INTERNATIONAL STANDARD

ISO/IEC 9646-4

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Information technology — Open Systems Interconnection — Conformance testing methodology and framework —

Part 4:
Test realization

Technologies de l'information — Interconnexion de systèmes ouverts — Cadre général et méthodologie des tests de conformité OSI —

Partie 4: Réalisation des tests

Reference number
ISO/IEC 9646-4:1994(E)

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Annex

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 9646-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee 21, *Open Systems Interconnection, data management and open distributed processing*.

This second edition cancels and replaces tje first edition (ISO/IEC 9646-4:1991) which has been technically revised.

ISO/IEC 9646 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — Conformance testing methodology and framework*:

- *Part 1: General concepts*
- *Part 2: Abstract Test Suite specification*
- *Part 3: The Tree and Tabular Combined Notation*
- *Part 4: Test realization*
- *Part 5: Requirements on test laboratories and clients for the conformance assessment process*
- *Part 6: Protocol profile test specification*
- *Part 7: Implementation conformance statements*

Annex A of this part of ISO/IEC 9646 is for information only.

Introduction

ISO/IEC 9646-1 and ISO/IEC 9646-2 define a general methodology for testing the conformance of implementations to OSI protocol specifications and/or transfer syntaxes issued as International Standards or ITU-T Recommendations; these parts also put requirements on the production of OSI conformance testing specifications and Abstract Test Suites (ATS) specifications.

ISO/IEC 9646-3 defines a standardized test notation, the Tree and Tabular Combined Notation (TTCN), for the specification of an ATS.

Once OSI conformance testing specifications and ATSs in compliance with ISO/IEC 9646-2 are available, the test results obtained by different test laboratories should be comparable, if they base their test operations on the same reference ATS specification.

ISO/IEC 9646-5 puts requirements on the conformance assessment process, so that test results can be compared with those of other test laboratories, and can have a wide acceptance.

This part of ISO/IEC 9646 concentrates on the intermediate stage, namely, test realization. Before the test preparation can begin, a Means of Testing (MOT) the Implementation Under Test (IUT) has to be made available.

Test realizers are those organizations which take responsibility for providing such an MOT.

ISO/IEC 9646-6 defines a general methodology for specifying the requirements for the production of Profile Test Specification (PTS) for conformance testing against profiles.

ISO/IEC 9646-7 defines how to express and document the conformance of systems to base specifications and profiles, using Implementation Conformance Statements (ICS) based on standardized ICS proformas and profile Requirements Lists (RLs).

This part of ISO/IEC 9646 places requirements on test realization, to ensure that the execution of test cases reflects the behaviour specified in the reference ATS specification. In this way, the purpose of the ATS is achieved.

This part of ISO/IEC 9646 is also to be published by ITU as ITU-T Recommendation X.293.

Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 4: Test realisation

1 Scope

This part of ISO/IEC 9646 specifies requirements and gives guidance concerning the realization of a Means of Testing (MOT), in conformance with a reference Abstract Test Suite (ATS) specification, specified in compliance with ISO/IEC 9646-2. This part of ISO/IEC 9646 is applicable to producing MOTs for testing a single protocol, multiple protocols or a profile.

NOTE - This implies the use of ATSs as defined in ISO/IEC 9646-1. However, within this part, the term ATS also applies to the additional Abstract Test Cases designed for testing a specific profile, and included in the Profile Specific Test Specification (PSTS).

These requirements are limited to those aspects of an MOT which can be mapped on to the abstract testing functions defined in ISO/IEC 9646-1, or which are essential to a proper use of the ATS. Such aspects might include a facility to produce conformance log, or the progression of the Implementation Extra Information for Testing (IXIT) proformas. Further implementation details of test systems and Upper Testers are outside the scope of this part of ISO/IEC 9646.

Acceptance, validation and installation of MOT are outside the scope of this part of ISO/IEC 9646.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 9646. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 9646 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7498: 1984, *Information technology - Open Systems Interconnection - Basic reference model.*
(See also ITU-T Recommendation X.200).

ISO/IEC 9646-1: 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework -Part 1: General concepts.*

(See also ITU-T Recommendation X.290 -[1]*).*

ISO/IEC 9646-2: 1994, *Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification.*
(See also ITU-T Recommendation X.291 - [1]).

ISO/IEC 9646-3: 1992, *Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN).*
(See also ITU-T Recommendation X.292 (1993).

ISO/IEC 9646-3 Amd: - [1] *Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation - Amendment 1: TTCN extensions.*

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*
(See also ITU-T Recommendation X.294 -[1]).

ISO/IEC 9646-6: 1994, *Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 6: Protocol profile testing specification.*
(See also ITU-T Recommendation X.295 -[1]).

1. To be published

ISO/IEC 9646-7: - [1], *Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements*.3Definitions
(See also ITU-T Recommendation X.296 -[1]).