EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 267-6

April 1998

Source: SPS

Reference: DE/SPS-05048-6

ICS: 33.020

Key words: ISDN, DSS1, teleservice, 7 kHz, video, telephony, testing, ATS, PIXIT, network

Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices; 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

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
Internet: secretariat@etsi.fr - http://www.etsi.fr - http://www.etsi.org

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

Contents

Blank page

Foreword

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

This ETS is part 6 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) telephony 7 kHz and videotelephony teleservices, 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: "ATS and partial PIXIT proforma specification for the network".

Transposition dates	
Date of adoption of this ETS:	20 March 1998
Date of latest announcement of this ETS (doa):	31 July 1998
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 January 1999
Date of withdrawal of any conflicting National Standard (dow):	31 January 1999

Blank page

1 Scope

This sixth part of ETS 300 267 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 (as defined in ITU-T Recommendation I.411 [13]) of implementations conforming to the stage three standard of the telephony 7 kHz and videotelephony teleservices for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, ETS 300 267-1 [3].

ETS 300 267-5 [5] 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 ETS 300 267-1 [3].

2 Normative references

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

[1] ETS 300 102-1: "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control".

[2] ETS 300 196-1 (1993): "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".

[3] ETS 300 267-1 (1994) including 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".

[4] ETS 300 267-2 (1996): "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[5] ETS 300 267-5: "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 5: Test Suite Structure and Test Purposes (TSS&TP) specification for the network".

[6] ETS 300 403-1 (1995): "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]".

[7] ETS 300 403-7: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 7: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

[8] ISO/IEC 9646-1: "Information technology - OSI Conformance Testing Methodology and Framework; Part 1: General Concepts".

[9] ISO/IEC 9646-2: "Information technology - OSI Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite Specification".

[10] ISO/IEC 9646-3: "Information technology - OSI Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".

[11] ISO/IEC 9646-4: "Information technology - OSI Conformance Testing Methodology and Framework; Part 4: Test realization".

[12] ISO/IEC 9646-5: "Information technology - OSI Conformance Testing Methodology and Framework; Part 5: Requirements on test laboratories and clients for the conformance assessment process".

[13] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the definitions given in ETS 300 267-1 [3] and ISO/IEC 9646, parts 1 [8] to 5 [12] apply.

3.2 Abbreviations

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

ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
BAS	Bit rate Allocation Signal
CM	Co-ordination Message
CP	Co-ordination Point
CRC	Cyclic Redundancy Check
ExTS	Executable Test Suite
FAW	Frame Alignment Word
IUT	Implementation Under Test
LT	Lower Tester
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
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester

4 Introduction

Implementations Under Test (IUTs) which are to be tested using this ATS are required to have previously been tested for conformity against and passed the test suites for ETS 300 102-1 [1] or ETS 300 403-1 [6].

Any messages or fields within messages which are introduced by ETS 300 403-1 [6] are included in this ATS. Behaviours in test cases have been described in such a way to be able to take into account both ETS 300 102-1 [1] and ETS 300 403-1 [6] basic call standards. This ATS also takes into account messages defined for the supplementary services, in particular ETS 300 196-1 [2]. When such messages are received, they are ignored by the ATS as this is not within the scope of this ETS.

5 Abstract Test Method (ATM)

5.1 Description of ATM used

This ATS describes the testing specification of the protocol procedures and switching functions needed to support the videotelephony and telephony 7 kHz teleservices at T or coincident S and T reference points for the network.

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 not the whole network.

It is possible to specify an ATS based on a single party (remote) test method for such an IUT. However, it is considered that an ATS based on such an approach is of limited use as the only way to specify IUT generated PDUs is to use the "implicit send" statement. Many users of such an ATS would replace the "implicit send" statements with descriptions of the behaviour at other interfaces.

An ATS based on a multi-party test method is considered to be more useful in that it is closer to how a real test suite would be constructed. Such a test method specifies behaviour at multiple network interfaces. One very important limitation here is that tests are focused on one particular interface. Thus the test system is made up of one Main Test Component (MTC) and one or more Parallel Test Components (PTC), see figure 1. No actual testing is performed by the MTC, as all Points of Control and Observation (PCOs) are on the PTCs.

5.2 Conventions for test components and PCOs

Figure 1 shows a logical view of the complete configuration of the MTC, PTCs, and PCOs. The Co-ordination Point (CP) relationships between the various components are also indicated. In a master/slave arrangement, PTC0 is considered to be the master while PTC1 and PTCT are the slaves. The "slave" testers are only an explicit description of how to deal with the "other" interfaces during the testing process, i.e. "how to make the IUT send the required message".

