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Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 3: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification

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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 3 of a multi-part standard covering the Signalling System No.7 Transaction Capabilities (TC) version 2 as described below:

Part 1: "Protocol specification [ITU-T Recommendations Q.771 to Q.775 (1993), modified]";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

Transposition dates	
Date of adoption	6 December 1996
Date of latest announcement of this ETS (doa):	31 March 1997
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1 Scope

This third part of ETS 300 287 specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the transaction sublayer, component sublayer and dialogue portion of the Transaction Capabilities (TC) for implementations conforming to ITU-T Recommendations Q.771 to Q.775 as modified by ETS 300 287-1 [1].

ISO/IEC 9646, parts 1 to 5 [5 to 9] are used as the basis for the test methodology.

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 300 287-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 1: Protocol specification [ITU-T Recommendations Q.771 to Q.775 (1993), modified]".

[2]   ETS 300 287-2: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[3]   ETS 300 344: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities Application Part (TCAP); Test specification".

[4]   ETS 300 658: "Integrated Services Digital Network (ISDN); Signalling System No.7; Transaction Capabilities (TC) version 2; Test responder specification".

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

[6]   ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite Specification".

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

[8]   ISO/IEC 9646-4: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 4: Test realization".

[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".

3 Definitions and abbreviations

3.1 Definitions

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

Abstract Service Primitive (ASP): See ISO/IEC 9646-1 [5].

Abstract Test Suite (ATS): See ISO/IEC 9646-1 [5].

Implementation Under Test (IUT): See ISO/IEC 9646-1 [5].

Means Of Testing (MOT): See ISO/IEC 9646-1 [5].

Protocol Conformance Test Report (PCTR): See ISO/IEC 9646-1 [5].

Protocol Implementation Conformance Statement (PICS): See ISO/IEC 9646-1 [5].

PICS proforma: See ISO/IEC 9646-1 [5].

Protocol Implementation eXtra Information for Testing (PIXIT): See ISO/IEC 9646-1 [5].

PIXIT proforma: See ISO/IEC 9646-1 [5].

System Under Test (SUT): See ISO/IEC 9646-1 [5].

3.2 Abbreviations

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

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ASP	Abstract Service Primitive
ATC	Abstract Test Case
ATS	Abstract Test Suite
IUT	Implementation Under Test
MOT	Means Of Testing
MTP	Message Transfer Part
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SCCP	Signalling Connection Control Part
SUT	System Under Test
TC	Transaction Capabilities
TTCN	Tree and Tabular Combined Notation

4 General aspects

The co-ordinated test method as described in ISO/IEC 9646-2 [6] is used. It is possible that the entire test suite is not applicable for all Implementations Under Test (IUTs). A test selection procedure needs to be performed to determine the applicability of a test to a particular IUT. Such selection shall be based on the Protocol Implementation Conformance Statement (PICS) and the Protocol Implementation eXtra Information for Testing (PIXIT). The Abstract Test Cases (ATCs) contained in this ETS are a comprehensive reflection of the base standards.

4.1 Test groups and subgroups

The test suite is structured following the rules defined in ISO/IEC 9646-2 [6].

4.2 Preamble

The preamble of each test case consists of the events required to bring the IUT to the appropriate initial state. There may be alternate sequences of test steps which can be performed to initialize the IUT. These test steps in the preamble for TC have been chosen carefully, considering the test methodology and the other test co-ordination procedures that are available.

4.3 Test body

The test body is the sequence of steps within a test case that is essential to achieve the test purpose, followed by the verification of the IUTs ending state. Verdicts are assigned to the possible outcomes of the test cases.

It is important to test the observable behaviour of the IUT, which includes state transitions and Protocol Data Unit (PDU) responses.

4.4 Postamble

At the END_MSG of the execution of a test body, the IUT may not be in an "idle state". A postamble is then required to bring the IUT from the ending state to an "idle state".

4.5 PICS/PIXIT relationship to the ATS

There are instances when the test case flow depends on the answer to a PICS or PIXIT question. In such instances, a Boolean expression is added to the beginning of the test body. However, it should be noted that such conditional execution has no bearing on static conformance.