

Draft **EN 301 060-4** V1.1.2 (1998-11)

European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Digital Subscriber Signalling System No. one (DSS1) protocol;
Basic call control;
Enhancement at the "b" service entry point for
Virtual Private Network (VPN) applications;
Part 4: Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing (PIXIT)
proforma specification for the user**



Reference

DEN/SPS-05109-4 (9td00idc.PDF)

Keywords

ISDN, DSS1, ATS, basic, PIXIT, VPN

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Foreword

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

The present document is part 4 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Digital Subscriber Signalling System No. one (DSS1) protocol; Basic call control extensions at the "b" service entry point for Virtual Private Network (VPN) applications, 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: "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".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

1 Scope

This fourth part of EN 301 060 is applicable to the Basic call control extensions at the "b" service entry point for VPN applications for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators at the T reference point (as defined in ITU-T Recommendation I.411 [11]) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol. Stage three identifies the protocol procedures and switching functions needed to support a telecommunications service (see CCITT Recommendation I.130 [10]).

The present document specifies the Abstract Test Suite (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 implementation conforming to EN 301 060-1 [6] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] Void.

[2] Void.

[3] EN 300 195-2: "Integrated Services Digital Network (ISDN); Supplementary service interactions; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[4] Void.

[5] ETS 300 196-2: "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".

[6] EN 301 060-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Basic call control; Enhancement at the "b" service entry point for Virtual Private Network (VPN) applications; Part 1: Protocol specification".

[7] Void.

[8] ISO/IEC 9646-1: "Information technology; Open systems interconnection; Conformance testing methodology and framework; Part 1: General concepts".

[9] ISO/IEC 9646-7: "Information technology; Open systems interconnection; Conformance testing methodology and framework; Part 7: Implementation Conformance Statements".

[10] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

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

[12] Void.

[13] Void.

- [14] Void.
- [15] ISO/IEC 9646-3: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [16] EN 301 060-3 (V1.1): "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Basic call control; Enhancement at the "b" service entry point for Virtual Private Network (VPN) applications; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user".
- [17] 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".
- [18] ISO/IEC 9646-4: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 4: Test realization".

3 Definitions and abbreviations

3.1 Definitions

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

3.1.1 Definitions related to conformance testing

abstract test case: Refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

active test: A test case where the IUT is required to send a particular message, but not in reaction to a received message. This would usually involve the use of PIXIT information to see how this message can be generated and quite often is specified in an ATS using an implicit send event.

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [3].

implicit send event: Refer to ISO/IEC 9646-3 [5].

lower tester: Refer to ISO/IEC 9646-1 [3].

passive test: A test case where the IUT is required to respond to a protocol event (e.g. received message) with another protocol event (e.g. send message) which normally does not require any special operator intervention as associated with the implicit send event.

point of control and observation: Refer to ISO/IEC 9646-1 [3].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [3].

PICS proforma: Refer to ISO/IEC 9646-1 [3].

Protocol Implementation eXtra Information for Testing (PIXIT): Refer to ISO/IEC 9646-1 [3].

PIXIT proforma: Refer to ISO/IEC 9646-1 [3].

system under test: Refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [3].

3.1.2 Definitions related to EN 301 060-1

Dummy call reference: See ETS 300 403-1 [8], subclause 4.3.

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [9], definition 308.

ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [10].

service; telecommunication service: See ITU-T Recommendation I.112 [9], definition 201.

supplementary service: See ITU-T Recommendation I.210 [11], subclause 2.4.

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

3.2 Abbreviations

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

ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
BA	Basic Access
CES	Connection Endpoint Suffix
CM	Co-ordination Message
ExTS	Executable Test Suite
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
LT	Lower Tester
MOT	Means Of Testing
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PRA	Primary Rate Access
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
VPN	Virtual Private Network

4 Abstract Test Method (ATM)

The Remote test method is applied for the basic call user ATS. The Point of Control and Observation (PCO) resides at the service access point between layers 2 and 3. 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.