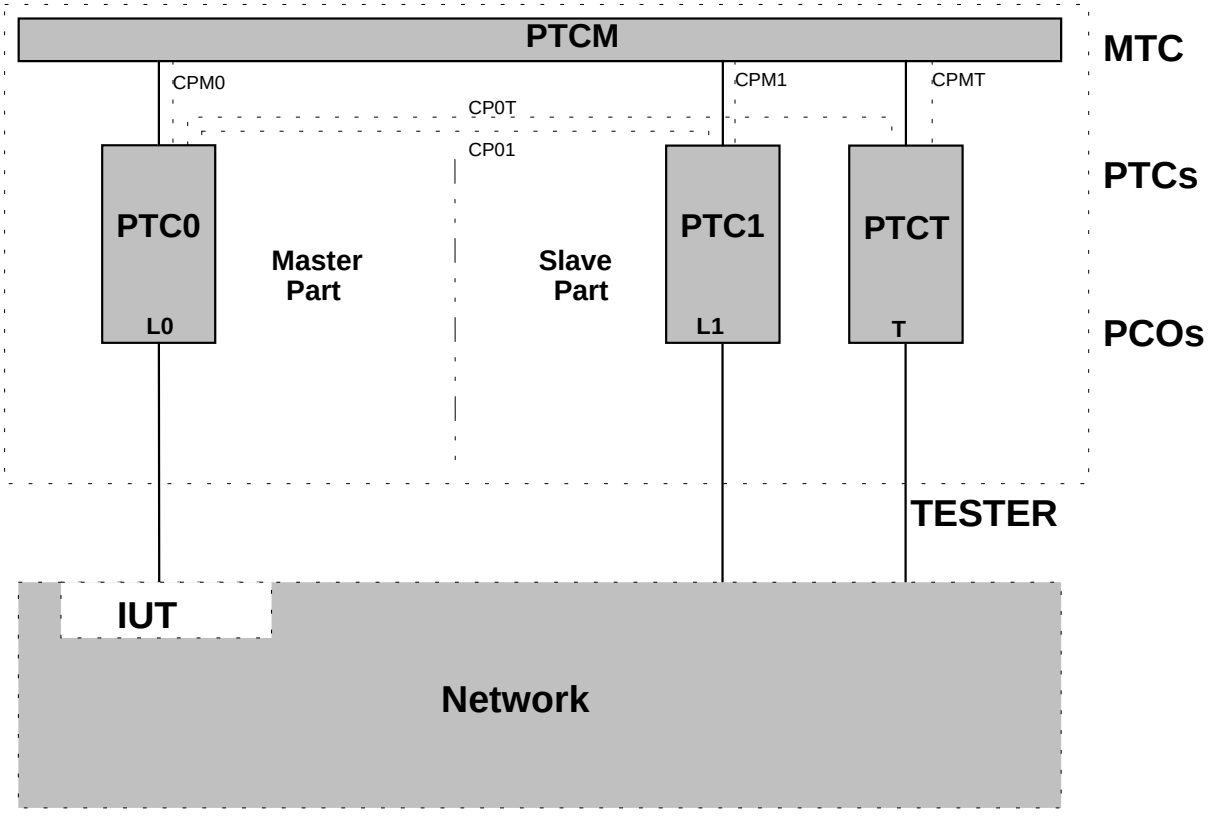

Figure 1: Multi-party test method

This means, in particular, that the verdict FAIL will only be assigned from the protocol aspects observed on the interface under test (i.e. by PTC0), as it would be observed by a terminal connected to this interface. A failure in the correlation between the protocol at the different interfaces to which the different testers are connected, i.e. in the mechanism of the functional service itself, will not cause a FAIL verdict. For instance, if the IUT fails to send a message on the tested interface after another interface has received the proper stimulus, the verdict will be INCONCLUSIVE.

The MTC, PTCM, handles all scheduling of test components and exchanges messages with PTCs to start or to stop the running of their associated tree. There are communication paths or CPs between the MTC and each PTC, and also between PTC0 and the "slave" PTCs PTC1 and PTCT.

The PTC0 PCO is named "L0" ("L" for Lower). The L0 PCO is used to control and observe the behaviour of the IUT and test case verdicts are assigned depending on the behaviour observed at this PCO. The PTCs PTC1 and PTCT use PCOs L1 and T. These PCOs are used to control and, in a limited way, observe the behaviour of the network equipment at interfaces other than the one under test. Only PASS or INCONCLUSIVE verdicts are assigned at these PCOs.

As stated in a previous paragraph, the non-receipt of network generated messages at L0, which are stimulated by events at L1 or T will result in INCONCLUSIVE rather than FAIL verdicts being assigned.

