INTERNATIONAL STANDARD

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Information technology — DXL: Diagram eXchange Language for tree-structured charts

Technologies de l'information — DXL: Langage pour échange de diagramme pour cartes avec arborescence

Reference number
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Contents

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 organizations 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 14568 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software engineering*.

Annexes A to C of this International Standard are for information only.

Introduction

This International Standard defines DXL (Diagram eXchange Language for tree-structured charts). The purpose of DXL is to facilitate the interchange of different tree-structured charts among CASE tools.

Tree-structured charts and their supporting CASE tools are widely used in algorithm design of software, but their notation is not standardized yet, although Program Constructs were standardized in ISO/IEC 8631. Having different kinds of notation for tree-structured charts causes trouble in large-scale software development: developers are forced to understand unfamiliar notation and sometimes make mistakes in reviewing a design document if the notation is not uniform.

However, it would take a long time to establish and popularize the standard notation, because it would be time consuming and expensive to re-educate designers and modify existing CASE tools to be conformed to the standard. Therefore, it is better to standardize a data exchange language among CASE tools, because:

1. developers can easily read charts in a familiar notation if unfamiliar notation can be converted through the data exchange language; and

2. existing CASE data can also be reused if it can be converted through the data exchange language.

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1 Scope

This International Standard specifies the semantics and syntax of DXL. DXL is a language for exchanging tree-structured charts among CASE tools.

DXL is applicable to:

1. exchanging ISO/IEC 8631 compliant tree-structured charts (examples of which are shown in annex A (informative) of ISO/IEC 8631);
2. exchanging program flowcharts defined in ISO/IEC 5807 if they are well-structured and don't have data defined in ISO/IEC 5807; and
3. describing procedure oriented algorithms.

This International Standard does not specify:

1. graphical information about a chart, such as the shape, size, and location of symbols;
2. configuration information of a chart, such as its version, author, and file name; or
3. information about the data used in the algorithm described by DXL, such as its structure, reading and writing, and declaration.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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/IEC 646:1991, *Information technology — ISO 7-bit coded character set for information interchange.*

ISO/IEC 2022:1994, *Information technology — Character code structure and extension techniques.*

ISO/IEC 4873:1991, *Information technology — ISO 8-bit code for information interchange — Structure and rules for implementation.*

ISO 5807:1985, *Information processing — Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts.*

ISO/IEC 8631:1989, *Information technology — Program constructs and conventions for their representation.*

ISO 8859-1:1987[1], *Information processing — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1.*

ISO/IEC 10646-1:1993, *Information technology — Universal Multiple-Octet Coded Character Set (UCS) — Part 1: Architecture and Basic Multilingual Plane.*

[1] Currently under revision.