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Transmission and Multiplexing (TM); Generic requirements of transport functionality of equipment; Part 1-2: General information about Implementation Conformance Statement (ICS) proforma

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

The present document is one of a family of documents that has been produced in order to provide inter-vendor and inter-operator compatibility of Synchronous Digital Hierarchy (SDH) equipment.

The present document is part 1-2 of a multi-part EN covering the generic requirements of transport functionality of equipment, as identified below:

Part 1-1:   "Generic processes and performance".

Part 1-2: "General information about Implementation Conformance Statement (ICS) proforma".

Part 2-1:   "Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH) physical section layer functions".

Part 2-2:   "Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH) physical section layer functions; Implementation Conformance Statement (ICS) proforma specification".

Part 3-1:   "Synchronous Transport Module-N (STM-N) regenerator and multiplex section layer functions".

Part 3-2:   "Synchronous Transport Module-N (STM-N) regenerator and multiplex section layer functions; Implementaion Conformance Statement (ICS) proforma specification".

Part 4-1:   "Synchronous Digital Hierarchy (SDH) path layer functions".

Part 4-2:   "Synchronous Digital Hierarchy (SDH) path layer functions; Implementation Conformance Statement (ICS) proforma specification".

Part 5-1:   "Plesiochronous Digital Hierarchy (PDH) path layer functions".

Part 5-2:   "Plesiochronous Digital Hierarchy (PDH) path layer functions; Implementation Conformance Statement (ICS) proforma specification".

Part 6-1:   "Synchronization layer functions".

Part 6-2:   "Synchronization layer functions; Implementation Conformance Statement (ICS) proforma specification".

Part 7-1:   "Auxiliary layer functions".

Part 7-2:   "Auxiliary layer functions; Implementation Conformance Statement (ICS) proforma specification".

Parts 2 to 7 specify the layers and their atomic functions.

NOTE 1: The present document does not currently address configuration management.

NOTE 2: The SDH radio equipment functional blocks are addressed by ETSI WG TM4.

Various of the above parts have previously been published as parts of ETS 300 417.

They have been converted into parts of EN 300 417 without technical changes, but some editorial changes have been necessary (e.g. references). In particular:

- Parts 2-1, 2-2 and 3-2 have been modified to take account of editorial errors present in edition 1.

- Part 1-1 has had its title change of to align with other parts published at a later date.

Also note that in the meantime parts 8-1 and 8-2 together will all parts x-3 (Abstract Test Suites) have been stopped.

This version of the present document has been published because the previous version had incorrect dates in the transposition table.

National transposition dates	
Date of latest announcement of this EN (doa):	31 August 1999
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	29 February 2000
Date of withdrawal of any conflicting National Standard (dow):	29 February 2000

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.

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.

1 Scope

The present document 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 [1] and in EG 201 058 (see bibliography).

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

The supplier of an implementation which is claimed to conform to EN 300 417-1-1 [2] is required to complete a copy of these ICS proforma, namely the present document, 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 the present document. 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 [1] 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   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, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1]   ETS 300 406 (1995): "Method for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[2]   EN 300 417-1-1: "Transmission and Multiplexing (TM); Generic requirements of transport functionality of equipment; Part 1-1: Generic processes and performance".

[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".

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3   Definitions and abbreviations

3.1   Definitions

For the purposes of the present document 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 [1].

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.