

8 [[]HJbc`ca fYy`n]bhY[f]fUb]a]ghcf]h] Ua]fG8 BŁĚ`G][bU]nUWY`UyH`+`Ě`DcXdcfU
Ud`_ UWY`bUj]XYnbY[UnUgYVbY[Uca fYy`UfU DBŁ`n]bZfa UWY`g_]a]hc_cj]
g][bU]nUWY`g_Y[Ug]ghYa U%fDDG%Łj`fYZfYb b]`hc_]`E`nUgYVbY[Uca fYy`UĚ`("
XY`5 VgIfU_Hb]`dfYg_i`yUb]`b]n`f5 HGL]b`XY`bUXcXUfU]bZfa UWY`UnUdfYg_i`yUb`Y
]nj YXVY`dfhc_c`UfD`Ł`HŁĚ`DfcZfa UgdyWY`Z_ UWY`U

Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification

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**Integrated Services Digital Network (ISDN);
Signalling System No.7 (SS7);
Support of Virtual Private Network (VPN)
applications with Private network Q reference point
Signalling System number 1 (PSS1) information flows;
Part 4: Abstract Test Suite (ATS) and partial Protocol
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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 4 of a multi-part EN covering the Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7); Support of Virtual Private Network (VPN) applications with Private network Q reference Point Signalling System number 1 (PSS1) information flows, as identified below:

- Part 1: "Protocol specification [ITU-T Recommendations Q.765.1 and Q.699.1, modified]";
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";
- Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".**

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National transposition dates

National transposition dates	
Date of adoption of this EN:	13 October 2000
Date of latest announcement of this EN (doa):	31 January 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2001
Date of withdrawal of any conflicting National Standard (dow):	31 July 2001

1 Scope

The present document contains the validation (conformance) test specification for the application transport mechanism, support of VPN applications with PSS1 information flows defined in EN 301 062-1 [1]. The present document applies only to exchanges having implemented the ISUP v3 protocol specification for the Application Transport Mechanism and APM support of VPN applications for the exchange. It is applicable for validation testing of all types of exchanges as defined in the ISUP v3 protocol specification. The present document does not deal with compatibility testing.

The main body of the present document presents the PIXIT, PCTR and the ATS the last one being available on electronic media.

The document EN 301 062-2 [2] presents the PICS and EN 301 062-3 [3] presents the TSS&TP for the Application Transport Mechanism, Support Of VPN applications with PSS1 Information Flows.

The supplier of an implementation that is claimed to conform to the reference specification for the Signalling System Number 7, Application Transport Mechanism, support of VPN applications with PSS1 information flows ITU-T Recommendation Q.765.1 [5] is required to complete a copy of the PICS proforma provided in annex A of EN 301 062-2 [2].

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.

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- [1] ETSI EN 301 062-1 (V1.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 1: Protocol specification [ITU-T Recommendations Q.765.1 and Q.699.1, modified]".
- [2] ETSI EN 301 062-2: "Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- [3] ETSI EN 301 062-3: "Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification".
- [4] ITU-T Recommendation Q.762: "Signalling System No. 7 - ISDN User Part general functions of messages and signals".
- [5] ITU-T Recommendation Q.765.1: "Signalling System No. 7 - Application transport mechanism: Support of VPN applications with PSS1 information flows".
- [6] ETSI EN 300 356-1 (V3.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1997), modified]".
- [7] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

- [8] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [9] 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".
- [10] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [11] ITU-T Recommendation E.164: "The international public telecommunication numbering plan".

3 Definitions and abbreviations

3.1 Definitions

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

- terms defined in ISDN User Part (ISUP) reference specification [1] and [6];
- terms defined in ISO/IEC 9646-1 [7], ISO/IEC 9646-3 [8] and in ISO/IEC 9646-7 [10].

In particular, the following terms apply:

Abstract Test Case (ATC): complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state (see ISO/IEC 9646-1 [7], subclause 3.3.3).

Abstract Test Method (ATM): description of how an IUT is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this method (see ISO/IEC 9646-1 [7], subclause 3.3.5).

Abstract Test Suite (ATS): test suite composed of abstract test cases (see ISO/IEC 9646-1 [7], subclause 3.3.6).

Implementation Under Test (IUT): implementation of one or more OSI protocols in an adjacent user/provider relationship, being part of a real open system which is to be studied by testing (see ISO/IEC 9646-1 [7], subclause 3.3.43).

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [11].

Means of Testing (MOT): combination of equipment and procedures that can perform the derivation, selection, parameterization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see ISO/IEC 9646-1 [7], subclause 3.3.54).

PICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes the PICS.

PIXIT proforma: document, in the form of a questionnaire, which when completed for the IUT becomes the PIXIT.

Point of Control and Observation: point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method (see ISO/IEC 9646-1 [7], subclause 3.3.64).

Pre-test condition: setting or state in the IUT which cannot be achieved by providing stimulus from the test environment.

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see ISO/IEC 9646-1 [7], subclause 3.3.39 and subclause 3.3.80).

Protocol Implementation eXtra Information for Testing (PIXIT): statement made by a supplier or implementor of an IUT (protocol) which contains or references all of the information related to the IUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the IUT (see ISO/IEC 9646-1 [7], subclause 3.3.41 and subclause 3.3.81).

System Under Test (SUT): real open system in which the IUT resides (see ISO/IEC 9646-1 [7], subclause 3.3.103).

3.2 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
GPINX	Gateway PINX
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IUT	Implementation Under Test
MOT	Means Of Testing
MTP	Message Transfer Part
PICS	Protocol Implementation Conformance Statement
PIN	Public Initiated Node
PINX	Private Integrated Services Network Exchange
PIXIT	Protocol Implementation eXtra Information for Testing
PSS1	Private network Q reference point Signalling System number 1
SP	Signalling Point
SUT	System Under Test
TP	Test Purpose (context dependent)
TSS	Test Suite Structure
TSS&TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation
VPN	Virtual Private Network

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The ISUP message acronyms can be found in table 2 of ITU-T Recommendation Q.762 [4].
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The APM primitives acronyms can be found in the different tables of ITU-T Recommendation Q.765.1 [5].

The VPN primitives acronyms can be found in the different tables of ITU-T Recommendation Q.765.1 [5].

Annex A (normative): PIXIT proforma for Support of Virtual Private Network (VPN) applications

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.

The PIXIT proforma enlists all the parameters and data that are needed to configure the ATS (and/or the IUT) before executing the testing campaign. It is to be filled out as part of the preparation for testing by e.g. the test client. The testing laboratory then inputs this data into the implementation of the ATS. More information about the purpose and intent of the PIXIT can be found in ISO 9646-5 [9].

A.1 Identification summary

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

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A.2 Abstract test suite summary

Protocol Specification:	
ATS Specification:	ISUPv3_vpn SIST EN 301 062-4 V1.1.1:2005
Abstract Test Method:	Distributed multiparty test method

A.3 Test laboratory

Test Laboratory Identification:	
Test Laboratory Manager:	
Test Laboratory contact:	
Means of Testing:	
Instructions for completion:	

A.4 Client identification

Client Identification:	
Client Test manager:	
Test Facilities required:	