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AS/NZS ISO/IEC 15475.2

Australian/New Zealand Standard™

Information technology—CDIF transfer format

Part 2: Syntax SYNTAX.1

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RECONFIRMATION

OF
AS/NZS ISO/IEC 15475.2:2003
Information technology—CDIF transfer format
Part 2: Syntax SYNTAX.1

RECONFIRMATION NOTICE

Technical Committee IT-015 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

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Australian/New Zealand Standard™

Information technology—CDIF transfer format

Part 2: Syntax SYNTAX.1

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software Engineering.

This Standard is identical with, and has been reproduced from ISO/IEC 15475-2:2002, *Information technology—CDIF transfer format*—Part 2: *Syntax SYNTAX.1*.

The objective of this Standard is to describe the standard CDIF transfer syntax.

This Standard is Part 2 of AS/NZS ISO/IEC 15475, *Information technology—CDIF transfer format*, which is published in parts as follows:

Part 1: General rules for syntaxes and encodings
Part 2: Syntax SYNTAX.1 (this Standard)
Part 3: Encoding ENCODING.1

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS	
9075	Information technology—Database languages—SQL	3968	Information technology—Database languages—SQL
		3968.0	Part 0: Definition of data structures and basic operations
10646	Information technology—Universal multiple-octet coded Character Set (UCS)	4189	Information technology—Universal multiple-octet coded Character Set (UCS)
10646-1	Part 1: Architecture and basic multilingual plane	4189.1	Part 1: Architecture and basic multilingual plane
15474	Information technology—CDIF framework	ISO/IEC 15474	Information technology—CDIF framework
15474-1	Part 1: Overview	ISO/IEC 15474.1	Part 1: Overview
15474-2	Part 2: Modelling and extensibility	ISO/IEC 15474.2	Part 2: Modelling and extensibility
15475	Information technology—CDIF transfer format	ISO/IEC 15475	Information technology—CDIF transfer format
15475-1	Part 1: General rules for syntaxes and encodings	ISO/IEC 15475.1	Part 1: General rules for syntaxes and encodings

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CONTENTS

Page

1 Scope 1

2 Conformance 2

3 Normative references 2

4 Terms and definitions 3
4.1 From other standards 3
4.1.1 ISO/IEC 15474-1 3
4.1.2 ISO/IEC 15475-1 4
4.1.3 ISO/IEC 13238-1 4
4.2 For this standard 4

5 Symbols (and abbreviated terms) 4
5.1 Naming and diagramming notations 4
5.2 BNF conventions 4
5.3 Abbreviations 5

6 CDIF transfer concepts and facilities 5
6.1 Syntax identifier 5
6.2 Token separation rules 5

7 Syntax sections and structures in the CDIF transfer 5
7.1 Introduction 5
7.2 CDIF transfer components 5
7.2.1 Introduction 5
7.2.2 Transfer header 6
7.2.3 Transfer contents 6
7.3 Header section 6
7.3.1 Introduction 6
7.3.2 Summary 7
7.4 Metamodel section 8
7.4.1 Introduction 8
7.4.2 CDIF subject area reference 8
7.4.3 Metamodel extension 9
7.4.4 Meta-meta-entity instance 9
7.4.5 Meta-meta-attribute instance 10
7.4.6 Meta-meta-relationship instance 10
7.4.7 Enumerated meta-attribute extension 11
7.5 Model section 12
7.5.1 Introduction 12
7.5.2 Meta-entity instance 12
7.5.3 Meta-relationship instance 13
7.5.4 Meta-attribute instance 14
7.5.5 Meta-attribute value 14
7.6 Comment 19
7.7 Syntax terminal symbols 19

Annex A (normative) **SYNTAX.1 formal grammar** 22

Annex B (informative) **Multibyte examples** 28
B.1 Example of 7.3.2 Summary 28
B.2 Example of 7.4.5 Meta-meta-attribute instance 28
B.3 Example of 7.5.5.5 enumerated value 28
B.4 Example of 7.5.5.7 Identifier value 28
B.5 Example of 7.5.5.12 String value 28

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Page

B.6 Example of 7.6 Comment 29

Table of Illustrations

Figure 1 – Position in the CDIF family of standards 1

Figure 2 – CDIF transfer..... 6

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AUSTRALIAN/NEW ZEALAND STANDARD

Information technology — CDIF transfer format —

Part 2:
Syntax SYNTAX.1

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 language that is defined for the transfer format also has applicability as a general language for Import/Export from repositories. The CDIF semantic metamodel defined for modelling tools also has applicability as the basis of standard definitions for use in repositories.

