INTERNATIONAL STANDARD

ISO/IEC 29500-2

Fourth edition
2021-08

Document description and processing languages — Office Open XML file formats —

Part 2: Open packaging conventions

Description des documents et langages de traitement — Formats de fichier "Office Open XML" —

Partie 2: Conventions de paquetage ouvert

Reference number
ISO/IEC 29500-2:2021(E)

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Published in Switzerland

Contents

Page

Foreword ..... **v**
Introduction ..... **vii**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **2**
3.1 Basics 2
3.2 Abstract package model 3
3.3 Physical package model 4
3.4 Digital signature and thumbnail 5
3.5 Implementations 5
3.6 Core properties 5
4 Conformance **5**
5 Overview **5**
6 Abstract package model **6**
6.1 General 6
6.2 Parts 6
6.2.1 General 6
6.2.2 Part names 6
6.2.3 Media types 8
6.2.4 Growth hint 8
6.2.5 XML usage 8
6.3 Part addressing 8
6.3.1 General 8
6.3.2 Pack scheme 9
6.3.3 Resolving a pack IRI to a resource 10
6.3.4 Composing a pack IRI 10
6.3.5 Equivalence 11
6.4 Resolving relative references 11
6.4.1 General 11
6.4.2 Base IRIs 11
6.4.3 Examples 12
6.5 Relationships 14
6.5.1 General 14
6.5.2 Relationships part 14
6.5.3 Relationship markup 15
6.5.4 Examples 17
7 Physical package model **19**
7.1 General 19
7.2 Physical mapping guidelines 19
7.2.1 Using features of physical formats 19
7.2.2 Mapped components 20
7.2.3 Mapping media types to parts 20
7.2.4 Interleaving 23
7.2.5 Mapping part names to physical package item names 23
7.3 Mapping to a ZIP file 25
7.3.1 General 25
7.3.2 Mapping part data 25
7.3.3 ZIP item names 26
7.3.4 Mapping logical item names to ZIP item names 26
7.3.5 Mapping ZIP item names to logical item names 26
7.3.6 ZIP package limitations 26
7.3.7 Mapping the Media Types stream 27

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7.3.8 Mapping the growth hint ... 27
8 Core properties ... 27
8.1 General ... 27
8.2 Core Properties part ... 28
8.3 Core properties markup ... 28
8.3.1 General ... 28
8.3.2 Support for versioning and extensibility ... 29
8.3.3 `coreProperties` element ... 29
8.3.4 Core property elements ... 29
9 Thumbnails ... 32
10 Digital signatures ... 32
10.1 General ... 32
10.2 Overview of OPC-specific restrictions and extensions to "XML-Signature Syntax and Processing" ... 32
10.3 Choosing content to sign ... 32
10.4 Digital signature parts ... 33
10.4.1 General ... 33
10.4.2 Digital Signature Origin part ... 33
10.4.3 Digital Signature XML Signature part ... 33
10.4.4 Digital Signature Certificate part ... 34
10.5 Digital signature markup ... 34
10.5.1 General ... 34
10.5.2 Support for versioning and extensibility ... 34
10.5.3 `Signature` element ... 34
10.5.4 `SignedInfo` element ... 35
10.5.5 `CanonicalizationMethod` element ... 35
10.5.6 `SignatureMethod` element ... 35
10.5.7 `Reference` element ... 35
10.5.8 `Transform` element ... 36
10.5.9 `RelationshipReference` element ... 37
10.5.10 `RelationshipsGroupReference` element ... 37
10.5.11 `DigestMethod` element ... 37
10.5.12 `Object` element ... 38
10.5.13 `Manifest` element ... 38
10.5.14 `SignatureProperty` element ... 38
10.5.15 `SignatureTime` element ... 38
10.5.16 `Format` element ... 38
10.5.17 `Value` element ... 39
10.5.18 `XPath` element ... 39
10.6 Relationships transform algorithm ... 39
10.7 Digital signature example ... 40
10.8 Generating signatures ... 41
10.9 Validating signatures ... 43
Annex A (informative) **Preprocessing for generating relative references ... 45**
Annex B (normative) **Constraints and clarifications on the use of ZIP features ... 46**
Annex C (normative) **Schemas - W3C XML ... 55**
Annex D (informative) **Schemas - RELAX NG ... 56**
Annex E (normative) **Standard namespaces and media types ... 57**
Annex F (informative) **Physical package model design considerations ... 58**
Annex G (informative) **Differences between ISO/IEC 29500-2 and ECMA-376:2006 ... 62**
Annex H (informative) **Package example ... 63**
Bibliography ... 65

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 34, *Document description and processing languages*.

This fourth edition cancels and replaces the third edition (ISO/IEC 29500-2:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Where appropriate, normative references have been updated to use undated or more recent versions of other standards.

— Clause 3 (Terms and definitions) has been revised by removing terms not used by any normative clauses and then reorganizing terms into groups.

— The subclause for diagram notes (5.1 in the preceding editions) has been removed, since core properties are now defined by prose and schemas rather than by diagrams.

