INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.765.1 *bis*

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STANDARDIZATION SECTOR
OF ITU

SERIES Q: SWITCHING AND SIGNALLING

Specifications of Signalling System No. 7 – ISDN user part

Abstract test suite for the APM support of VPN applications

ITU-T Recommendation Q.765.1 *bis*

(Previously CCITT Recommendation)

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ITU-T Q-SERIES RECOMMENDATIONS

SWITCHING AND SIGNALLING

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5	Q.120–Q.249
SPECIFICATIONS OF SIGNALLING SYSTEM No. 6	Q.250–Q.309
SPECIFICATIONS OF SIGNALLING SYSTEM R1	Q.310–Q.399
SPECIFICATIONS OF SIGNALLING SYSTEM R2	Q.400–Q.499
DIGITAL EXCHANGES	Q.500–Q.599
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.849
General	Q.700
Message transfer part (MTP)	Q.701–Q.709
Signalling connection control part (SCCP)	Q.711–Q.719
Telephone user part (TUP)	Q.720–Q.729
ISDN supplementary services	Q.730–Q.739
Data user part	Q.740–Q.749
Signalling System No. 7 management	Q.750–Q.759
ISDN user part	**Q.760–Q.769**
Transaction capabilities application part	Q.770–Q.779
Test specification	Q.780–Q.799
Q3 interface	Q.800–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1699
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000	Q.1700–Q.1799
BROADBAND ISDN	Q.2000–Q.2999

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ITU-T RECOMMENDATION Q.765.1 *bis*

ABSTRACT TEST SUITE FOR THE APM SUPPORT OF VPN APPLICATIONS

Summary

This Recommendation contains the conformance test specification for ISUP'97 APM support of VPN (Virtual Private Network). The main body of this Recommendation presents the test suite structure and test purposes. The annexes present the protocol implementation conformance statements (PICS), the protocol implementation extra information for testing (PIXIT), protocol conformance test report (PCTR) and the ATS for APM support for VPN applications, the latter being available on electronic media only.

Source

ITU-T Recommendation Q.765.1 *bis* was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution 1 procedure on 3 December 1999.

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The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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CONTENTS

		Page
1	Scope	1
2	References	1
3	Definitions	2
4	Abbreviations	3
5	Implementation under test and test methods	4
5.1	Identification of the system and implementation under test	4
5.2	ATM and testing configuration for ISUP'97 – APM support of VPN	5
5.3	Local exchanges	6
5.4	Transit exchanges	6
5.4.1	Master-slave aspects in the test configuration	7
6	Test Suite Structure (TSS)	8
7	Test Purposes (TP)	8
7.1	Introduction	8
7.2	Test Purpose (TP) naming convention	8
7.2.1	Source of test purpose definition	9
7.2.2	Test purpose structure	9
7.3	Test purposes for the Signalling System No. 7, APM support of Virtual Private Network applications with PSS1 information flows	9
7.3.1	VPN ASE	10
8	Test coverage	17
9	Conformance to the PICS proforma specification	17
Annex A – PICS proforma for ISDN User Part 1997 (ISUP'97) – APM support of VPN		18
A.1	Instructions for completing the PICS proforma	18
A.1.1	Purposes and structure	18
A.1.2	Abbreviations and conventions	18
A.2	Identification of the implementation	19
A.2.1	Date of the statement	19
A.2.2	Implementation Under Test (IUT) identification	19
A.2.3	System Under Test (SUT) identification	20
A.2.4	Product supplier	20
A.2.5	Client	20
A.2.6	ICS contact person	20
A.3	Identification of the reference specification	20

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Page

A.4 PICS proforma tables 20
A.4.1 Global statement of conformance 20
A.4.2 Roles 21
A.4.3 Capabilities 21

Annex B – PIXIT proforma for ISDN User Part (ISUP)'97 – APM support of VPN 21

Annex C – PICTR proforma for ISDN User Part (ISUP)'97 – APM support of VPN 21

Annex D – ATS for ISDN User Part (ISUP)'97 – APM support of VPN (electronic attachment) 21

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Recommendation Q.765.1 *bis*

ABSTRACT TEST SUITE FOR THE APM SUPPORT OF VPN APPLICATIONS

1 Scope

This Recommendation contains the validation (conformance) test specification for the Application Transport Mechanism, support of VPN applications with PSS1 information flows defined in Recommendation Q.765.1 [1]. This Recommendation applies only to exchanges having implemented the ISUP'97 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'97 protocol specification. This Recommendation does not deal with compatibility testing.