5.3 Description of PCOs

The PCOs are used to control and observe the behaviour of the IUT. Preliminary test case verdicts are assigned depending on the behaviour observed at those points. The final verdict is set by the MTC at the end of the test.

5.3.1 D-channel PCOs

For the D-channel, the PCOs reside at the service access point between layers 2 and 3. These PCOs are named "L0" and "L1". The same Abstract Service Primitives (ASPs) as defined in ETS 300 403-7 [7] are used.

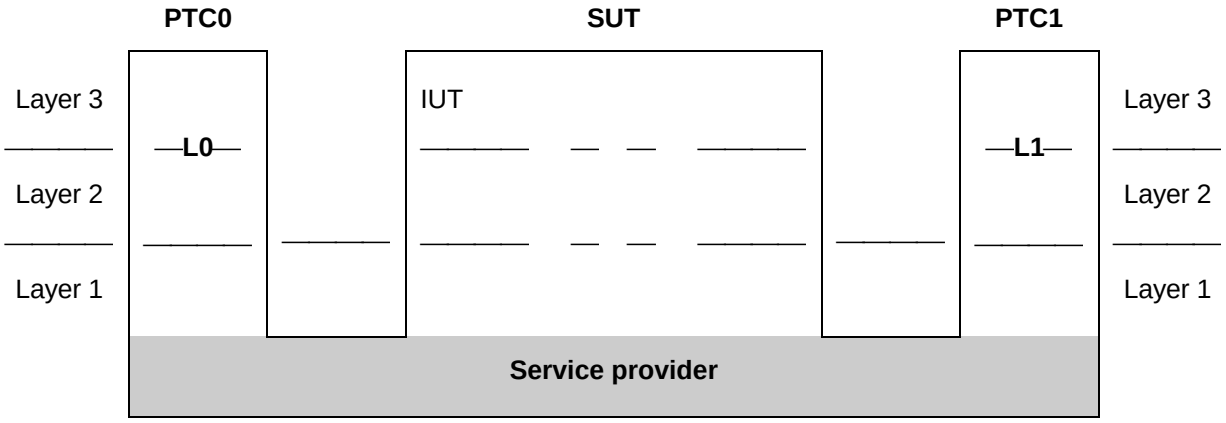

Figure 2: Combination of the remote and multi-party test methods without interworking with PSTN

5.3.2 PSTN PCO

For tests involving the PSTN, the PCOs used are L0 and T. L0 is at the same location as in figure 2 and T is located at the upper tester at the access point between the test operator and the IUT.

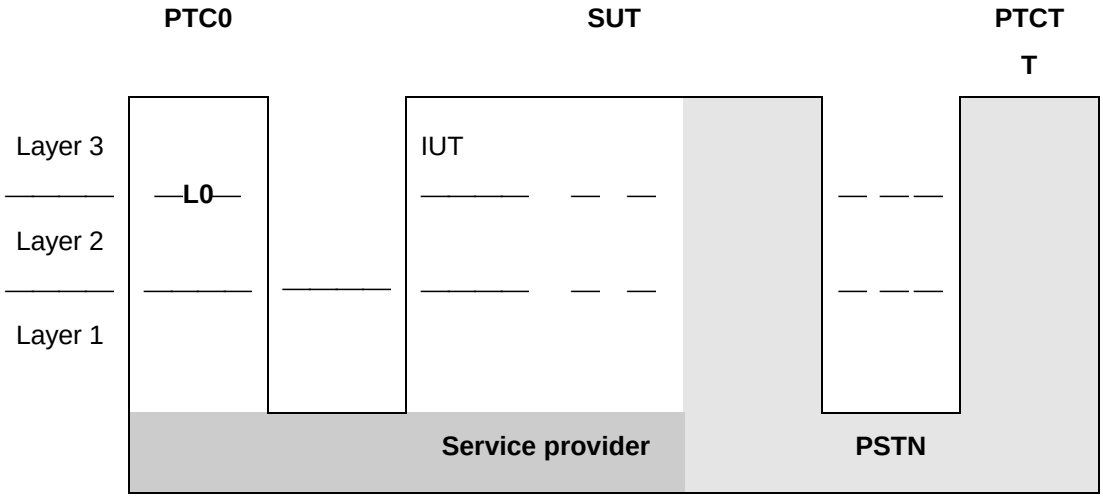

Figure 3: Combination of the remote and multi-party test methods with interworking with PSTN

5.4 Naming conventions

5.4.1 Test cases

The structure of test case identifier is as follows:

TTC<digit><digit><digit>_<digit><digit>	test case covering a telephony 7 kHz requirement;
VTC<digit><digit><digit>_<digit><digit>	test case covering a videotelephony requirement.

