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Information technology — CDIF framework —

Part 1: **Overview**

Technologies de l'information — Cadre de référence CDIF —

Partie 1: Vue d'ensemble

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of the joint technical committee is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 15474 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 15474-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and system engineering*.

ISO/IEC 15474 consists of the following parts, under the general title *Information technology — CDIF framework*:

— *Part 1: Overview*

— *Part 2: Modelling and extensibility*

Introduction

This standard will assist the vendors and users of modelling tools and meta-data repositories in developing mechanisms for interchanging information. This standard specifies an element of a family of related standards. When used together, these standards specify a mechanism for transferring information between tools.

This document, ISO/IEC 15474-1:2002, *Information technology — CDIF framework — Part 1: Overview*, describes the architecture of the CDIF family of standards and provides an overview to all the current standards that form the CDIF family of standards.

The document ISO/IEC 15474-2:2002, *Information technology — CDIF framework — Part 2: Modelling and extensibility*, explains the scope, and modelling approach in CDIF. It also defines the CDIF meta-metamodel and extensibility mechanism of CDIF.

This document and the Framework for Modelling and Extensibility should be read first when initially exploring CDIF.

This standard has been developed with the wide support and participation of vendors, users, academia and government involved in or familiar with the CASE industry, its products and the general requirements associated with interchanging information between these products.

This document is organized into the following Clauses:

— Clause 1 to 5 are prescribed ISO/IEC Clauses

— Clause 6: CDIF Overview and architecture

  This Clause describes the scope, purpose, architecture, and fundamental concepts of CDIF. This Clause also describes the major components of the CDIF architecture: the framework, the transfer format, and the semantic metamodel.

— Clause 7: CDIF Family of standards overview

  This Clause describes the components of the CDIF semantic metamodel. These components are presented as a series of subject areas that serve to address key areas of the System's Development Life Cycle.

Information technology — CDIF framework —

Part 1: Overview

1 Scope

The CDIF family of standards is primarily designed to be used as a description of a mechanism for transferring information between modelling tools. It facilitates a successful transfer when the authors of the importing and exporting tools have nothing in common except an agreement to conform to CDIF.

The CDIF family of standards includes a semantic metamodel and a transfer format definition. It also includes the specification of a meta-metamodel and associated rules that define a framework for the semantic metamodel and the transfer format. The language that is defined for the transfer format also has applicability as a general language for Import/Export for repositories. The CDIF semantic metamodel also has applicability as the basis of standard definitions for use in repositories.

The diagram in Figure 1 depicts the various standards that comprise the CDIF family of standards. The shaded box depicts this Standard and its position in the CDIF family of standards.

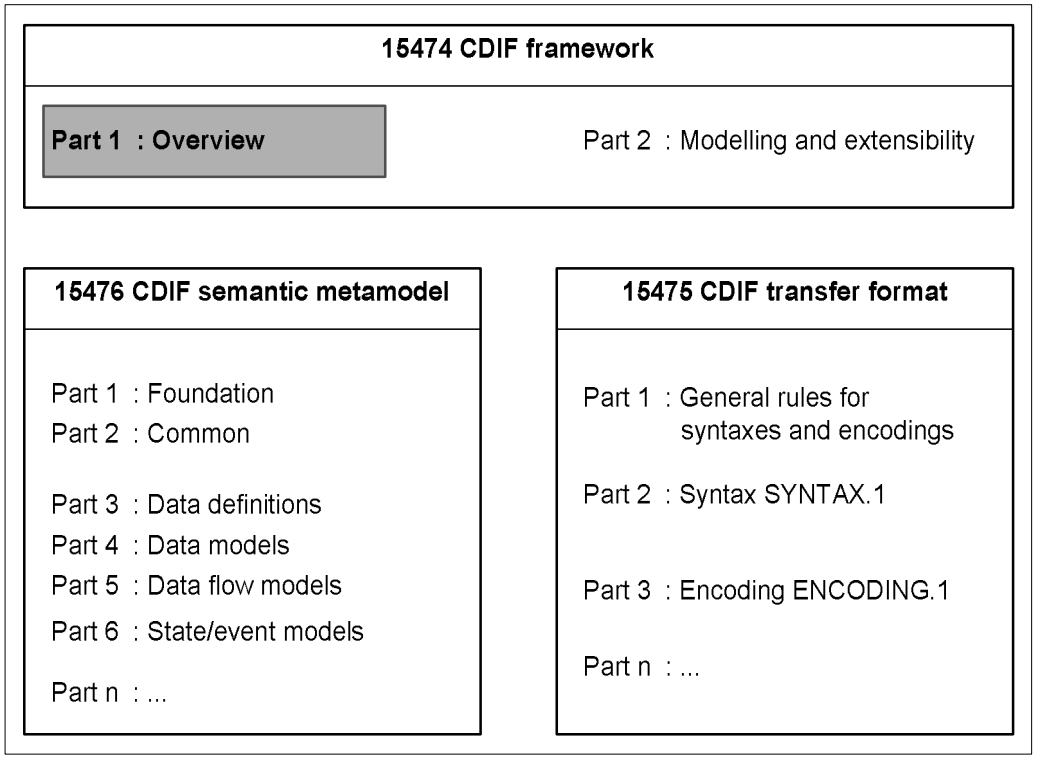

Figure 1 – CDIF family of standards

This document introduces the CDIF family of standards and defines the terms common to the CDIF family of standards.

This document is intended to be used by anyone wishing to understand and/or use CDIF. This document provides an introduction to the entire CDIF family of standards. It is suitable for:

— Those evaluating CDIF,

— Those who wish to understand the principles and concepts of a CDIF transfer, and

— Those developing importers and exporters.

This document, ISO/IEC 15474-1:2002*, Information technology - CDIF framework - Part 1: Overview,* and the Framework document ISO/IEC 15474-2:2002*, Information technology - CDIF framework - Part 2: Modelling and extensibility*, should be read first when initially exploring CDIF and before attempting to read other documents in the CDIF family of standards.

While there are no specific prerequisites for reading this document, it will be helpful for the reader to have familiarity with the following:

— Entity-Relationship-Attribute modelling;

— Modelling (CASE) tools;

— Information repositories;

— Data dictionaries;

— Multiple meta-layer modelling.

2 Conformance

A product is CDIF architecture conformant if and only if it can, as a property of that product, represent the product's metamodel instances, and/or the product's metamodel using the concepts defined in the ISO/IEC 15474-2:2002*, Information technology — CDIF framework — Part 2: Modelling and extensibility* ("Framework document"), and all the concepts defined in the standard ISO/IEC 15476-1:2002*, Information technology — CDIF semantic metamodel — Part 1: Foundation Subject Area* ("Foundation document"), and obeys all the constraints and rules for metamodels and meta-data defined in the Framework document, and obeys all the rules and constraints defined in the Foundation document. Conformance to the graphical notation as defined in the Framework document is not required.

3 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 15474. 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 15474 are encouraged to investigate the possibility of applying the most recent edition of the normative document 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 13238-1:—[1)], *Information technology — Data management export/import — Part 1: Standardization framework*

1) To be published.