



**SLOVENSKI STANDARD**  
**SIST ETS 300 012-6 E2:2003**  
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**Digitalno omrežje z integriranimi storitvami (ISDN) – Osnovni vmesnik uporabnik-omrežje (UNI) – 6. del: Specifikacija za abstraktni preskušalni niz (ATS) za vmesnik IA**

Integrated Services Digital Network (ISDN); Basic User-Network Interface (UNI); Part 6: Abstract Test Suite (ATS) specification for interface IA

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## Foreword

This second edition European Telecommunication Standard (ETS) has been produced by the ETSI Technical Committee Transmission and Multiplexing (TM).

This ETS concerns the basic User Network Interface (UNI) for the Integrated Services Digital Network (ISDN) and consists of 7 parts as follows:

- Part 1: "Layer 1 specification";
- Part 2: "Implementation Conformance Statement (ICS) and Implementation eXtra Information for Testing (IXIT) specification for interface I<sub>A</sub>";
- Part 3: "Implementation Conformance Statement (ICS) and Implementation eXtra Information for Testing (IXIT) specification for interface I<sub>B</sub>";
- Part 4: "Conformance test specification for interface I<sub>A</sub>";
- Part 5: "Conformance test specification for interface I<sub>B</sub>";
- Part 6: "Abstract Test Suite (ATS) specification for interface I<sub>A</sub>";**
- Part 7: "Abstract Test Suite (ATS) specification for interface I<sub>B</sub>";

and is based on ITU-T Recommendation I.430 [12].

Transposition dates	
Date of adoption of this ETS:	18 September 1998
Date of latest announcement of this ETS (doa):	31 January 1999
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 July 1999
Date of withdrawal of any conflicting National Standard (dow):	31 July 1999

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## 1 Scope

This part 6 of ETS 300 012 specifies the Abstract Test Suite (ATS) for the user side of the T reference point or coincident S and T reference point (as defined in CCITT Recommendation I.411 [9]) of implementations conforming to ETS 300 012-1 [1] for the pan-European Integrated Services Digital Network (ISDN).

A further part of this ETS specifies the Test Suite Structure and Test Purposes (TSS&TP) related to this ATS.

## 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 300 012-1 (1998): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 1: Layer 1 specification".
- [2] ETS 300 012-2 (1998): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 2: Implementation Conformance Statement (ICS) and Implementation eXtra Information for Testing (IXIT) specification for interface I<sub>A</sub>".
- [3] ETS 300 012-3 (1998): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 3: Implementation Conformance Statement (ICS) and Implementation eXtra Information for Testing (IXIT) specification for interface I<sub>B</sub>".
- [4] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".  
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- [5] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 2: Abstract test suite specification".
- [6] ISO/IEC 9646-3 (1992): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [7] ISO/IEC 9646-4 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 4: Test realization".
- [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] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces; references configurations".
- [10] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [11] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".
- [12] ITU-T Recommendation I.430 (1995): "Basic user-network interface; Layer 1 specification".

### 3 Definitions and abbreviations

#### 3.1 Definitions

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

**Implementation Under Test (IUT):** See ISO/IEC 9646-1 [4].

**System Under Test (SUT):** See ISO/IEC 9646-1 [4].

**Abstract Test Suite (ATS):** See ISO/IEC 9646-1 [4].

**Protocol Implementation Conformance Statement (PICS):** See ISO/IEC 9646-1 [4].

**PICS proforma:** See ISO/IEC 9646-1 [4].

**Lower Tester (LT):** See ISO/IEC 9646-1 [4].

**Upper Tester (UT):** See ISO/IEC 9646-1 [4].

**Point of Control and Observation (PCO):** See ISO/IEC 9646-1 [4].

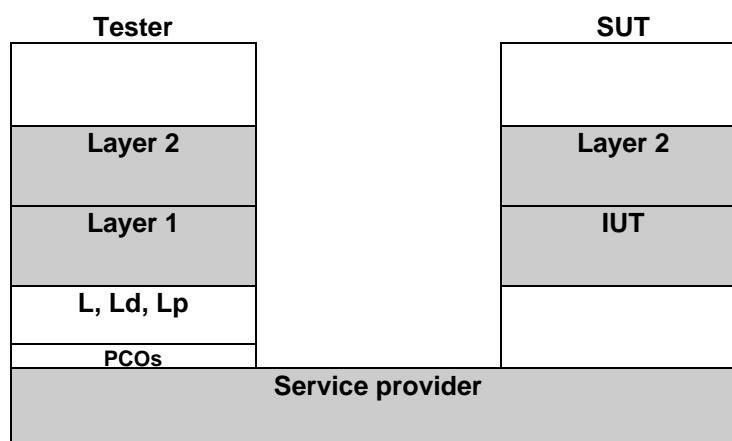
#### 3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply, in addition to those given in ETS 300 012-1 [1]:

ASN.1	Abstract Syntax Notation one
ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
ExTS	Executable Test Suite
ISO	International Organization for Standardization
IUT	Implementation Under Test
LT	Lower Tester
MOT	Means Of Testing
PCO	Point of Control and Observation
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
SCTR	System Conformance Test Report
SUT	System Under Test
TCP	Test Co-ordination Procedures
TP	Test Purpose
TSS&TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation

### 4 Abstract Test Method (ATM)

The remote test method is applied for this ATS. The boundary between layer 1 and layer 2 is supposed to be inaccessible. This means that the correct interaction between the Implementation Under Test (IUT) and its upper layer on the one hand, and the management entity on the other hand, is not directly testable. The Points of Control and Observation (PCOs) reside at the service access point between the physical connection and "layer1". These PCOs are named "L" (for Lower), Ld for D-channel, Lp for power status. The L PCOs are used to control and observe the behaviour of the IUT and test case verdicts are assigned depending on the behaviour observed at these PCOs.



**Figure 1: Remote test method**

Actions by the IUT are caused by either of the following events:

- with layer 1 Protocol Data Units (PDUs) delivered to the IUT via the physical connection;
- with external actions on the IUT. These events are described with Tree and Tabular Combined Notation (TTCN) "implicit send events" whose practical execution is strictly related to the IUT features.

Only PDUs received from the IUT via the physical connection are directly accessible to the tester. By means of the PDUs received the following is tested for conformance:

- correct response of the IUT to a stimulus from the tester;
- correct timer duration of the implement timers;
- state transition.

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Both "normal" and provocative testing are considered according to the tester behaviour.

#### 4.1 Particularities of the physical layer

In upper layers, the tester and the IUT do not always send something, but in physical layer to send nothing means to send Info 0. Then we shall consider in the dynamic part that when the tester action is not specified, that means that it is still sending the last specified Info.

It is quite long to specify every Info 4 emitted by the tester to try to establish data link layer. Then an operation is used to continuously fill in D-Bit positions inside Info 4.

## 5 Untestable test purposes

There are no untestable test purposes associated with this ATS.

## 6 ATS conventions

### 6.1 General design issues

Clause 6 is structured similarly to the structure of a TTCN ATS. However, the names of the subclauses are arranged in a way more suitable to this ETS.