The digits corresponds to the digits of the Test Purpose (see ETS 300 267-5 [5]) involved in the test case. The TPs are ordered:

a) by type of requirement (i.e. generic, telephony 7 kHz or videotelephony);

b) by a three digit number which specifies the relevant position in the Test Suite Structure (TSS):

- the first digit refers to the second test group level:
  1 for Originating interface (ORIG);
  2 for Destination interface (DEST);

- the second digit refers to the third test group level:
  1 Valid behaviour (BV);
  2 Invalid behaviour (BI);
  3 Inopportune behaviour (BO);

- the third digit refers to the fifth test group level:
  1 Fallback allowed (FBA);
  2 Fallback not allowed (FBN);
  3 Connection management (CMN);

c) by a two digit sequence number:

the sequence number follows the order in which the TPs appear in the third level of the TSS.

5.4.2 Variables and parameters

The following shows the naming convention for variables used for each B-channel depending on whether one or two B-channels are established during the call between PTC0 and PTC1.

PTC0	
Initial B-channel	
call reference	CREF
B-channel (basic)	B_CHN
channel nr (primary)	PX_CH_NUM
Additional B-channel	
call reference	CREF2
B-channel (basic)	B_CHN2
channel nr (primary)	PX_CH_NUM2

PTC1	
Initial B-channel	
call reference	P1CREF
B-channel (basic)	P1_B_CHN
channel nr (primary)	PX_CH_NUM
Additional B-channel	
call reference	P1CREF2
B-channel (basic)	P1_B_CHN2
channel nr (primary)	PX_CH_NUM2

The following shows the naming conventions for parameters used to address the PTCs.

PTC	Parameters
PTC0	PX_PSTN_LCPN, PX_PSTN_CDPN_OCTET3, PX_PSTN_CPN
PTC1	PX_PTC1_LCPN, PX_PTC1_CDPN_OCTET3, PX_PTC1_CPN
PTCT	PX_PSTN_LCPN, PX_PSTN_CDPN_OCTET3, PX_PSTN_CPN

5.4.3 Trees and subtrees

Test step names use upper case letters and local subtrees use lower case letters.

Preamble subtrees are prefixed by "PTCx_PR_" and postamble subtrees by "PTCx_PO_", where x can be 0 or 1 depending on the PTC for which this subtree is defined.

6 Untestable test purposes

TPs for generic protocol requirements do not correspond to specific protocol behaviour and only describe parts of ETS 300 267-1 [3] which support the telephony 7 kHz and videotelephony teleservices. These TPs have been considered as untestable.

7 ATS conventions

This clause is structured similarly to the structure of a TTCN ATS. However, the names of the subclauses are arranged in a way more suitable to this ETS.

7.1 Declarations part

7.1.1 Type definitions

7.1.1.1 Simple type definitions

Where appropriate, simple types have a length, a value list or a range restriction attached.

Simple types defined as being of some string type (e.g. BITSTRING, OCTETSTRING), have a length restriction or a value list attached.

Simple types, defined as being of INTEGER type, have a value list or a range restriction attached.

7.1.1.2 Structured type definitions

7.1.1.2.1 TTCN structured type definitions

All structured type definitions are provided with a full name.

All elements in every structured type definition, defined as being of some string type (e.g. BITSTRING, OCTETSTRING), have a length restriction attached.

If an element in a structured type definition is defined as being of a referenced type, the (possible) restriction is defined in that referenced type.

For information elements the identifier, which is unique for each element, has its type defined as a simple type where the value list is restricted to the single value which is the identifier itself. This has the advantage that it allows a test system derived from this ATS to easily identify information elements embedded in messages. An ATS where information element identifiers are represented as unrestricted types can present difficulties for a derived test system in the case where it needs to find one information element embedded in a number of others and the constraints for the other elements have the any-or-omit value. In such a case the test system cannot easily find the beginning of each information element.

7.1.1.2.2 ASN.1 structured type definitions

There are no ASN.1 structured type definitions in the ATS.

7.1.1.3 ASP type definitions

7.1.1.3.1 TTCN ASP type definitions

TTCN ASP type definitions only contain one PDU or no PDU at all.

All TTCN ASP type definitions are provided with a full identifier.

Some ASPs are not parameterized as shown in the example in table 1. Such ASPs are only used for requesting or receiving service from the lower layer.

