (CUG)	ETS 300 138	o	
2	international CUG	-	o	
3	CUG with outgoing access allowed	6.1	o	
4	CUG with incoming access allowed	6.1	o	
5	CUG with incoming access not allowed	6.1	o	
6	CUG with outgoing access not allowed	6.1	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.13: SUB service

Item	Service	Reference	Status	Support
1	Subaddressing (SUB)	ETS 300 061	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.14: TP service

Item	Service	Reference	Status	Support
1	Terminal Portability (TP)	ETS 300 055	c1	
2	notification of call suspension and resumption	9	c1	
Please specify any national deviations, e.g. activation procedure:				

c.1: IF A.1/1 THEN o ELSE n/a

Table A.15: UUS service

Item	Service	Reference	Status	Support
1	User-User Signalling (UUS) service 1 implicitly requested (SETUP, ALERTING, CONNECT, DISCONNECT and RELEASE COMPLETE messages)	ETS 300 286 9.1.1.1	o	
2	UUS service 1 explicitly requested	9.1.1.2	o	
3	UUS service 2 request	9.2.1, 9.2.2	o	
4	UUS service 3 request during call establishment	9.3.1.1	o	
5	UUS service 3 request during the Active call state	9.3.1.2	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.16: CONF service

Item	Service	Reference	Status	Support
1	Conference call, add-on (CONF)	ETS 300 185	o	
2	notification of conference call progress	9.2	o	
Please specify configuration: (if other than A in Originating network, B and C in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.17: CFU service

Item	Service	Reference	Status	Support
1	Call Forwarding Unconditional (CFU)	ETS 300 207	o	
2	notification of call diversion to calling party and provision of the diverting number to the diverted-to user	9.2.2 and 9.2.5.1	o	
Please specify configuration: (if other than A and C in Originating network, B in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.18: CFB service

Item	Service	Reference	Status	Support
1	Call Forwarding Busy (CFB)	ETS 300 207	o	
2	notification of call diversion to calling party and provision of the diverting number to the diverted-to user	9.2.2 and 9.2.5.1	o	
Please specify configuration: (if other than A and C in Originating network, B in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.19: CFNR service

Item	Service	Reference	Status	Support
1	Call Forwarding No Reply (CFNR)	ETS 300 207	o	
2	notification of call diversion to calling party and provision of the diverting number to the diverted-to user	9.2.2 and 9.2.5.1	o	
Please specify configuration: (if other than A and C in Originating network, B in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.20: CD service

Item	Service	Reference	Status	Support
1	Call Deflection (CD) during alerting	ETS 300 207	o	
2	Call Deflection (CD) immediate response		o	
3	notification of call diversion to calling party	9.2.2	o	
Please specify configuration: (if other than A and C in Originating network, B in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.21: FPH service

Item	Service	Reference	Status	Support
1	Freephone (FPH) service	ETS 300 210	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.22: MCID service

Item	Service	Reference	Status	Support
1	Malicious Call Identification (MCID) request in the Active call state	ETS 300 130 9.2.1	o	
2	Malicious Call Identification (MCID) request in the Disconnect indication call state	9.2.1	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.23: 3PTY service

Item	Service	Reference	Status	Support
1	Three-party (3PTY) call	ETS 300 188	o	
2	notification of conference call progress	9.2	o	
Please specify configuration: (if other than A in Originating network, B and C in Destination Network)				
Please specify any national deviations, e.g. activation procedure:				

Table A.24: HOLD service

Item	Service	Reference	Status	Support
1	Call hold (HOLD)	ETS 300 141	o	
2	notification of the call hold and retrieval	9.2, 9.4	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.25: CW service

Item	Service	Reference	Status	Support
1	Call Waiting (CW)	ETS 300 058	o	
2	notification of call waiting	9.5.1.1	o	
Please specify any national deviations, e.g. activation procedure:				

Table A.26: ECT service

Item	Service	Reference	Status	Support
1	Explicit Call Transfer (ECT)	ETS 300 369	o	
Please specify any national deviations, e.g. activation procedure:				

A.6 Interworking with PSTN

When performing network integration testing between ISDN and PSTN users, the following tables related to the implemented interworking capabilities should be filled in.