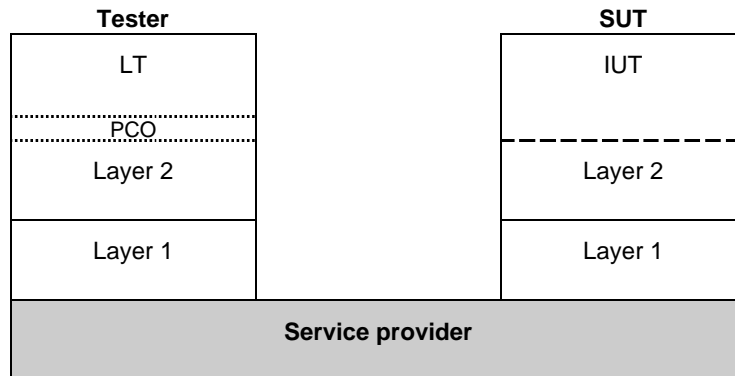


Figure 1: Remote test method

5 Untestable test purposes

There are no untestable test purposes in this ATS.

6 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 the present document.

6.1 Declarations part

6.1.1 Type definitions

6.1.1.1 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. BIT STRING, OCTET STRING), 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.

6.1.1.2 Structured type definitions

6.1.1.2.1 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. BIT STRING, OCTET STRING), 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.

6.1.1.2.2 ASN.1 structured type definitions

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

6.1.1.3 ASP type definitions

6.1.1.3.1 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 :		
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_DATA_RQ(DL_DATA_REQUEST)		
PCO Type : SAP		
Comments :		
Parameter Name	Parameter Type	Comments
mun (MessageUnit)	PDU	
Detailed Comments :		

6.1.1.3.2 ASN.1 ASP type definitions

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

6.1.1.4 PDU type definitions

6.1.1.4.1 TTCN PDU type definitions

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

If a specific PDU type definition contains elements defined in terms of a pre-defined type, that element has a restriction attached to it.

6.1.1.4.2 ASN.1 PDU type definitions

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

6.1.2 Test suite constants

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

6.1.3 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.

6.1.4 Variables

6.1.4.1 Test suite variables

No Test Suite Variables are used or defined in this ATS.

6.1.4.2 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.

Where test case variables are used in constraints, they are passed as formal parameters.

6.1.5 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.

6.2 Constraints part

6.2.1 Structured type constraint declaration

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

6.2.2 ASN.1 type constraint declaration

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

6.2.3 ASP type constraint declaration

6.2.3.1 ASN.1 ASP type constraint declaration

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

6.2.3.2 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 [15]. In such cases different TTCN ASP constraint declarations are used, that 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 ASPs.

6.2.4 PDU type constraint declaration

6.2.4.1 ASN.1 PDU type constraint declaration

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

6.2.4.2 TTCN PDU type constraint declaration

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

6.2.4.3 Special coding

The information element transit counter, present in the SETUP PDU, shall be defined in codeset 4, for this purpose the ATS is coding this IE with a locking shift (codeset 4) at the end of the PDU SETUP.

6.2.5 Derived constraints

Derived constraints are used in this ATS only for SETUP and ERROR PDUs.

6.2.6 Parameterized constraints

Parameterized constraints are used in this ATS.

6.2.7 Value assignment

6.2.7.1 Specific values

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

6.2.7.2 Matching values

As matching values the following mechanisms are used:

Instead of Value:

AnyOrOmit	"*"
AnyValue	"?"
Omit	"_"

Inside value:

AnyOne	"?"
AnyOrNone	"*"

6.3 Dynamic part

6.3.1 Test cases

Each test case contains the test purpose text from EN 301 060-3 [16]. To be able to read and understand the test case dynamic behaviour it is recommended that the test steps are understood first.

6.3.2 Test steps

Much use has been made of test steps to avoid needless repetition of dynamic behaviour.

6.3.3 Defaults

Note the use of the RETURN statement which is defined in DAM1 of ISO/IEC 9646-3 [15]. 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.

7 ATS to TP map

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

8 PCTR conformance

A test laboratory, when requested by a client to produce a PCTR, is required, as specified in ISO/IEC 9646-5 [17], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [17].

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

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

9 PIXIT conformance

A test realizer, producing an Executable Test Suite (ExTS) for the ATS specification contained in annex C, is required, as specified in ISO/IEC 9646-4 [18], 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 [17], to further augment the augmented partial PIXIT proforma to produce a PIXIT proforma conformant with this partial PIXIT proforma specification.

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

10 ATS conformance

The test realizer, producing MOT and ExTS for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [18]. 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 [17].

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

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

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 301 060-1
PICS:	
Previous PCTRs (if any):	

A.1.3 Testing environment

PIXIT Reference number:	
ATS Specification:	EN 301 060-4
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.

