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Harmonizacija telekomunikacij in internetnega protokola prek omrežij (TIPHON), 3. izdaja - Specifikacija tehnološke ustreznosti - 3. del: Specifikacija za preskušanje skladnosti H.225.0 - Abstraktni preskušalni niz (ATS) in PIXIT - Proforma specifikacija za terminal, vratarja in prehod

Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON) Release 3; Technology compliance specifications; Part 3: H.225.0 conformance test specifications; Abstract Test Suite (ATS) and PIXIT proforma specification for Terminal, Gatekeeper and Gateway

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Technical Specification

**Telecommunications and Internet Protocol
Harmonization Over Networks (TIPHON) Release 3;
Technology compliance specifications;
Part 3: H.225.0 conformance test specifications;
Abstract Test Suite (ATS) and PIXIT proforma specification
for Terminal, Gatekeeper and Gateway**

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Foreword

This Technical Specification (TS) has been produced by ETSI Project Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON).

The present document is part 3 of a multi-part deliverable covering the H225.0 protocol for Terminal, Gatekeeper and Gateway as identified below:

- Part 1: "Revision/update of H.225.0 Protocol Implementation Conformance Statement (PICS) proforma specification for Terminal, Gatekeeper and Gateway";
- Part 2: "H.225.0 conformance test specifications; Test Suite Structure and Test Purposes (TSS&TP) specification for Terminal, Gatekeeper and Gateway";
- Part 3: "**H.225.0 conformance test specifications; Abstract Test Suite (ATS) and PIXIT proforma specification for Terminal, Gatekeeper and Gateway**".

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1 Scope

The present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the H225.0 protocol for Terminal, Gatekeeper and Gateway.

The objective of the present document is to provide conformance tests that give a greater probability of inter-operability. The ATS & PIXIT specification covers the procedures described in ITU-T Recommendation H.323 [3] and ITU-T Recommendation H.225.0 [4].

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [6], ISO/IEC 9646-2 [7] and ISO/IEC 9646-3 [8]) is used as basis for the test methodology.

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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] ETSI TS 101 804-1: "Telecommunications and Internet protocol Harmonization Over Networks (TIPHON) Release 3; Release PICS; Revision/Update of H.225.0 PICS for Terminal, Gatekeeper and Gateway".
- [2] ETSI TS 101 804-2: "Telecommunications and Internet protocol Harmonization Over Networks (TIPHON) Release 3; Technology Compliance Specifications; H.225.0 Conformance Test Specifications; Test Suite Structure and Test Purposes (TSS&TP) for Terminal, Gatekeeper and Gateway".
- [3] ITU-T Recommendation H.323 (2000): "Framework and wire-protocol for multiplexed call signalling transport".
- [4] ITU-T Recommendation H.225.0 (2000): "Call signalling protocols and media stream packetization for packet-based multimedia communication systems".
- [5] ITU-T Recommendation Q.931: "ISDN user-network interface layer 3 specification for basic call control".
- [6] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [7] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [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 9646-4: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 4: Test realization".
- [10] 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".
- [11] ETSI TR 101 666: "Information technology; Open Systems Interconnection Conformance testing methodology and framework; The Tree and Tabular Combined Notation (TTCN) (Ed. 2++)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions defined in ITU-T Recommendation H.323 [3], in ITU-T Recommendation H.225.0 [4], ISO/IEC 9646-1 [6], ISO/IEC 9646-2 [7] and ISO/IEC 9646-3 [8], and the following apply:

Basic Call Control (BCC): signalling protocol associated with the DSS1 - ISDN Basic Call control procedures of ITU-T Recommendation Q.931

inopportune: test purpose covering a signalling procedure where an inopportune message (type of message not expected in the IUT current state) is sent to the IUT

syntactically invalid: test purpose covering a signalling procedure where a valid (expected in the current status of the IUT) but not correctly encoded (unknown or incorrect parameter values) message is sent to the IUT, which shall react correctly and eventually reject the message

valid: test purpose covering a signalling procedure where all the messages sent to or received from the IUT are valid (expected in the current status of the IUT) and correctly encoded