Table A.27: ISDN interworking capabilities, basic call

Item	Service	Reference	Status	Support
1	call establishment using bearer service "speech" to a PSTN user	ETS 300 102	m	
2	call establishment using bearer service "3,1 kHz audio" to a PSTN user		m	
3	cause values according to ETS 300 102 on unsuccessful calls		m	
Please specify any national deviations:				

Table A.28: ISDN interworking capabilities, supplementary services

Item	Service	Reference	Status	Support
1	CFU service for calls from a PSTN user, with call diversion to another PSTN user	-	o	
2	MCID service for calls from PSTN users	-	o	
3	Freephone service for calls from PSTN users	-	o	
Please specify any national deviations:				

Table A.29: PSTN interworking capabilities, basic call

Item	Service	Reference	Status	Support
1	call establishment to an ISDN user	ETS 300 102	m	
Please specify any national deviations:				

Table A.30: PSTN interworking capabilities, supplementary services

Item	Service	Reference	Status	Support
1	CLIR in PSTN for calls to ISDN users	-	o	
2	COLR in PSTN for calls from ISDN users	-	o	
3	CFU service for calls from an ISDN user, with call diversion to another ISDN user	-	o	
4	Freephone service for calls from ISDN users	-	o	
Please specify any national deviations:				

Annex B: Partial end-to-end IXIT proforma

Notwithstanding the provisions of the copyright clause related to the text of this ETR, ETSI grants that users of this ETR may freely reproduce the partial IXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed IXIT.

B.1 Instructions for completing the IXIT proforma

Before running the ISDN end-to-end test suite each participating public network operator will need to supply information concerning the allocation and availability of suitable ISDN and PSTN test numbers which will be required for setting up international connections.

This annex contains a questionnaire, which shall be completed before performing the international ISDN end-to-end test suite. Additional information is used by the testing personnel for selecting and for setting the correct parameters on the test equipment.

This questionnaire contains only the information required to perform the tests.

B.2 Identification summary

PIXIT number:

.....

Date of issue:

.....

Issued to:

.....

B.3 Abstract test suite summary

Protocol specification: ETS 300 102 and associated DSS1 standards for supplementary services

ATS specification: ETR 299-2

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

B.4 IXIT items

Table B.1: Access numbers

Item	Parameter	Number
1	international prefix	
2	main ISDN access number (international format, including country and area code)	
3	main ISDN access number (national format, including area code)	
4	main ISDN access number (subscriber format)	
5	main ISDN access subaddress	
6	second ISDN access number (international format, including country and area code)	
7	PSTN access number (international format, including country and area code)	
8	unallocated ISDN access number (international format, including country and area code)	
9	Freephone ISDN access number (international format, including country and area code)	
10	unallocated PSTN access number (international format, including country and area code)	
11	Freephone PSTN access number (international format, including country and area code)	
12	Closed User Group (CUG) number	

Table B.2: Additional information

Item	Parameter	Range	Value
1	length of call reference value	basic access (1), primary access (2)	
2	call reference value	basic access (7 bits), primary access (15 bits)	
3	duration of B-channel check procedure (in seconds)	0 ... 60 seconds	
4	multipoint configuration in the access	Y/N	
5	PSTN can provide COL for calls from ISDN users	Y/N	
6	PSTN can provide CLI for calls to ISDN users	Y/N	

Timer values: (if other than specified in ETS 300 102)

Other information:

Annex C: Abstract test suite

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [35].

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 a Postscript file (ETR_299.PS¹) which accompanies this ETR.

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

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (ETR_299.MP¹) which accompanies this ETR.

NOTE: According to ISO/IEC 9646-3 [35], 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.

¹) This file is located in an archive file named 2992_R1.LZH. Other file formats are available on request.

History

Document history	
February 1997	First Edition