.....

.....

.....

.....

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 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 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

Call state U00				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U00_V_001				
L3U_U00_V_002				
L3U_U00_V_003				
L3U_U00_V_004				
L3U_U00_V_005				
L3U_U00_V_006				
L3U_U00_V_008				
L3U_U00_V_009				
L3U_U00_V_010				
L3U_U00_V_011				
L3U_U00_V_012				
L3U_U00_V_014				
L3U_U00_V_016				
L3U_U00_V_018				
L3U_U00_V_019				
L3U_U00_V_020				
L3U_U00_V_021				
L3U_U00_I_001				
L3U_U00_I_002				
L3U_U00_I_003				
L3U_U00_I_004				
L3U_U00_I_005				
L3U_U00_I_006				
L3U_U00_I_007				
L3U_U00_I_008				
L3U_U00_I_009				
L3U_U00_I_010				
L3U_U00_I_011				
L3U_U00_S_001				
L3U_U00_S_002				
L3U_U00_S_003				
L3U_U00_S_004				
L3U_U00_S_005				
L3U_U00_S_006				
L3U_U00_S_007				
L3U_U00_S_008				
L3U_U00_S_009				
L3U_U00_S_010				
L3U_U00_S_011				
L3U_U00_S_012				
L3U_U00_A_003				
L3U_U00_A_004				
L3U_U00_A_005				
L3U_U00_A_006				

Call state U01				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U01_V_001				
L3U_U01_V_002				
L3U_U01_V_003				
L3U_U01_V_004				
L3U_U01_V_005				
L3U_U01_I_001				
L3U_U01_I_002				
L3U_U01_I_003				
L3U_U01_I_004				
L3U_U01_I_005				
L3U_U01_I_006				
L3U_U01_I_007				
L3U_U01_I_008				
L3U_U01_I_010				
L3U_U01_S_001				
L3U_U01_S_002				
L3U_U01_S_003				
L3U_U01_S_004				
L3U_U01_S_005				
L3U_U01_S_006				
L3U_U01_S_007				
L3U_U01_S_008				
L3U_U01_S_009				
L3U_U01_S_010				
L3U_U01_S_011				
L3U_U01_A_001				

Call state U02				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U02_V_001				
L3U_U02_V_002				
L3U_U02_V_003				
L3U_U02_V_004				
L3U_U02_V_005				
L3U_U02_V_006				
L3U_U02_V_007				
L3U_U02_V_008				
L3U_U02_V_009				
L3U_U02_I_001				
L3U_U02_I_002				
L3U_U02_I_003				
L3U_U02_I_004				
L3U_U02_I_005				
L3U_U02_I_006				
L3U_U02_I_007				
L3U_U02_I_008				
L3U_U02_I_010				
L3U_U02_S_001				
L3U_U02_S_002				
L3U_U02_S_003				
L3U_U02_S_004				
L3U_U02_S_005				
L3U_U02_S_006				
L3U_U02_S_007				
L3U_U02_S_008				
L3U_U02_S_009				
L3U_U02_S_010				
L3U_U02_S_011				
L3U_U02_A_001				
L3U_U02_A_002				

Call state U03				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U03_V_001				
L3U_U03_V_002				
L3U_U03_V_003				
L3U_U03_V_004				
L3U_U03_V_005				
L3U_U03_V_006				
L3U_U03_V_007				
L3U_U03_V_008				
L3U_U03_V_009				
L3U_U03_I_001				
L3U_U03_I_002				
L3U_U03_I_003				
L3U_U03_I_004				
L3U_U03_I_005				
L3U_U03_I_006				
L3U_U03_I_007				
L3U_U03_I_008				
L3U_U03_I_010				
L3U_U03_S_001				
L3U_U03_S_002				
L3U_U03_S_003				
L3U_U03_S_004				
L3U_U03_S_005				
L3U_U03_S_006				
L3U_U03_S_007				
L3U_U03_S_008				
L3U_U03_S_009				
L3U_U03_S_010				
L3U_U03_S_011				
L3U_U03_A_001				
L3U_U03_A_002				