Table 1: TTCN ASP type definition DL_REL_IN

TTCN ASP Type Definition		
ASP NAME : DL_REL_IN (DL-RELEASE-INDICATION) **PCO Type** : SAP **Comments** : CEId: = (SAPI,CES) mapped onto DLCI: = (SAPI,TEI) This ASP is used to confirm the termination of an established multiple frame operation or to report an unsuccessful establishment attempt (L2--->L3)		
Parameter Name	**Parameter Type**	**Comments**
Detailed Comments :		

Table 2 shows an example of a parameterized ASP. All ASPs containing PDUs contain only that PDU and no other parameters.

Table 2: TTCN ASP type definition DL_DATA_RQ

TTCN ASP Type Definition		
ASP NAME : DL_DAT_RQ (DL_DATA_REQUEST) **PCO Type** : DSAP **Comments** :		
Parameter Name	**Parameter Type**	**Comments**
mun (MessageUnit)	PDU	
Detailed Comments :		

To make TTCN more readable, aliases have been defined for ASPs.

7.1.1.3.2 ASN.1 ASP type definitions

There are no ASN.1 ASP type definitions in the ATS.

7.1.1.4 PDU type definitions

7.1.1.4.1 TTCN PDU type definitions

The TTCN PDU type reflects the actual data being transferred or received. All PDUs are embedded in ASPs.

A meta-type ASP has been defined for all messages which do not require the fields inside to be referenced. This meta-type ASP carries the parameter type PDU. There is one meta-type ASP for send events and one for receive events, named DL_DAT_RQ and DL_DAT_IN, respectively. If certain fields of a PDU have to be referenced, then a particular ASP type has been defined for that message. For example, the call reference of an outgoing SETUP message needs to be read by the tester and therefore the ASP type DL_DAT_IN_SETUP has been defined for this event.

7.1.1.4.2 ASN.1 PDU type definitions

There are no ASN.1 PDU type definitions in the ATS.

7.1.2 Test suite constants

Each test suite constant is defined in terms of a predefined type. The values given in the value column will remain unchanged throughout the ATS.

7.1.3 Test suite parameters

Each test suite parameter is defined in terms of a predefined type or a referenced type. A referenced type is used when it is necessary to attach restrictions to these type definitions (it is not allowed to include restrictions directly in the test suite parameter table). The referenced type can have a length or value restriction attached to it in its declaration table.

7.1.4 Variables

7.1.4.1 Test suite variables

No test suite variables are used or defined in the ATS. In concurrent TTCN these kind of variables can be used only by the MTC.

7.1.4.2 Test case variables

Each test case variable is defined in terms of a predefined type or a referenced type. A referenced type is used when it is necessary to attach restrictions to these type definitions (it is not allowed to include restrictions directly in the test case variable table). The referenced type can have a length or value restriction attached to it in its declaration table.

7.1.5 Test suite operation definitions

The description part of a test suite operation definition uses either natural language or meta C.

Table 3: Test suite operation definition ASSIGN_CHI

Test Suite Operation Definition
Operation Name : ASSIGN_CHI(basic, primary : CHI; basic_flag : BOOLEAN) **Result Type** : CHI **Comments** : This operation is used to assign a correct Channel identification information element to PDUs dependent on the type of access that is tested.
Description
CHI ASSIGN_CHI(basic,primary,basic_flag) If the value of the basic_flag is set to TRUE, the result of the operation ASSIGN_CHI will be the value represented by the parameter basic which is of type CHI. Else the operation results in the value represented by the parameter primary. Examples: ASSIGN_CHI(CHI1b_R1, CHI1p_R1, TRUE) = CHI1b_R1 ASSIGN_CHI(CHI1b_R1, CHI1p_R1, FALSE) = CHI1p_R1
Detailed comments :

The Test Suite Operation Definition shown in table 3 is used in the Constraints Part when assigning an element of type CHI a value. The CHI type can be defined in two ways depending on whether the ATS is testing Basic or Primary-rate access. To avoid duplicate types and thereby duplicate test cases this operation is used to assign a value to an element of CHI type. It takes three parameters:

```
primary:        a constraint of type CHI valid for primary rate access;
basic:          a constraint of type CHI valid for basic access;
basic_flag:     a Boolean value: TRUE if basic access is applicable, FALSE otherwise.
```

This operation returns the correct constraint according to the Boolean flag basic_flag. That constraint will then be assigned to the specific element of type CHI.

7.2 Constraints part

7.2.1 Structured type constraint declaration

For every structured type definition there exists one or more structured type constraint.

7.2.2 ASN.1 type constraint declaration

There are no ASN.1 type constraint declarations in the ATS.

7.2.3 ASP type constraint declaration

7.2.3.1 ASN.1 ASP type constraint declaration

There are no ASN.1 ASP type constraint declarations in the ATS.

