INTERNATIONAL STANDARD

ISO/IEC 10514-2

First edition
1998-12-01

Information technology — Programming languages —

Part 2:
Generics in Modula-2

Technologies de l'information — Langages de programmation —

Partie 2: Éléments génériques en modula 2

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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 10514-2 was prepared by Joint Technical Committee ISO/IEC JTC 1 *Information technology*, Subcommittee SC 22, *Programming languages, their environments and system software interfaces.*

ISO/IEC 10514 consists of the following parts, under the general title *Information technology — Programming languages*:

— *Part 1: Modula-2, Base Language*

— *Part 2: Generics in Modula-2*

— *Part 3: Object Oriented Modula-2*

Annexes A and B form an integral part of this part of ISO/IEC 10514. Annexes C, D, E, and F are for information only.

Introduction

This part of ISO/IEC 10514 specifies the form and meaning of programs written in ISO Standard Modula-2 with Generic extensions and by reference to that specification lays down requirements for implementations of ISO Standard Modula-2 with Generic extensions.

The reader is referred to International Standard ISO/IEC 10514-1 (herein referred to as "the Base Language") for introductory remarks on the programming language Modula-2.

This part of ISO/IEC 10514 defines ISO Standard Modula-2 with Generic extensions by additions to the Base Language without changing the meaning of any parts of the Base Language.

This part of ISO/IEC 10514 does not provide a formal specification of ISO Standard Modula-2 with Generic extensions, although it is the intention of WG13 to construct the appropriate VDM-SL descriptions for the syntax and semantics described herein when committee resources permit.

Information technology — Programming languages —

Part 2:
Generics in Modula-2

1   Scope

1.1   General

This part of ISO/IEC 10514 specifies extensions to allow generic programming facilities to be added to the base Modula-2 language defined in International Standard ISO/IEC 10514-1 without altering the meaning of valid programs allowed by the Base Language (except for the use of the new keyword introduced by this standard—see clause 5).

1.2   Specifications included in this part of ISO/IEC 10514

In addition to the specifications included in the Base Language this part of ISO/IEC 10514 provides specifications for:

— required symbols for programs written in ISO Standard Modula-2 with Generic extensions;
— the lexical structure and semantics of programs written in ISO Standard Modula-2 with Generic extensions;
— the syntax of programs written in ISO Standard Modula-2 with Generic extensions;
— violations of the rules for the use of the Generic extensions that a conforming implementation is required to detect;
— further compliance requirements for implementations, including documentation requirements.

1.3   Relationship to ISO/IEC 10514-1

This part of ISO/IEC 10514 is part two of the multi-part Standard ISO/IEC 10514. This part of ISO/IEC 10514 extends and modifies the Base Language ISO/IEC 10514-1, but the adoption of this part of ISO/IEC 10514 is optional with respect to the Base Language. This part of ISO/IEC 10514 is also independent of any other parts of ISO/IEC 10514, except for part 1, and can be adopted either together with or independently of such other parts.

1.4   Specifications not within the scope of this part of ISO/IEC 10514

In addition to the categories of specifications excluded by the Base Language this part of ISO/IEC 10514 provides no specifications for:

— the method by which specific refinements are constructed from generic library modules;
— the method by which generic library modules, their associated refining modules, and the refinements produced by these are stored (including any correspondence between the module names and system file names where files are used).

2   Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 10514. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/IEC 10514 are encouraged to investigate the possibility of applying

the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC 10514-1:1996, *Information technology — Programming languages — Part 1: Modula-2, Base Language.*