SLOVENSKI STANDARD
SIST ETS 300 417-1-2 E1:2003

01-december-2003

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Transmission and Multiplexing (TM); Generic functional requirements for Synchronous Digital Hierarchy (SDH) equipment;Part 1-2: General information about Implementation Conformance Statement (ICS) proforma

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Ta slovenski standard je istoveten z: ETS 300 417-1-2 Edition 1
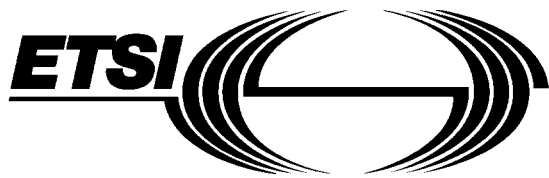
ICS:

33.040.20	Prenosni sistem	Transmission systems

SIST ETS 300 417-1-2 E1:2003 en

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ETSI

EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 417-1-2

October 1996

Source: ETSI TC-TM

Reference: DE/TM-01015-1-2

ICS: 33.040.20

Key words: SDH, ICS, testing, transmission

Transmission and Multiplexing (TM);
Generic functional requirements for Synchronous Digital
Hierarchy (SDH) equipment;
Part 1-2: General information about
Implementation Conformance Statement (ICS) proforma

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Contents

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Transmission and Multiplexing (TM) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is one of a family of ETSs covering various aspects of Synchronous Digital Hierarchy (SDH) equipment standards and has been produced in order to provide the Implementation Conformance Statement (ICS) proforma to be used in connection with conformance/approval testing of SDH equipment.

The structure of this ETS

The ICS proforma will ultimately consist of 8 sub-parts of ETS 300 417, numbered 1-2 to 8-2, each of which will correspond to sub-parts 1-1 to 8-1 of ETS 300 417, respectively. The ICS sub-parts are:

Part 1-2: **ETS 300 417-1-2: "General information about Implementation Conformance Statement (ICS) proforma";**

Part 2-2: ETS 300 417-2-2: "Physical section layer functions Implementation Conformance Statement (ICS) proforma";

Part 3-2: ETS 300 417-3-2: "STM-N regenerator and multiplex section layer functions Implementation Conformance Statement (ICS) proforma";

Part 4-2: ETS 300 417-4-2: "SDH path layer functions Implementation Conformance Statement (ICS) proforma";

Part 5-2: ETS 300 417-5-2: "PDH path layer functions Implementation Conformance Statement (ICS) proforma"; iTeh STANDARD PREVIEW

Part 6-2: ETS 300 417-6-2: "Synchronization distribution layer functions Implementation Conformance Statement (ICS) proforma";

Part 7-2: ETS 300 417-7-2: "Auxiliary layer functions Implementation Conformance Statement (ICS) proforma";

Part 8-2: ETS 300 417-8-2: "Major compound functions, Implementation Conformance Statement (ICS) proforma".

Transposition dates	
Date of adoption of this ETS:	4 October 1996
Date of latest announcement of this ETS (doa):	31 January 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 July 1997
Date of withdrawal of any conflicting National Standard (dow):	31 July 1997

Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given profile. Such a statement is called an Implementation Conformance Statement (ICS).

A client of a test laboratory who requests a conformance/approval test should provide the test laboratory with a completed ICS proforma for each layer to be tested and a detailed system description of the implementation.

Page 6
ETS 300 417-1-2: October 1996

The ICS proforma is not another complete description of the related specification, but rather a compact form of its static conformance requirements, to be used by the test laboratory to identify which test should be performed on a given implementation. Not every feature of a profile specification is contained in the related ICS proforma. For particular cases requiring specific information, the ICS can refer to the appropriate clause of the related specification by means of references, notes and or comments.

The ICS proforma captures the implementation flexibility allowed by the related specification and details which options are left to the implementor, and which are conditionally dependent on other options taken by the implementor.

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1 Scope

This European Telecommunication Standard (ETS) provides general information about the Implementation Conformance Statement (ICS) proforma structure and contents, as well as guidance for filling-in the document. The ICS proforma for a Synchronous Digital Hierarchy (SDH) Network Element (NE) are defined in compliance with the relevant requirements, and in accordance with the relevant guidance, given in ISO/IEC 9646-7 [4], in ETS 300 406 [5] and in ETR 212 (see annex C).

The ICS proforma is a normative part of the reference specification.

The supplier of an implementation which is claimed to conform to ETS 300 417-1-1 [6] is required to complete a copy of these ICS proforma, namely this ETS, and is further required to provide all information necessary to identify both the implementation (e.g. specify it by means of a detailed system description) and the supplier.