7.2.3.2 TTCN ASP type constraint declaration

The PDUs to be sent or received are passed to the TTCN ASP constraint declarations Ms and Mr as parameters of meta type PDU. Only if values inside a specific PDU have to be referenced, the use of the meta type PDU is not allowed according to ISO/IEC 9646-3 [10]. In such cases different TTCN ASP constraint declarations are used, which are defined to carry only a specific type of PDU (e.g. SETUP). Table 4 shows an example of such a TTCN ASP constraint declaration.

Table 4: TTCN ASP constraint declaration Sr

TTCN ASP Constraint Declaration		
Constraint Name : Sr(PARAM: SETUP_PDU) **ASP Type** : DL_DAT_IN_SETUP **Derivation Path** : **Comments** : ASP to indicate the receipt of SETUP messages.		
Parameter Name	**Parameter Value**	**Comments**
mun	PARAM	
Detailed Comments :		

All ASP constraints have a specific value for its parameter. No matching symbols are used in ASP constraints.

7.2.4 PDU type constraint declaration

7.2.4.1 ASN.1 PDU type constraint declaration

There are no ASN.1 PDU type constraint declarations in the ATS.

7.2.4.2 TTCN PDU type constraint declaration

PDU constraints are used for assigning values or patterns to the data being sent or received.

7.2.5 Derived constraint

Derived constraints are used in the ATS for PDUs only.

7.2.6 Parameterized constraints

Parameterized constraints are used in the ATS.

7.2.7 Value assignment

7.2.7.1 Specific values

For specific value assignment both explicit values and references to explicit values are used.

7.2.7.2 Matching values

As matching values the following mechanisms are used:

Instead of value:
- AnyOrOmit "*"
- AnyValue "?"
- SuperSet SUPERSET
- Omit "-"

Inside value:
- AnyOne "?"
- AnyOrNone "*"

7.3 Dynamic part

7.3.1 Test cases

Each test case contains:

- as purpose, the reference of the test purpose from ETS 300 267-5 [5];

- as description, the relevant references to ETS 300 267-1 [3];

- as behaviour description, at least a main tree for the MTC to handle the execution of other PTC's subtrees and a subtree for PTCO to describe the expected behaviour. When there is interworking with PSTN network, subtrees for PTC1 or PTCT are added.

The check of tone and announcements by an operator is optional.

7.3.2 Test steps

Much use has been made of test steps to avoid needless repetition of dynamic behaviour. The MTC behaviour is specified in three test steps which correspond to the three potential test configurations, i.e. CONTROL_PTC0, CONTROL_PTC0_PTC1 and CONTROL_PTC0_PTCT. The PTC behaviour is described in three test step groups, PTC0, PTC1 and PSTN.

7.3.2.1 PTC1_IN, PTC1_2B_IN

These test steps describe the behaviour of PTC1 for support of an incoming call at PTC0. Thus PTC1 is the originator of the call. PTC1 receives a Co-ordination Message (CM) from PTC0 in order to send the SETUP message which begins the call establishment. The test step is terminated by receipt of a RELEASE message or by an appropriate RELEASE_CALL CM from the PTC0.

PTC1_2B_IN is used for an incoming call requiring two B-channels.

7.3.2.2 PTC1_OUT, PTC1_BCAP_OUT, PTC1_BCAP_HLC_OUT, PTC1_2B_OUT

These test steps describe the behaviour of PTC1 for support of an outgoing call at the MTC (served user side). Thus PTC1 is at the destination side of the call. The test step is terminated by receipt of a RELEASE message or by an appropriate RELEASE_CALL CM from PTC0.

The behaviour is regulated from the MTC by means of CMs sent via CP01. Thus if PTC1 is expected to receive a message it receives a CM beforehand telling it what message to expect. On the other hand if the PTC0 wishes to receive a message from the IUT it may do this by first sending a CM to PTC1.

With PTC1_2B_OUT, two B-channels can be established for the same call.

With PTC1_BCAP_OUT, PTC1_BCAP_HLC_OUT, Bearer capability and High layer compatibility information elements sent by PTC1 in the CONNECT message are parametrized. With PTC1_OUT, no Bearer capability and no High layer compatibility information elements are sent in the CONNECT message. PTC1_BCAP_OUT, PTC1_BCAP_HLC_OUT and PTC1_OUT are used depending on whether fallback occurs or not.

7.3.3 Defaults

Note the use of the RETURN statement which is defined in DAM1 of ISO/IEC 9646-3 [10]. This allows valid background behaviour to be handled in the default tree with a possibility to return to the original set of alternatives in the test case.