Call state U04				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U04_V_001				
L3U_U04_V_002				
L3U_U04_V_003				
L3U_U04_V_004				
L3U_U04_V_005				
L3U_U04_V_006				
L3U_U04_I_001				
L3U_U04_I_002				
L3U_U04_I_003				
L3U_U04_I_004				
L3U_U04_I_005				
L3U_U04_I_006				
L3U_U04_I_007				
L3U_U04_I_008				
L3U_U04_I_010				
L3U_U04_S_001				
L3U_U04_S_002				
L3U_U04_S_003				
L3U_U04_S_004				
L3U_U04_S_005				
L3U_U04_S_006				
L3U_U04_S_007				
L3U_U04_S_008				
L3U_U04_S_009				
L3U_U04_S_010				
L3U_U04_S_011				
L3U_U04_A_001				
L3U_U04_A_002				

Call state U07				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U07_V_001				
L3U_U07_V_002				
L3U_U07_V_003				
L3U_U07_V_004				
L3U_U07_I_001				
L3U_U07_I_002				
L3U_U07_I_003				
L3U_U07_I_004				
L3U_U07_I_005				
L3U_U07_I_006				
L3U_U07_I_007				
L3U_U07_I_008				
L3U_U07_I_009				
L3U_U07_I_011				
L3U_U07_S_001				
L3U_U07_S_002				
L3U_U07_S_003				
L3U_U07_S_004				
L3U_U07_S_005				
L3U_U07_S_006				
L3U_U07_S_007				
L3U_U07_S_008				
L3U_U07_S_009				
L3U_U07_S_010				
L3U_U07_S_011				
L3U_U07_A_001				
L3U_U07_A_002				
L3U_U07_A_003				
L3U_U07_A_004				

Call state U08				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U08_V_001				
L3U_U08_V_002				
L3U_U08_V_003				
L3U_U08_V_004				
L3U_U08_V_005				
L3U_U08_V_006				
L3U_U08_I_001				
L3U_U08_I_002				
L3U_U08_I_003				
L3U_U08_I_004				
L3U_U08_I_005				
L3U_U08_I_006				
L3U_U08_I_007				
L3U_U08_I_008				
L3U_U08_I_009				
L3U_U08_I_011				
L3U_U08_S_001				
L3U_U08_S_002				
L3U_U08_S_003				
L3U_U08_S_004				
L3U_U08_S_005				
L3U_U08_S_006				
L3U_U08_S_007				
L3U_U08_S_008				
L3U_U08_S_009				
L3U_U08_S_010				
L3U_U08_S_011				
L3U_U08_A_001				
L3U_U08_A_002				

Call state U09				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U09_V_001				
L3U_U09_V_002				
L3U_U09_V_003				
L3U_U09_V_004				
L3U_U09_I_001				
L3U_U09_I_002				
L3U_U09_I_003				
L3U_U09_I_004				
L3U_U09_I_005				
L3U_U09_I_006				
L3U_U09_I_007				
L3U_U09_I_008				
L3U_U09_I_009				
L3U_U09_I_011				
L3U_U09_S_001				
L3U_U09_S_002				
L3U_U09_S_003				
L3U_U09_S_004				
L3U_U09_S_005				
L3U_U09_S_006				
L3U_U09_S_007				
L3U_U09_S_008				
L3U_U09_S_009				
L3U_U09_S_010				
L3U_U09_S_011				
L3U_U09_A_001				
L3U_U09_A_002				
L3U_U09_A_003				
L3U_U09_A_004				
L3U_U09_A_005				

Call state U10, incoming call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U10I_V_001				
L3U_U10I_V_002				
L3U_U10I_V_003				
L3U_U10I_V_004				
L3U_U10I_V_005				
L3U_U10I_V_006				
L3U_U10I_V_007				
L3U_U10I_V_008				
L3U_U10I_V_009				
L3U_U10I_V_010				
L3U_U10I_V_011				
L3U_U10I_I_001				
L3U_U10I_I_002				
L3U_U10I_I_003				
L3U_U10I_I_004				
L3U_U10I_I_005				
L3U_U10I_I_006				
L3U_U10I_I_007				
L3U_U10I_I_008				
L3U_U10I_I_009				
L3U_U10I_I_011				
L3U_U10I_I_012				
L3U_U10I_S_001				
L3U_U10I_S_002				
L3U_U10I_S_003				
L3U_U10I_S_004				
L3U_U10I_S_005				
L3U_U10I_S_006				
L3U_U10I_S_007				
L3U_U10I_S_008				
L3U_U10I_S_009				
L3U_U10I_S_010				
L3U_U10I_S_011				
L3U_U10I_A_001				
L3U_U10I_A_002				
L3U_U10I_A_003				

