

OpenDocument

The **Open Document Format for Office Applications** (**ODF**), also known as **OpenDocument**, is an <u>open file</u> format for <u>word processing documents</u>, <u>spreadsheets</u>, <u>presentations</u> and graphics and using <u>ZIP</u>-compressed [6] <u>XML</u> files. It was developed with the aim of providing an open, XML-based file format specification for office applications. [7]

The standard is developed and maintained by a technical committee in the Organization for the Advancement of Structured Information Standards (OASIS) consortium. It was based on the Sun Microsystems specification for OpenOffice.org XML, the default format for OpenOffice.org and LibreOffice. It was originally developed for StarOffice "to provide an open standard for office documents."

In addition to being an OASIS standard, it is published as an <u>ISO/IEC</u> international standard ISO/IEC 26300 – Open Document Format for Office Applications (OpenDocument). [2][3][4][5][10][11] In 2021 the current version is 1.3. [12]

Specifications

The most common <u>filename extensions</u> used for OpenDocument documents are: [13][14]

- .odt and .fodt for word processing (text) documents
- .ods and .fods for spreadsheets
- .odp and .fodp for presentations
- .odg and .fodg for graphics
- . odf for <u>formula</u>, mathematical equations

The original OpenDocument format consists of an <u>XML</u> document that has <document> as its root element. OpenDocument files can also take the format of a <u>ZIP</u> compressed archive containing a number of files and directories; these can contain binary content and benefit from ZIP's <u>lossless</u> compression to reduce file size. OpenDocument

OpenDocument Text



Filename extensions

.odt .fodt

Internet media type

application/vnd.oasis.
 opendocument.text

Uniform Type Identifier (UTI)

org.oasis-open.opendocument.text[1]

UTI conformation

org.oasis-open.opendocument
public.composite-content

public.composite-content	
Developed by	OASIS
Initial release	1 May 2005
Latest release	1.3 (21 January 2020)
Type of format	Document
Extended from	XML
Standard	ISO/IEC 26300 ^{[2][3][4][5]}
	(OASIS OpenDocument Format)
Open format?	Yes
Website	OASIS (http://www.oasis-op en.org/committees/office/), ISO/IEC (http://www.iso.or g/iso/iso_catalogue/catalog ue_tc/catalogue_tc_brows

OpenDocument Presentation

e.htm?commid=45374)



Filename extensions

.odp .fodp

Internet media type

application/vnd.oasis. opendocument.presentation

Uniform Type Identifier (UTI)

org.oasis-open.opendocument.presentation[1]

benefits from <u>separation of concerns</u> by separating the content, styles, metadata, and application settings into four separate XML files.

There is a comprehensive set of example documents in OpenDocument format available. The whole test suite is available under the Creative Commons Attribution 2.5 license.

History

Conception

The OpenDocument standard was developed by a Technical Committee (TC) under the <u>Organization</u> for the Advancement of Structured Information <u>Standards</u> (OASIS) industry consortium. The ODF-TC has members from a diverse set of companies and individuals. Active TC members have voting rights. Members associated with Sun and IBM have sometimes had a large voting influence. The standardization process involved the developers of many office suites or related document systems.

The first official ODF-TC meeting to discuss the standard was 16 December 2002. OASIS approved OpenDocument as an OASIS standard on 1 May 2005. OASIS submitted the ODF specification to ISO/IEC Joint Technical Committee 1 (JTC 1) on 16 November 2005, under Publicly Available Specification (PAS) rules. ISO/IEC standardization for an open document standard including text, spreadsheet and presentation was proposed for the first time in DKUUG 28 August 2001. [17]

After a six-month review period, on 3 May 2006, OpenDocument unanimously passed its six-month DIS (Draft International Standard) ballot in JTC 1 (ISO/IEC JTC 1/SC 34), with broad participation, after which the OpenDocument specification was "approved for release as an ISO and IEC International Standard" under the name ISO/IEC 26300:2006.

After responding to all written ballot comments, and a 30-day default ballot, the OpenDocument <u>international</u> <u>standard</u> went to publication in ISO, officially published 30 November 2006.