The main text part of this Recommendation presents the requirements regarding the chosen test method, conventions used within the ATS, the Test Suite Structure and Test Purposes (TSS & TP) for the Application Transport Mechanism, support of VPN applications with PSS1 information flows.

The annexes present the Protocol Implementation Conformance Statements (PICS), the Protocol Implementation eXtra Information for Testing (PIXIT), Protocol Conformance Test Report (PCTR) and the ATS for the Application Transport Mechanism, support of VPN applications with PSS1 information flows the last one being available on electronic media.

Annex A provides the Protocol Implementation Conformance Statement (PICS) proforma for the Application Transport Mechanism, support of VPN applications with PSS1 information flows defined in compliance with the relevant requirements and in accordance with the guidance given in ISO/IEC 9646-7 [9]. This statement indicates which capabilities and options of a telecommunication specification have been implemented. It is necessary for evaluating the conformance of a particular implementation.

The supplier of an implementation that is claimed to comply with to the reference specification for the Signalling System No. 7, Application Transport Mechanism, support of VPN applications with PSS1 information flows [1] is required to complete a copy of the PICS proforma provided in Annex A.

Annex B provides the protocol implementation extra information for test (PIXIT) proforma needed as a preparation for testing.

Annex C provides the protocol conformance test report (PCTR) proforma used for evaluating the results of the testing campaign.

Annex D explains how to get hold of the actual ATS, which is delivered in electronic form only.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

[1] ITU-T Recommendation Q.765.1 (1998), *Signalling System No. 7 – Application transport mechanism*: *Support of VPN applications with PSS1 information flows*.

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[2] ITU-T Recommendation Q.765 (1998), *Signalling System No. 7 – Application transport mechanism*.

[3] ITU-T Recommendation Q.763 (1997), *Signalling System No. 7 – ISDN User Part formats and codes*.

[4] ITU-T Recommendation Q.764 (1997), *Signalling System No. 7 – ISDN User Part signalling procedures*.

[5] ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts*.

[6] ISO/IEC 9646-2:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 2: Abstract Test Suite specification*.

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

[8] ISO/IEC 9646-5:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 5: Requirements on test laboratories and clients for the conformance assessment process*.

[9] ISO/IEC 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements*.

[10] ITU-T Recommendation Q.784.2 (1997), *ISUP basic call test specification: Abstract test suite for ISUP'92 basic call control procedures.*

[11] CCITT Recommendation E.164 (1988), *Numbering plan for the ISDN era*.

3 Definitions

For the purposes of the ATS specification, the following definitions apply:

– terms defined in ISDN User Part (ISUP) reference specification [1] to [4];

– terms defined in ISO/IEC 9646-1 [5], ISO/IEC 9646-3 [7] and in ISO/IEC 9646-7 [9].

In particular, the following terms apply:

3.1 Abstract Test Case (ATC): A 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 [5], § 3.3.3).

3.2 Abstract Test Method (ATM): The 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 [5], § 3.3.5).

3.3 Abstract Test Suite (ATS): A test suite composed of abstract test cases (see [5], § 3.3.6).

3.4 Implementation Under Test (IUT): An 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 [5], § 3.3.43).

3.5 ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [11].

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3.6 Means of Testing (MOT): The 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 [5], § 3.3.54).

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

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

3.9 point of control and observation: A 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 [5], § 3.3.64).

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

3.11 Protocol Implementation Conformance Statement (PICS): A statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see [5], § 3.3.39 and § 3.3.80).

3.12 Protocol Implementation eXtra Information for Testing (PIXIT): A 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 [5], § 3.3.41 and § 3.3.81).

3.13 System Under Test (SUT): The real open system in which the IUT resides (see [5], § 3.3.103).

4 Abbreviations

This Recommendation uses the following abbreviations:

APM	Application Transport Mechanism
ASE	Application Service Entity
ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
CCBS	Completion of Calls to Busy Subscriber
CD	Call Deflection
CDIV	Call DIVersion
DLE	Destination Local Exchange
ECT	Explicit Call Transfer
GPINX	Gateway PINX
ICS	Implementation Conformance Statement
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IUT	Implementation Under Test
LT	Lower Tester
MCID	Malicious Call Identification

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