Call state U10, outgoing call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U100_V_001				
L3U_U100_V_002				
L3U_U100_V_003				
L3U_U100_V_004				
L3U_U100_V_005				
L3U_U100_V_006				
L3U_U100_V_007				
L3U_U100_V_008				
L3U_U100_V_009				
L3U_U100_V_010				
L3U_U100_V_011				
L3U_U100_V_012				
L3U_U100_I_001				
L3U_U100_I_002				
L3U_U100_I_003				
L3U_U100_I_004				
L3U_U100_I_005				
L3U_U100_I_006				
L3U_U100_I_007				
L3U_U100_I_008				
L3U_U100_I_010				
L3U_U100_I_011				
L3U_U100_S_001				
L3U_U100_S_002				
L3U_U100_S_003				
L3U_U100_S_004				
L3U_U100_S_005				
L3U_U100_S_006				
L3U_U100_S_007				
L3U_U100_S_008				
L3U_U100_S_009				
L3U_U100_S_010				
L3U_U100_S_011				
L3U_U100_A_001				
L3U_U100_A_002				
L3U_U100_A_003				

Call state U11, incoming call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U11I_V_001				
L3U_U11I_V_002				
L3U_U11I_V_003				
L3U_U11I_V_004				
L3U_U11I_V_005				
L3U_U11I_V_006				
L3U_U11I_I_001				
L3U_U11I_I_002				
L3U_U11I_I_003				
L3U_U11I_I_004				
L3U_U11I_I_005				
L3U_U11I_I_006				
L3U_U11I_I_007				
L3U_U11I_I_008				
L3U_U11I_I_010				
L3U_U11I_S_001				
L3U_U11I_S_002				
L3U_U11I_S_003				
L3U_U11I_S_004				
L3U_U11I_S_005				
L3U_U11I_S_006				
L3U_U11I_S_007				
L3U_U11I_S_008				
L3U_U11I_S_009				
L3U_U11I_S_010				
L3U_U11I_S_011				
L3U_U11I_A_001				

Call state U11, outgoing call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U11O_V_001				
L3U_U11O_V_002				
L3U_U11O_V_003				
L3U_U11O_V_004				
L3U_U11O_V_005				
L3U_U11O_V_006				
L3U_U11O_I_001				
L3U_U11O_I_002				
L3U_U11O_I_003				
L3U_U11O_I_004				
L3U_U11O_I_005				
L3U_U11O_I_006				
L3U_U11O_I_007				
L3U_U11O_I_009				
L3U_U11O_S_001				
L3U_U11O_S_002				
L3U_U11O_S_003				
L3U_U11O_S_004				
L3U_U11O_S_005				
L3U_U11O_S_006				
L3U_U11O_S_007				
L3U_U11O_S_008				
L3U_U11O_S_009				
L3U_U11O_S_010				
L3U_U11O_S_011				
L3U_U11O_A_001				

Call state U12, incoming call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U12I_V_001				
L3U_U12I_V_002				
L3U_U12I_I_001				
L3U_U12I_I_002				
L3U_U12I_I_003				
L3U_U12I_I_004				
L3U_U12I_I_005				
L3U_U12I_I_006				
L3U_U12I_I_007				
L3U_U12I_I_008				
L3U_U12I_I_009				
L3U_U12I_I_011				
L3U_U12I_S_001				
L3U_U12I_S_002				
L3U_U12I_S_003				
L3U_U12I_S_004				
L3U_U12I_S_005				
L3U_U12I_S_006				
L3U_U12I_S_007				
L3U_U12I_S_008				
L3U_U12I_S_009				
L3U_U12I_A_001				
L3U_U12I_A_002				

Call state U12, outgoing call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U12O_V_001				
L3U_U12O_V_002				
L3U_U12O_I_001				
L3U_U12O_I_002				
L3U_U12O_I_003				
L3U_U12O_I_004				
L3U_U12O_I_005				
L3U_U12O_I_006				
L3U_U12O_I_007				
L3U_U12O_I_008				
L3U_U12O_I_010				
L3U_U12O_S_001				
L3U_U12O_S_002				
L3U_U12O_S_003				
L3U_U12O_S_004				
L3U_U12O_S_005				
L3U_U12O_S_006				
L3U_U12O_S_007				
L3U_U12O_S_008				
L3U_U12O_S_009				
L3U_U12O_A_001				
L3U_U12O_A_002				