The standards, which form the complete family of CDIF Standards, are documented in ISO/IEC 15474-1:2002, *Information technology — CDIF framework — Part 1: Overview.* These standards cover the overall framework, the transfer format and the CDIF semantic metamodel.

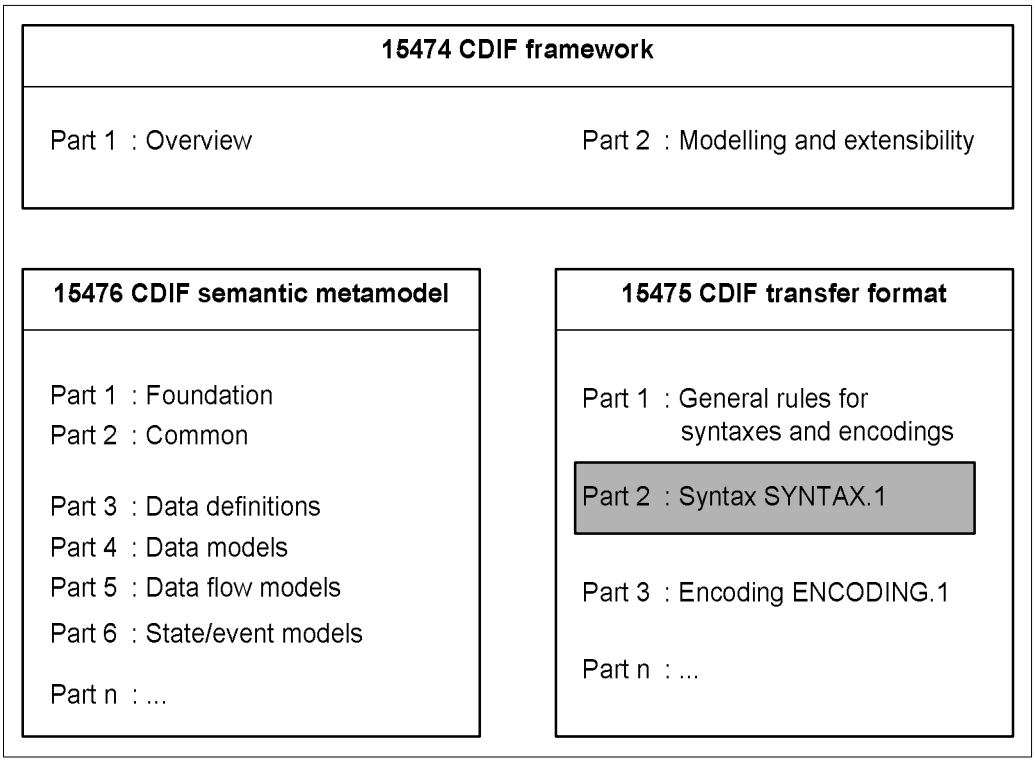

Figure 1 – Position in the CDIF family of standards

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.

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This document describes the standard CDIF transfer syntax. No encodings for SYNTAX.1 are specified in this document. ISO/IEC 15475-3:2002, *Information technology — CDIF transfer format — Part 3: Encoding ENCODING.1*, specifies one standard encoding for this syntax.

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.

The documents ISO/IEC 15474-1:2002, *Information technology — CDIF framework — Part 1: Overview* and 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.

This document should be read in conjunction with ISO/IEC 15475-1:2002, *Information technology — CDIF transfer format — Part 1: General rules for syntaxes and encodings*.

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;

— Formal grammars;

— Transfer formats.

2 Conformance

A product is standards conformant this standard if and only if the product obeys all definitions and rules in Annex A of this standard, and is also CDIF architecture conformant, as defined in Clause 2 of ISO/IEC 15474-1:2002, *Information technology — CDIF framework — Part 1: Overview*. A product can be either transfer format standards conformant or non-conformant. Partial standards conformance to a standard defining a part of the CDIF transfer format is not defined.

A product is standards conformant to a CDIF encoding standard only if it is standards conformant to Annex A of ISO/IEC 15475-3:2002, *Information technology — CDIF transfer format — Part 3: Encoding ENCODING.1* and also conformant to Annex A of ISO/IEC 15475-2:2002, *Information technology — CDIF transfer format — Part 2: Syntax SYNTAX.1*. A product is standard conformant to a CDIF syntax standard only if it is standards conformant to Annex A of ISO/IEC 15475-2:2002, *Information technology — CDIF transfer format — Part 2: Syntax SYNTAX.1*.