3.2 Abbreviations

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

ATS	Abstract Test Suite
BCC	Basic Call Control
DGK	Destination GateKeeper
DSS1	Digital Signalling System 1
GDR	Gatekeeper Discovery Request
GK	GateKeeper
GRQ	Gatekeeper ReQuest
I	Inopportune
IP	Internet Protocol
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
MOT	Mean Of Testing
MTC	Main Test Component
PCTR	Protocol Conformance Testing Report
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PTC	Parallel Test Component
RAS	Registration, Admission and Status
REG	REGistration
RRQ	Register ReQuest
S	Syntactically invalid
STA	STatus
SUT	System Under Test
TCP	Transmission Control Protocol
TE	TErминаl
TP	Test Purpose
TSS	Test Suite Structure
TTCN	Testing and Test Control Notation
UDP	User Datagram Protocol
URQ	Unregistration ReQuest
UUIE	User-User Information Element
V	Valid

4 Abstract Test Method

The remote test method is applied for this ATS.

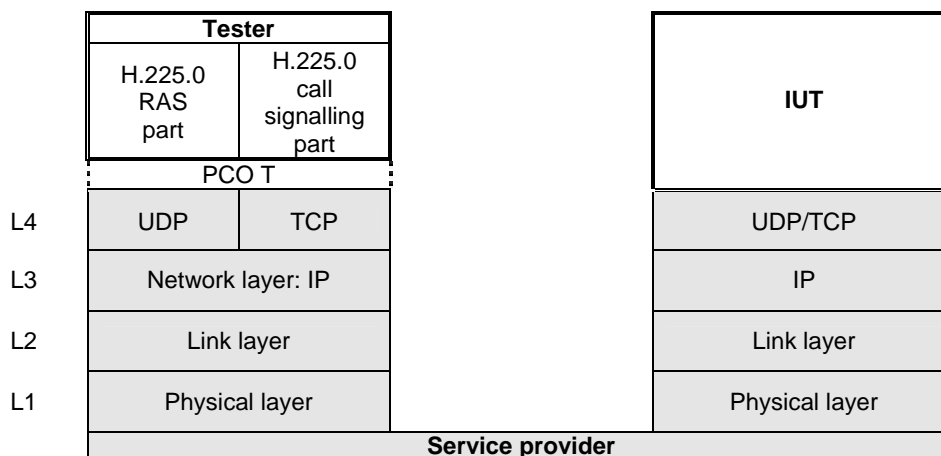


Figure 1: Remote test method with PCO T

A Point of Control and Observation (PCO) resides between the layer 4 and the tester, which executes the signalling procedures corresponding to the test case dynamic behaviour. This PCO is named "T" because it is located above the transport layer. The L PCO is used to control and observe the behaviour of the Implementation Under Test (IUT) using the layers of the Service provider.

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5 ATS conventions

5.1 Version of TTCN used

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The version of TTCN used is that defined in TR 101 666 [11].

6 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.

7 PCTR conformance

A test laboratory, when requested by a client to produce a PCTR, is required, as specified in ISO/IEC 9646-5 [10], to produce a PCTR conformant with the PCTR template given in annex B of ISO/IEC 9646-5 [10].

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.

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.

8 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 [9], 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 [10], 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.

9 ATS conformance

The test realizer, producing MOT and ETS for this ATS specification, shall comply with the requirements of ISO/IEC 9646-4 [9]. In particular, these concern the realization of an ETS based on each ATS. The test realizer shall provide a statement of conformance of the MOT to this ATS specification.

An ETS 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.

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Test laboratories running conformance test services using this ATS shall comply with ISO/IEC 9646-5 [10].

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

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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:	

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A.1.2 IUT identification

Name:	
Version:	
Protocol specification:	ITU-T Recommendation H.225
PICS:	
Previous PCTRs (if any):	