Call state U19, incoming call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U19I_V_001				
L3U_U19I_V_002				
L3U_U19I_V_003				
L3U_U19I_V_004				
L3U_U19I_V_005				
L3U_U19I_V_006				
L3U_U19I_V_007				
L3U_U19I_I_001				
L3U_U19I_I_002				
L3U_U19I_I_003				
L3U_U19I_I_004				
L3U_U19I_I_005				
L3U_U19I_I_006				
L3U_U19I_I_007				
L3U_U19I_I_009				
L3U_U19I_I_010				
L3U_U19I_S_001				
L3U_U19I_S_002				
L3U_U19I_S_003				
L3U_U19I_S_004				
L3U_U19I_S_005				
L3U_U19I_S_006				
L3U_U19I_S_007				
L3U_U19I_S_008				
L3U_U19I_S_009				

Call state U19, outgoing call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U19O_V_001				
L3U_U19O_V_002				
L3U_U19O_V_003				
L3U_U19O_V_004				
L3U_U19O_V_005				
L3U_U19O_V_006				
L3U_U19O_V_007				
L3U_U19O_I_001				
L3U_U19O_I_002				
L3U_U19O_I_003				
L3U_U19O_I_004				
L3U_U19O_I_005				
L3U_U19O_I_006				
L3U_U19O_I_008				
L3U_U19O_I_009				
L3U_U19O_S_001				
L3U_U19O_S_002				
L3U_U19O_S_003				
L3U_U19O_S_004				
L3U_U19O_S_005				
L3U_U19O_S_006				
L3U_U19O_S_007				
L3U_U19O_S_008				
L3U_U19O_S_009				

Call state U25				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_U25_V_001				
L3U_U25_V_002				
L3U_U25_V_003				
L3U_U25_V_004				
L3U_U25_V_005				
L3U_U25_V_006				
L3U_U25_I_001				
L3U_U25_I_002				
L3U_U25_I_003				
L3U_U25_I_004				
L3U_U25_I_005				
L3U_U25_I_006				
L3U_U25_I_007				
L3U_U25_I_008				
L3U_U25_I_009				
L3U_U25_I_011				
L3U_U25_S_001				
L3U_U25_S_002				
L3U_U25_S_003				
L3U_U25_S_004				
L3U_U25_S_005				
L3U_U25_S_006				
L3U_U25_S_007				
L3U_U25_S_008				
L3U_U25_S_009				
L3U_U25_S_010				
L3U_U25_S_011				
L3U_U25_A_001				
L3U_U25_A_002				
L3U_U25_A_003				

Call state R00, incoming call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_R00I_V_001				
L3U_R00I_V_002				
L3U_R00I_V_003				
L3U_R00I_V_004				
L3U_R00I_V_005				
L3U_R00I_V_006				
L3U_R00I_V_007				
L3U_R00I_I_001				
L3U_R00I_I_002				
L3U_R00I_I_003				
L3U_R00I_S_001				
L3U_R00I_S_002				
L3U_R00I_S_003				
L3U_R00I_S_004				
L3U_R00I_S_005				
L3U_R00I_S_006				
L3U_R00I_S_007				
L3U_R00I_S_008				
L3U_R00I_S_009				
L3U_R00I_S_010				
L3U_R00I_S_011				
L3U_R00I_S_012				
L3U_R00I_S_013				
L3U_R00I_S_014				
L3U_R00I_A_001				

Call state R00, outgoing call				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_R00O_V_001				
L3U_R00O_V_002				
L3U_R00O_V_003				
L3U_R00O_V_004				
L3U_R00O_V_005				
L3U_R00O_V_006				
L3U_R00O_V_007				
L3U_R00O_I_001				
L3U_R00O_I_002				
L3U_R00O_I_003				
L3U_R00O_S_001				
L3U_R00O_S_002				
L3U_R00O_S_003				
L3U_R00O_S_004				
L3U_R00O_S_005				
L3U_R00O_S_006				
L3U_R00O_S_007				
L3U_R00O_S_008				
L3U_R00O_S_009				
L3U_R00O_S_010				
L3U_R00O_S_011				
L3U_R00O_S_012				
L3U_R00O_S_013				
L3U_R00O_S_014				
L3U_R00O_A_001				