UTI conformation org.oasis-open.opendocument public.composite-content		
Developed by	OASIS	
Initial release	1 May 2005	
Latest release	1.3 (21 January 2020)	
Type of format	Presentation	
Extended from	XML	
Standard	ISO/IEC 26300 ^{[2][3][4][5]} (OASIS OpenDocument Format)	
Open format?	Yes	

OpenDocument Spreadsheet



Filename extensions

.ods .fods

Internet media type

application/vnd.oasis.
opendocument.spreadsheet

Uniform Type Identifier (UTI)

org.oasis-open.opendocument.spreadsheet[1]

UTI conformation

org.oasis-open.opendocument
public.composite-content

pastro roumpostro contone	
Developed by	OASIS
Initial release	1 May 2005
Latest release	1.3 (21 January 2020)
Type of format	Spreadsheet
Extended from	XML
Standard	ISO/IEC 26300 ^{[2][3][4][5]} (OASIS OpenDocument Format)
Open format?	Yes

OpenDocument Graphics



Filename extensions

.odg .fodg

Internet media type

application/vnd.oasis. opendocument.graphics

In 2006, [20] Garry Edwards, a member of OASIS TC since 2002, 2002, along with Sam Hiser, and Paul "Marbux" E. Merrell founded the OpenDocument Foundation. The aim of this project was to be opensource representative of the format in OASIS. [20][22] The immediate aim of this project was to develop software that would convert legacy Microsoft Office documents to ODF. By October 2007 the project was a failure: Conversion of Microsoft Office documents could not be achieved. [20] By this time, The foundation was convinced that ODF was not moving in a direction that they supported. [23] As a result, it announced the decision to abandon its namesake format in favor of W3C's Compound Document Format (CDF), which was in early stages of its development. [23][20] The foundation, however, never acted on this decision and was soon dissolved. The CDF was never designed for this purpose either. [24]

Uniform Type Identifier (UTI) org.oasis-open.opendocument.graphics[1]		
<pre>UTI conformation org.oasis-open.opendocument public.composite-content</pre>		
Developed by	OASIS	
Initial release	1 May 2005	
Latest release	1.3 (21 January 2020)	
Type of format	Graphics	
Extended from	XML	
Standard	ISO/IEC 26300 ^{[2][3][4][5]} (OASIS OpenDocument Format)	
Open format?	Yes	

Further standardization

Further standardization work with OpenDocument includes:

- The OASIS Committee Specification OpenDocument 1.0 (second edition) (https://www.oasi s-open.org/committees/download.php/19274/OpenDocument-v1.0ed2-cs1.pdf) corresponds to the published ISO/IEC 26300:2006 standard. The content of ISO/IEC 26300 and OASIS OpenDocument v1.0 2nd ed. is identical. [5] It includes the editorial changes made to address JTC1 ballot comments. It is available in ODF, HTML and PDF formats.
- OpenDocument 1.1 (https://docs.oasis-open.org/office/v1.1/OS/OpenDocument-v1.1.p df) includes additional features to address accessibility concerns. [25] It was approved as an OASIS Standard on 2007-02-01 following a call for vote issued on 2007-01-16. [26] The public announcement was made on 2007-02-13. [27] This version was not initially submitted to ISO/IEC, because it is considered to be a minor update to ODF 1.0 only, and OASIS were working already on ODF 1.2 at the time ODF 1.1 was approved. [28] However it was later submitted to ISO/IEC (as of March 2011, it was in "enquiry stage" as Draft Amendment 1 ISO/IEC 26300:2006/DAM 1) and published in March 2012 as "ISO/IEC 26300:2006/Amd 1:2012 Open Document Format for Office Applications (OpenDocument) v1.1". [10][11]
- OpenDocument 1.2 (https://docs.oasis-open.org/office/v1.2/OpenDocument-v1.2.pdf) includes additional accessibility features, RDF-based metadata, a spreadsheet formula specification based on OpenFormula, support for digital signatures and some features suggested by the public. It consists of three parts: Part 1: OpenDocument Schema, Part 2: Recalculated Formula (OpenFormula) Format and Part 3: Packages. Version 1.2 of the specification was approved as an OASIS Standard on 29 September 2011. [30] It was submitted to the relevant ISO committee under the Publicly Available Specification (PAS) procedure in March 2014. [31] As of October 2014, it has been unanimously approved as a Draft International Standard, some comments have been raised in process that need to be addressed before OpenDocument 1.2 can proceed to become an International Standard. [32] OpenDocument 1.2 was published as ISO/IEC standard on 17 June 2015. [2][3][4]
- OpenDocument 1.3 Committee Specification (https://docs.oasis-open.org/office/OpenDocument/v1.3/cs01/OpenDocument-v1.3-cs01.zip): Version 1.3 of the OpenDocument