The client of the test laboratory might be identified by means of the System Conformance Statement (SCS) and a client checklist. Those proforma are included in annex B of this ETS. The use of SCS proforma and client checklist is not mandatory, any suitable means of providing such information is acceptable.

According to ETS 300 406 [5] the ICS proforma has two main objectives:

- within the context of conformance testing, to be the reference document for the conformance assessment process related to the Implementation Under Test (IUT);

- outside the context of conformance testing, to provide an overview of the implementation.

Concerning the conformance assessment process, the ICS proforma is used:

- as the description of the IUT for the static conformance review;

- as an element of description of the IUT capabilities for the test case deselection;

- as an element of description of the IUT for the test suite parameterization;

- as a reference document for the analysis of the results;

- for inclusion with the final test report.

Outside the conformance testing context, the ICS proforma is or may be used:

- to provide an overview of the capability supported by the implementation (see note);

- to statically check the interworking capacities of two implementations;

- as a standard checklist of the base specification conformance requirements.

When requesting conformance/approval testing of an SDH layer implementation, the supplier should always fill all the ICS proforma relevant for that layer. In the case where more than one instance of the same layer appears in the detailed system description, the client of a test laboratory should clearly identify any differences existing between these instances (if any).

    NOTE: Each capability of the ICS associated implementation is described as a conformance
             statement which is the result of the answer, by the supplier, to the dedicated ICS item.

2 Normative references

This ETS incorporates by dated or 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 amendments or revisions. For undated references the latest edition of the publication referred to applies.

[1]   ISO/IEC 9646-1 (1991): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[2]   ISO/IEC 9646-2 (1991): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".

[3]   ISO/IEC 9646-5 (1991): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process".

[4]   ISO/IEC 9646-7 (1995): "Information Technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[5]   ETS 300 406 (1994): "Method for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[6]   ETS 300 417-1-1 (1996): "Transmission and Multiplexing (TM); Generic functional requirements for Synchronous Digital Hierarchy (SDH) equipment; Part 1-1: Generic processes and performance".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS the following definitions apply:

homogeneous layer instances: (refer also to the definition of a layer instance given below) Homogeneous layer instances are a set of layer instances supporting the same features; hence, under the point of view of a conformance verdict they can be considered as one single Implementation Under Test (IUT).

ICS: An Implementation Conformance Statement (ICS) is necessary to evaluate the performance of a particular system. It is a statement of the capabilities and options which have been implemented, for each specification which is supported in order that the system can be tested against relevant requirements and those requirements only.

layer instance: A layer instance is the real (hardware, software and firmware) implementation of a layer into a transmission equipment.

profile: A profile identifies a consistent set of chosen options from a base specification or from a set of base specifications, in order to provide a given function in a given environment.

By restricting choices among the options available in the base specifications, a profile increases the probability that systems will inter-operate, i.e. perform together the given function to which the profile is aimed at.

The base specifications upon which a profile is based are called components of this profile. In other words, a profile specifies a superset of subsets of base specifications. Further details on the definition of a profile may be found in ETS 300 406 [5].

profile specific ICS proforma: A profile requirements list plus the set of ICS proformas which when completed for a system and taken together with the profile requirements list become a profile ICS.

profile specific ICS: An ICS for a system claimed to conform to a given profile, answering questions which are profile-specific and which are additional to the base specification ICS proforma items listed in the profile requirements list.

Reference Specification(S): It is a standard which specifies a base specification, or a set of base specifications, or a profile, or a set of profiles, and for conformance against which test specifications are written.

Reference Standard(S): Synonymous to reference specification.

3.2   Abbreviations

For the purposes of this ETS the following abbreviations apply:

CTR   Conformance Test Report
DSD   Detailed System Description
ICS   Implementation Conformance Statement
IXIT   Implementation eXtra Information for Testing
IUT   Implementation Under Test
RSE   Remote Single layer Embedded
SCS   System Conformance Statement
SCTR   System Conformance Test Report
SUT   System Under Test

4   ICS proforma structure and contents

The ICS proforma is a set of tables containing pre-printed text and structured according to ISO/IEC 9646-7 [4]. They describe any layer implementation which is specified in ETS 300 417-1-1 [6].

The structure of these ICS proforma is in accordance with what is specified in clause 5 of ISO/IEC 9646-7 [4] and satisfies the requirements specified in subclauses 8.1 to 8.4, 9.1 to 9.5 and clause 10 of that document. These tables have to be written and filled in according to ETR 212 (see annex C).

Each of the ICS proforma is composed of:

-        main part;

-        annex A, which contains guidelines for filling in the ICS tables and gives details about the content of the pre-printed tables and about the status of ICS items;

-        subsequent annexes, which contain the identification of the IUT the ICS tables for one layer.