— The clause for acronyms and abbreviations (Clause 6 in the preceding editions) has been removed, since it does not make sense for an ISO/IEC standard to define "ISO" and "IEC".

— Clause 6 (Abstract package model, Clause 8 in the previous edition) has been completely rewritten. In particular, (1) pack IRIs have been defined in this clause rather than in an annex, (2) a new subclause, "Resolving relative references", has been added; (3) part Relationships parts and package Relationships parts have been distinguished; (4) base IRIs have been clearly defined; and (5) handling of non-ASCII characters in part names has been clarified on the basis of RFC 3987.

— The option for media type to be an empty string has been removed, as this conflicts with the definition of media type in RFC 2046 and the existing regular expression defined in the schema referenced by C.2.

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— Clause 7 (Physical package model, Clause 9 in the previous edition) has been slightly revised. Interleaving has been introduced before logical item names. Percent-encoding and un-percent encoding of non-ASCII characters have been explicitly introduced in 7.3.4 and 7.3.5.

— Clause 8 (Core properties, Clause 10 in the previous edition) has been rewritten by using prose and schemas rather than diagrams.

— Clause 10 (Digital signatures, Clause 12 in the previous edition) has been thoroughly revised. In particular, this clause now makes clear a convention for the choice of algorithms for signature and digest methods, which reflects the ongoing development of algorithms since the first edition of this document.

— Annex A has been made informative.

— The normative annex that defined pack IRIs (Annex B in the preceding editions) has been dropped. Pack IRIs are now defined in Clause 6.

— Annex C and Annex D (Annexes D and E in the preceding editions) no longer define schemas but reference externally defined schemas.

— Guidelines for meeting conformance requirements (Annex H in the preceding editions) have been dropped.

— Requirements around streaming consumption have been dropped.

— Wherever possible, requirements on programs have been rewritten as those on data.

— Annex H has been added to depict an example package.

— The Index (Annex J in the preceding editions) has been deleted.

— Bibliography has been added.

A list of all parts in the ISO/IEC 29500 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

ISO/IEC 29500 (all Parts) specifies a family of XML schemas, collectively called Office Open XML, which define the XML vocabularies for word-processing, spreadsheet, and presentation documents, as well as the packaging of documents that conform to these schemas.

The goal is to enable the implementation of the Office Open XML formats by the widest set of tools and platforms, fostering interoperability across office productivity applications and line-of-business systems, as well as to support and strengthen document archival and preservation, all in a way that is fully compatible with the existing corpus of Microsoft® Office[1)] documents.

This document includes two annexes (Annex C and Annex D) that refer to data files provided in electronic form.

The document representation formats defined by this document are different from the formats defined in the corresponding Part of ECMA-376:2006. Some of the differences are reflected in schema changes, as shown in Annex G.

This fourth edition preserves all previous functionality and adds no new functionality.

1) This information is given for the convenience of users of this document and does not constitute an endorsement by ISO or IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

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Document description and processing languages — Office Open XML file formats —

Part 2: Open packaging conventions

1 Scope

This document defines a set of conventions for packaging one or more interrelated byte streams (parts) as a single resource (package). These conventions are applicable not only to Office Open XML specifications as described in ISO/IEC 29500-1 and ISO/IEC 29500-4, but also to other markup specifications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ANSI/INCITS 4-1986 [R2017] - *Information Systems - Coded Character Sets - 7-Bit American National Standard Code For Information Interchange (7-Bit ASCII)*, American National Standards Institute (ANSI). 2017

FIPS 186-4, *Digital Signature Standard (DSS)*, National Institute of Standards and Technology, US Department of Commerce, July 2013

ISO/IEC 29500-3, *Information technology — Document description and processing languages — Office Open XML File Formats — Part 3: Markup Compatibility and Extensibility*

ISO/IEC 9594-8/ITU-T Rec. X.509, *Information technology — Open systems interconnection — Part 8: The Directory: Public-key and attribute certificate frameworks*

ISO 15836-1, *Information and documentation — The Dublin Core metadata element set — Part 1: Core elements*

ISO 15836-2, *Information and documentation — The Dublin Core metadata element set — Part 2: DCMI Properties and classes*

RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*, The Internet Society, November 1996, N. Freed and N. Borenstein. Available at https://www.rfc-editor.org/info/rfc2046

RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*, The Internet Society, January 2005, Berners-Lee, T., R. Fielding, and L. Masinter. Available at https://www.rfc-editor.org/info/rfc3986

RFC 3987, *Internationalized Resource Identifiers (IRIs)*, The Internet Society, January 2005, Duerst, M. and M. Suignard. Available at https://www.rfc-editor.org/info/rfc3987

RFC 5234, *Augmented BNF for Syntax Specifications: ABNF*, The Internet Society, January 2008, D. Crocker and P.Overell, (editors). Available at https://www.rfc-editor.org/info/rfc5234

RFC 6931, *Additional XML Security Uniform Resource Identifiers (URIs)*, The Internet Society, April 2013, D. Eastlake 3rd. Available at https://www.rfc-editor.org/info/rfc6931

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