8 ATS to TP map

The identifiers TTPnnn_nn and VTPnnn_nn used for TPs become TTCnnn_nn and VTCnnn_nn for associated test cases. The numbering is unchanged, only the requirement part has been changed. Thus there is a straightforward one-to-one mapping.

9 PCTR conformance

A test laboratory, when requested by a client to produce a PCTR, is required, as specified in ISO/IEC 9646-5 [12], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [12].

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

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.

10 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 [11], 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 [12], 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.

11 ATS conformance

The test realizer, producing MOT and ExTS for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [11]. In particular, these concern the realization of an ExTS based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

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

Test laboratories running conformance test services using this ATS shall comply with ISO/IEC 9646-5 [12].

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:	ETS 300 267-1
PICS:	
Previous PCTRs (if any):	

A.1.3 Testing environment

PIXIT reference number:	
ATS specification:	ETS 300 267-6
Abstract test method:	Multi-party remote single-layer embedded 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.

.....

.....

.....

.....

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.

.....

.....

.....

.....

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:

.....

.....

.....

.....

.....

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.

.....

.....

.....

.....

.....

.....

.....

A.6 Test campaign report

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
TTC111_01				
TTC111_02				
TTC111_03				
TTC111_04				
TTC111_05				
TTC111_06				
TTC111_07				
TTC111_08				
TTC111_09				
TTC111_10				
TTC111_11				
TTC111_12				
TTC111_13				
TTC111_14				
TTC111_15				
TTC112_01				
TTC112_02				
TTC112_03				
TTC112_04				
TTC112_05				
TTC112_06				
TTC113_01				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
VTC111_01				
VTC111_02				
VTC111_03				
VTC111_04				
VTC111_05				
VTC111_06				
VTC111_07				
VTC111_08				
VTC111_09				
VTC111_10				
VTC111_11				
VTC111_12				
VTC111_13				
VTC111_14				
VTC111_15				
VTC111_16				
VTC111_17				
VTC111_18				
VTC112_01				
VTC112_02				
VTC112_03				
VTC112_04				
VTC112_05				
VTC112_06				
VTC113_01				
VTC113_02				
TTC211_01				
TTC211_02				
TTC211_03				
TTC211_04				
TTC211_05				
TTC211_06				
TTC211_07				
TTC211_08				
TTC211_09				
TTC211_10				
TTC211_11				
TTC211_12				
TTC211_13				
TTC211_14				
TTC211_15				
TTC211_16				
TTC211_17				
TTC211_18				
TTC212_01				
TTC212_02				
TTC212_03				
TTC213_01				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
VTC211_01				
VTC211_02				
VTC211_03				
VTC211_04				
VTC211_05				
VTC211_06				
VTC211_07				
VTC211_08				
VTC211_09				
VTC211_10				
VTC211_11				
VTC211_12				
VTC211_13				
VTC211_14				
VTC211_15				
VTC211_16				
VTC211_17				
VTC211_18				
VTC211_19				
VTC211_20				
VTC211_21				
VTC211_22				
VTC211_23				
VTC211_24				
VTC211_25				
VTC211_26				
VTC211_27				
VTC211_28				
VTC211_29				
VTC211_30				
VTC212_01				
VTC212_02				
VTC212_03				
VTC213_01				
VTC213_02				
VTC213_03				
TTC221_01				
TTC221_02				
TTC221_03				
TTC221_04				
TTC221_05				

(continued)

ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
VTC221_01				
VTC221_02				
VTC221_03				
VTC221_04				
VTC221_05				
VTC221_06				
VTC221_07				
VTC221_08				
VTC221_09				
VTC221_10				
VTC221_11				
VTC221_12				
VTC221_13				
VTC221_14				
VTC221_15				
VTC221_16				
VTC221_17				
VTC221_18				
VTC221_19				
VTC221_20				
VTC221_21				
VTC221_22				
VTC221_23				
VTC221_24				

A.7 Observations

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

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

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: ETS 300 267-1

ATS specification: ETS 300 267-6

Abstract test method: Multi-party remote single-layer embedded 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: ETS 300 267-1

Protocol version:

PICS references:

NOTE: The PICS references should reference a completed PICS which is conformant with the PICS proforma contained in ETS 300 267-2 and the PICS proforma contained in either I-ETS 300 316/I-ETS 300 317 or ETS 300 403-3.

B.6.2 Configuration to be tested

Table B.1: Configuration to be tested

Item	Configuration	Supported? (Y/N)
1.1	Is the IUT configured for Basic access? (otherwise it is a Primary rate access)	
1.2	Does the IUT send a RESTART message after the establishment of the multiple frame operation?	
1.3	Does the IUT subscribe to the check for a prime service corresponding to a telephony 7 kHz teleservice?	
1.4	Does the IUT subscribe to the check for a prime service corresponding to a videotelephony teleservice?	
1.5	Can an operator check tone and announcement?	