Call state R01				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_R01_V_001				
L3U_R01_V_002				
L3U_R01_V_003				
L3U_R01_I_001				
L3U_R01_I_002				
L3U_R01_I_003				
L3U_R01_I_004				
L3U_R01_I_005				
L3U_R01_I_006				
L3U_R01_S_001				
L3U_R01_S_002				
L3U_R01_S_003				
L3U_R01_S_004				
L3U_R01_S_005				
L3U_R01_S_006				
L3U_R01_S_007				
L3U_R01_S_008				
L3U_R01_S_009				
L3U_R01_S_010				
L3U_R01_S_011				
L3U_R01_S_012				
L3U_R01_S_013				

Message Segmentation				
ATS reference	Selected? (Y/N)	Run? (Y/N)	Verdict	Observations
L3U_SEG_V_001				
L3U_SEG_I_001				
L3U_SEG_I_002				
L3U_SEG_I_003				
L3U_SEG_I_005				
L3U_SEG_I_006				
L3U_SEG_I_007				
L3U_SEG_S_001				

Annex B (normative): Partial PIXIT proforma

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

B.1 Identification summary

PIXIT number:

.....

Test laboratory name:

.....

Date of issue:

.....

Issued to:

.....

B.2 Abstract test suite summary

Protocol specification: EN 301 060-1

ATS specification: EN 301 060-4

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

B.3 Test laboratory

Test laboratory identification:

.....

Accreditation status of the test service:

.....

Accreditation reference:

.....

Test laboratory manager:

.....

Test laboratory contact:

.....

Means of testing:

.....

Test laboratory instructions for completion:

.....

B.4 Client (of the test laboratory)

Client identification:

.....

Client test manager:

.....

Client contact:

.....

Test facilities required:

.....

B.5 System Under Test (SUT)

Name:

.....

Version:

.....

SCS reference:

.....

Machine configuration:

.....

Operating system identification:

.....

IUT identification:

.....

PICS (all layers):

.....

.....

Limitations of the SUT:

.....

Environmental conditions:

.....

B.6 Protocol information

B.6.1 Protocol identification

Specification reference: EN 301 060-1

Protocol version:

PICS reference:

NOTE: The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in ETS 301 060-2.

B.6.2 Configuration to be tested

Table B.1: Configuration to be tested

Item	Configuration	Supported? (Y/N)
1.1	Is the access to be tested sending a RESTART message after the establishment of the multiple frame operation?	
1.2	releasing the multiple frame established operation (i.e. sending of a DISC frame) after entering the state U00?	

B.6.3 Configuration options

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	send a RESTART message after the second timeout of timer T308?		
2.2	have a address number assigned to it?		
2.3	have a subaddress assigned to it?		
2.4	accept two calls on one CES?		
2.5	be stable in call state U07?		
2.6	be stable in call state U09?		
2.7	be stable in call state U12?		
2.8	be in a busy condition (i.e. send a RELEASE COMPLETE message indicating cause value 17 in response to a compatible SETUP message)?		
2.9	refuse an incoming call (i.e. send a RELEASE COMPLETE message indicating cause value 21 in response to a compatible SETUP message)?		

B.6.4 Test management timers

Table B.3: Timer values

Item	Timer values Give a value for the timer used to...	Value (in seconds)
3.1	wait for the test operator to perform an implicit send action (TWAIT)	
3.2	wait for the IUT to respond to a stimulus sent by the tester (TAC)	
3.3	control that the IUT does not respond to a stimulus sent by the tester (TNOAC)	
3.4	wait for RESTART messages after establishment of the multiple frame operation (T_RESTART; only if 1.1 is supported)	
NOTE: The IUT provider may fill in a value range rather than a fixed value for the test management timers. During test execution the test laboratory will choose specific values for the timers dependant on the means of testing used. These specific values may even be beyond the range given by the IUT provider, if this is necessary for achieving satisfactory test results.		

