

Australian/New Zealand Standard™

**Information technology—Learning,
education, and training—Content
packaging**

Part 1: Information model



AS/NZS ISO/IEC 12785.1:2013

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Part 1: Information model

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-019, Information and Documentation, Information Technology—Learning, Education, Training and Research.

The objective of this Standard is to define the data structures that can be used to exchange language, education and training (LET) content among systems that wish to import, export, aggregate and disaggregate packages of LET content.

This Standard is identical with, and has been reproduced from ISO/IEC 12785-1:2009, *Information technology—Learning, education, and training—Content packaging, Part 1: Information model*.

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

- (a) In the source text ‘this part of ISO/IEC 12785’ should read ‘this Australian/New Zealand Standard’.
- (b) 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:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
ISO		AS/NZS	
3166	Codes for the representation of names of countries and their subdivisions	2632	Codes for the representation of names of countries and their subdivisions
3166-1	Part 1: Country codes	2632.1	Part 1: Country codes

The terms ‘normative’ and ‘informative’ have been used in this Standard 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.

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INTRODUCTION

0.1 Purpose and overview

ISO/IEC 12785 is derived from the IMS Global Learning Consortium (IMS GLC) Content Packaging version 1.2 Specification. IMS Content Packaging is probably the most widely used specification in support of learning technology around the world. IMS Content Packaging has been an integral foundation of Sharable Content Object Reference Model (SCORM) from its inception to the current version. But, most importantly, IMS Content Packaging has also been used widely outside of SCORM on a standalone basis. IMS Content Packaging is also used in many other high profile educational uses, such as archiving for MIT OpenCourseWare, distributing content packages that exclude runtime and metadata for the Learning Federation of Australia, and nationwide e-learning services for the Cyber Home Learning System in Korea.

The IMS Content Packaging Information Model that is the source and base specification for this part of ISO/IEC 12785 describes data structures that can be used to exchange data between systems that wish to import, export, aggregate, and disaggregate packages of learning, education and training (LET) content.

The IMS Content Packaging specification was initially conceived for the packaging of instructional content. The specification supports the description of content associated with a given learning activity, location of the content, and how these pieces of content can be organized for best instructional effect. As a result of wide adoption of the specification, millions of IMS content packages of instructional content are used in a variety of software applications.

Adopters of IMS Content Packaging have extended its use beyond just the packaging of instructional content. IMS Content Packaging is now referenced by other IMS Specifications to package and exchange other types of data.

Requests for major functional additions were not included in the IMS Content Packaging version 1.1.x series and were accumulated as practice matured around implementing IMS Content Packaging. Evaluation of these requests in 2006, combined with feedback from the wider adopter community, led to the decision to make a significant update and definitive release for this specification as an International Standard series.

The new functionality and clarifications incorporated in this Content Packaging specification are as follows.

- a) The meanings of terms used within the specification have been clarified.
- b) The use of (sub)manifests, now termed child-manifests, has been clarified and enhanced:
 - 1) Interpretation of an item pointing to a child-manifest has been clarified.
 - 2) New functionality allowing components of child-manifests to be precisely referenced and interpreted has been added.
 - 3) Support for external child-manifests has been added.
- c) Support for external referenced metadata files has been added.
- d) All internal vocabularies have been removed and are now maintained through the IMS vocabularies registration process (see <http://www.imsglobal.org/vdex/index.html>).
- e) A new resource type of “stand-alone resource” has been added that allows another package to be used as a piece of LET content.

- f) The syntax and usage of the Base, Parameter, 'IsVisible', and 'Href' Information Model classes has been clarified.
- g) Support for variant resources has been added. This includes support for alternative resources for accessible LET content.
- h) Support for Organization and Item titles in multiple languages has been added.
- i) Support for interchange packages that contain only content and interchange packages that have no local content files has been clarified.

0.2 Compatibility

This part of ISO/IEC 12785 arises in an active implementation environment of ever increasing adoption of IMS Content Packaging. A primary goal of this part of ISO/IEC 12785 is to enable future growth while regularizing current practice. To that end, the following definition of backwards compatibility has guided the development of this Content Packaging Information Model:

- a) From the perspective of the IMS Content Packaging Information Model, the IMS Content Packaging Information Model v1.1.4 is a proper subset of this Content Packaging Information Model.
- b) The semantics of the Content Packaging Information Model components persists between versions, except where necessary to ensure disambiguation.

AUSTRALIAN/NEW ZEALAND STANDARD

**Information technology—Learning, education, and training—
Content packaging****Part 1:
Information model****1 Scope**

This part of ISO/IEC 12785 defines the data structures that can be used to exchange language, education and training (LET) content among systems that wish to import, export, aggregate, and disaggregate packages of LET content.

It illustrates the conceptual structure of the Content Packaging Information Model and defines the structural relationships, data-type, value-space, and number of occurrences permitted for each kind of information object.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 639-2:1998, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO 3166-1:1997, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

IEEE 1484.12.1-2002, *Draft Standard for Learning Object Metadata*

IETF RFC 1951 (1996), *DEFLATE Compressed Data Format Specification version 1.3*

IETF RFC 2119 (1997), *Keywords for use in RFCs to Indicate Requirement Levels*

IETF RFC 2234 (1997), *Augmented BNF for Syntax Specifications: ABNF*

IETF RFC 2732 (1999), *Format for Literal IPv6 Addresses in URL's*

IETF RFC 3986 (2005), *Uniform Resource Identifier (URI): Generic Syntax*