B.6.3 Actions required to stimulate IUT

Table B.2: Configuration options

Item	Configuration: What actions, if possible, have to be taken to configure the IUT to ...	Supported? (Y/N)	Stimulus (action taken)
2.1	fallback to 3,1 kHz teleservice within itself on receipt of a 7 kHz fallback allowed SETUP message?		
2.2	fallback to 3,1 kHz teleservice within itself on receipt of a videotelephony fallback allowed SETUP message?		
2.3	fallback to 7 kHz teleservice within itself on receipt of a videotelephony fallback allowed SETUP message?		
2.4	achieve a successful subscription check for a telephony 7 kHz teleservice at its originating interface?		
2.5	achieve a unsuccessful subscription check for a telephony 7 kHz teleservice at its originating interface?		
2.6	achieve a successful subscription check for a videotelephony teleservice at its originating interface?		
2.7	achieve an unsuccessful subscription check for a videotelephony teleservice at its originating interface?		

B.6.4 Test management timers

Table B.3: Timer values

Item	Timer values: Give a value for the timer that is used to ...	Value (in seconds)
3.1	control test events initiated at the IUT via a PTC	
3.2	control test events initiated by stimuli sent by the tester at PTC0	
3.3	control test events initiated by stimuli sent by the tester at PTC1 (slave tester)	
3.4	control the inactivity of the IUT	
3.5	wait for RESTART messages after establishment of the multiple frame operation (if 1.2 is supported)	
3.6	control test events initiated at the IUT by the test operator	
3.7	allow the operator to check tone and announcement	

B.6.5 Parameter values

Table B.4: Parameter values

Item	Parameter values Give a ...	Allowed values	Value
4.1	value for the supported length of the call reference value	BA: 1 PRA: 2	
4.2	coding of a Called party number information element to be sent to the IUT to address PTC0		
4.2.1	length	BA: 1 PRA: 2	
4.2.2	called party number including the type of number or numbering plan and the number digits	N/A	
4.3	coding of a Called party number information element to be sent to the IUT to address PTC1		
4.3.1	length	BA: 1 PRA: 2	
4.3.2	called party number including the type of number or numbering plan and the number digits	N/A	
4.4	coding of a Called party number information element to be sent to the IUT to address PTCT (PSTN PTC)		
4.4.1	length	BA: 1 PRA: 2	
4.4.2	called party number including the type of number or numbering plan and the number digits	N/A	
4.5	value for the preferred channel number (used in Channel identification information element) to be used for outgoing calls	BA: 1..2 PRA: 1..30	
4.6	value for the preferred channel number (used in Channel identification information element) to be used for a second outgoing call on the same CES when two B-channels call is supported	BA: 1..2 PRA: 1..30	

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 [10].

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 (see also annex D).

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

The TTCN.GR representation of this ATS is contained in a PDF file (nt7v06.pdf included in archive 2676_e1.lzh) which accompanies this ETS.

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

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (nt7v06.mp included in archive 2676_e1.lzh) which accompanies this ETS.

NOTE: According to ISO/IEC 9646-3 [10], 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.

Annex D (informative): General structure of ATS

This annex gives a simple listing of the order of types of tables which appear in a typical supplementary service ATS. This is intended as an aid in helping readers find particular sections quickly.

Test Suite Overview

Test Suite Structure

Test Case Index

Test Step Index

Default Index

Declarations Part

Simple Type Definitions

Structured Type Definitions

ASN.1 Type Definitions

Test Suite Operation Definitions

Test Suite Parameter Declarations

Test Case Selection Expression Definitions

Test Suite Constant Declarations

Test Case Variable Declarations

PCO Declarations

Co-ordination Point Declarations

Timer Declarations

Test Component Declarations

Test Components Configuration Declarations

TTCN ASP Type Definition

TTCN PDU Type Definition

TTCN CM Type Definition

Alias Definitions

Constraints Part

Structured Type Constraint Declarations

ASN.1 Type Constraint Declarations

TTCN ASP Constraint Declarations

TTCN PDU Constraint Declarations

TTCN CM Constraint Declarations

Dynamic Part

Test Case Dynamic Behaviour

Test Step Dynamic Behaviour

Default Dynamic Behaviour

History

Document history			
April 1997	Public Enquiry	PE 9731:	1997-04-04 to 1997-08-01
January 1998	Vote	V 9811:	1998-01-13 to 1998-03-13
April 1998	First Edition		

ISBN 2-7437-2129-4
Dépôt légal : Avril 1998