B.6.5 Sending of messages by IUT

Table B.4: Actions required to stimulate IUT to send messages

Item	Action: What actions, if possible, have to be taken to cause the IUT to send a ...	Supported? (Y/N)	Stimulus (action taken)
4.1	DISCONNECT message in call state U01?		
4.2	DISCONNECT message in call state U02?		
4.3	DISCONNECT message in call state U03?		
4.4	DISCONNECT message in call state U04?		
4.5	DISCONNECT message in call state U07?		
4.6	DISCONNECT message in call state U08?		
4.7	DISCONNECT message in call state U09?		
4.8	DISCONNECT message in call state U10?		
4.9	DISCONNECT message in call state U25?		
4.10	INFORMATION message in call state U03?		
4.11	INFORMATION message in call state U04?		
4.12	INFORMATION message in call state U07?		
4.13	INFORMATION message in call state U08?		
4.14	INFORMATION message in call state U09?		
4.15	INFORMATION message in call state U10?		
4.16	INFORMATION message in call state U11?		
4.17	INFORMATION message in call state U12?		
4.18	INFORMATION message in call state U25?		
4.19	PROGRESS message in call state U07?		
4.20	PROGRESS message in call state U09?		
4.21	PROGRESS message in call state U25?		
4.22	CONNECT message in call state U09?		
4.23	NOTIFY message in call state U10?		
4.24	STATUS ENQUIRY message in call state U10?		
4.25	RESTART message in call state U10?		
4.26	DISCONNECT message with a length exceeding N201 (default value 260 octets) in call state U10?		

B.6.6 Parameter values

Table B.5: Parameter values

Item	Parameter values: Give a ...	Allowed values	Value
5.1	value for the maximum number of STATUS ENQUIRY retransmissions, if no STATUS message is received	N/A	
5.2	value for an erroneous protocol discriminator, coded other than '00001000'B	any other than '00001000'B	
5.3	value for an unrecognized message type	N/A	
5.4	value for the supported length of the call reference	BA: 1 PRA: 2	
5.5	value for a length of the call reference that is higher than the supported length	BA: > 1 PRA: > 2	
5.6	a coding of a Bearer capability information element, which the IUT is compatible with, for the purpose of accepting incoming calls	N/A	
5.7	a coding of a Bearer capability information element, which the IUT is NOT compatible with	N/A	
5.8	a coding of a Bearer capability information element, for which fallback is allowed	N/A	
5.9	a coding of a High layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls	N/A	
5.10	a coding of a High layer compatibility information element, which the IUT is NOT compatible with	N/A	
5.11	a coding of a High layer compatibility information element, for which fallback is allowed	N/A	
5.12	a coding of a Low layer compatibility information element, which the IUT is compatible with, for the purpose of accepting incoming calls	N/A	
5.13	a coding of a Low layer compatibility information element, which the IUT is NOT compatible with (incompatible in the part, which provides additional information to the Bearer capability information element)	N/A	
5.14	a coding of a Low layer compatibility information element, which the IUT is NOT compatible with (incompatible in the part, which provides NO additional information to the Bearer capability information element)	N/A	
5.15	a coding of a Called party number information element, which the IUT is compatible with	N/A	
5.16	a coding of a Called party number information element, which contains invalid number information	N/A	
5.17	a coding of a Called party subaddress information element, which contains invalid subaddress information	N/A	
5.18	a value for the preferred channel number (used in Channel identification information element) to be used for incoming calls	BA: 1..2 PRA: 1..30	
5.19	a value for the preferred channel number (used in Channel identification information element) to be used for a second incoming call on the same CES (if 2.5 is supported)	BA: 1..2 PRA: 1..30	
5.20	a value for the a channel number (used in Channel identification information element), which is not available	N/A	

Table B.6: VPN Parameter values

Item	Parameter values: Give a ...	Allowed values	Value
6.1	value length of Business group identification (including octet 3)	N/A	
6.2	Business group identifier (bitstring[3])	N/A	
6.3	a value for the business group identification	[0..12]	
6.4	a coding of a Called party number information element, which contains number information that is incomplete (insufficient to route the call to its destination).	N/A	

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 [15].

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

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

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (9td00idc.PDF contained in archive 9td00idc.ZIP) which accompanies the present document.

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

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (9td00idc.MP contained in archive 9td00idc.ZIP) which accompanies the present document.

NOTE: According to ISO/IEC 9646-3 [15], 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

Annex E (informative): TTCN MP and GR version history

This annex describes all the modifications which occurred for each version of the TTCN files (MP and GR) against the previous one.

Version 1: First Edition

Item No.	Description

History

Document history		
V1.1.2	November 1998	Public Enquiry PE 9913: 1998-11-27 to 1999-03-26