3 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 15475. 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 15475 are encouraged to

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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 9075:1992, *Information technology — Database languages — SQL*

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

ISO/IEC 10646-1:1993/Amd:2:1996, *Information technology — Universal Multiple-Octet Coded Character Set (UCS) — Part 1: Architecture and Basic Multilingual Plane. Amendment 2: UCS Transformation Format 8 (UTF-8)*

ISO/IEC 13238-1:—[1)], *Information technology — Data management export/import — Part 1: Standardization framework*

ISO/IEC 15474-1:2002, *Information technology — CDIF framework — Part 1: Overview*

ISO/IEC 15474-2:2002, *Information technology — CDIF framework — Part 2: Modelling and extensibility*

ISO/IEC 15475-1:2002, *Information technology — CDIF transfer format — Part 1: General rules for syntaxes and encodings*

4 Terms and definitions

For the purposes of this part of ISO/IEC 15475, the following definitions apply. Unless otherwise noted, the definitions are specific to this part of ISO/IEC 15475.

4.1 From other standards

4.1.1 ISO/IEC 15474-1

This part of ISO/IEC 15475 makes use of the following terms defined in ISO/IEC 15474-1:

CDIF
CDIF family of standards
CDIF graphical notation
CDIF identifier
CDIF semantic metamodel
CDIF meta-metamodel
CDIF transfer
CDIF transfer format
Character set
Encoding
ENCODING.1
Instance
Meta-attribute
Meta-entity
Metamodel
Meta-object
Meta-relationship
Model
Non-terminal symbol
Production rule
Subject area
Syntax
SYNTAX.1
Terminal symbol

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Transfer
Transfer format

4.1.2 ISO/IEC 15475-1

This part of ISO/IEC 15475 makes use of the following terms defined in ISO/IEC 15475-1:

Metamodel section
Transfer header

4.1.3 ISO/IEC 13238-1

This part of ISO/IEC 15474 makes use of the following terms from ISO/IEC 13238-1:

Transfer file
CDIF transfer file
Export process
Exporter
Import process
Importer
Clear text file encoding

4.2 For this standard

For the purposes of this part of ISO/IEC 15475 new terms are defined when introduced. Double quotes are used to introduce new terms (e.g., “model layer”).

5 Symbols (and abbreviated terms)

5.1 Naming and diagramming notations

All meta-objects and meta-meta-objects in CDIF (in metamodels and meta-metamodels) are named by concatenating all the words that name the meta-object or meta-meta-object; the first letter of each word is upper-case, the rest are lower-case (e.g., *MetaAttribute*, *AttributeDerivation*, *IsDrawnUsing*, *IsOptional*).

Full details of the CDIF graphical notation used in the metamodel and the meta-metamodel can be found in the Framework document (ISO/IEC 15474-2:2002).

5.2 BNF conventions

An extended Backus Naur Form (BNF) is used to define the structure and describe the sequence of data in the transfer file.

This document uses the conventions established in subclause 5.2 of ISO/IEC 15475-1:2002, *Information technology — CDIF transfer format — Part 1: General rules for syntaxes and encodings*.

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5.3 Abbreviations

The following abbreviations are used in this part of ISO/IEC 15475:

BNF Backus Naur Form

CDIF CASE Data Interchange Format (originally)

6 CDIF transfer concepts and facilities

6.1 Syntax identifier

The syntax defined in this version of this standard shall have a CDIF standardized syntax identifier of "SYNTAX.1", and a version of "15475-2:2002". This is used to define the standardized syntax used in a CDIF transfer (see ISO/IEC 15475-1).

The syntax of the CDIF syntax ID and the syntax Version is as follows:

```
<SyntaxID> ::=          'SYNTAX.1'
<SyntaxVersion> ::=     '15475-2:2002'
```

6.2 Token separation rules

The "tokens" (or terminal symbols) are the primitive level elements in the syntax. Tokens are normally separated by one or more "whitespace" characters, as defined in the specific encoding. After token identification, these whitespace characters are ignored by importers.

Certain terminal symbols act as token separators; these terminal symbols do not need to be preceded or followed by whitespace characters. All other terminal symbols must be followed by one of these token separators or by one or more whitespace characters. The terminal symbols that act as token separators are listed in subclause 7.7 Syntax terminal symbols.

7 Syntax sections and structures in the CDIF transfer

7.1 Introduction

This section describes, in detail, the exact syntax of each of the major sections of a transfer, together with the syntax of each of the component structures.

Examples of transfers given in this section use the CDIF standard encoding as defined in ISO/IEC 15475-3.

7.2 CDIF transfer components

7.2.1 Introduction

The general syntax of a CDIF transfer is as follows:

```
<CDIFTransfer> ::=      <TransferHeader>
                        <TransferContents>
```

Figure 2 illustrates the complete structure of a CDIF transfer.

A transfer is typically contained in a file, but other means of transfer such as pipes, mailboxes, shared memory, or any other mechanism that can be interpreted as a byte stream may be used.

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