specification was approved as an OASIS Committee Specification at the end of December 2019, permitting implementation of the new proposed standard. The specification was completed as the result of the COSM crowdfunding project seeded by The Document Foundation. In January 2020 Version 1.3 was approved.

■ The OASIS Advanced Document Collaboration subcommittee (created in December, 2010) is working on an update of OpenDocument change-tracking that will not only enhance the existing change-tracking feature set, but also lay the foundation for the standardization of real-time collaboration by making change tracking compatible with real-time collaboration. [35][36][37]

Application support

Software

The OpenDocument format is used in <u>free software</u> and in <u>proprietary software</u>. This includes <u>office suites</u> (both stand-alone and web-based) and individual applications such as word-processors, spreadsheets, presentation, and data management applications. Prominent text editors, word processors and office suites supporting OpenDocument fully or partially include:

- AbiWord^{[38][39]}
- Adobe Buzzword^[40]
- Apache OpenOffice
- Bean (software)
- Calibre ebook viewer, converter, editor, and manager
- Calligra Suite^[41]
- Collabora Office and Collabora Online^[42]
- Corel WordPerfect Office X6[43]
- Dropbox
- Evince
- Gnumeric^[44]
- Google Docs
- IBM Lotus Symphony [29][45][46]
- Inkscape exports . odg
- KOffice^[47]
- LibreOffice
- Microsoft Office 2003 and Office XP (with the Open Source OpenXML/ODF Translator Addin for Office)^[48]
- Microsoft Office 2007 (with Service Pack 2 or 3) supports ODF 1.1^[49] (Windows only)
- <u>Microsoft Office 2010</u> supports ODF 1.1 (Windows only)
- Microsoft Office 2013 supports ODF 1.2 (Windows only)
- Microsoft Office 2016 and 2019 support ODF 1.2 (Windows: read/write; OS X: read-only after online conversion^[50])
- Microsoft Office 2021 supports ODF 1.3^[51] (Windows and MacOS)
- Microsoft OneDrive / Office Web Apps^[52]
- NeoOffice

- Okular
- ONLYOFFICE
- OpenOffice.org
- Scribus imports .odt and .odg
- SoftMaker Office
- Sun Microsystems StarOffice
- TextEdit
- WordPad (Windows 7 and later, Windows Server 2008 R2 and later) $\frac{[53]}{1.1^{[54]}}$ supports ODF
- Zoho Office Suite^[29]

Various organizations have announced development of conversion software (including *plugins* and *filters*) to support OpenDocument on Microsoft's products. [55][56] As of July 2007, there are nine packages of conversion software. Microsoft first released support for the OpenDocument Format in Office 2007 SP2. [57] However, the implementation faced <u>substantial criticism</u> and the <u>ODF Alliance</u> and others claimed that the third party plugins provided better support. [58] Microsoft Office 2010 can open and save OpenDocument Format documents natively, although not all features are supported. [59]

Starting with $\underline{\text{Mac OS X 10.5}}$, the $\underline{\text{TextEdit}}$ application and $\underline{\text{Quick Look}}$ preview feature support the OpenDocument Text format.

Accessibility

Licensing

Public access to the standard

Versions of the OpenDocument Format approved by <u>OASIS</u> are available for free download and use. [60] The <u>ITTF</u> has added ISO/IEC 26300 to its "list of freely available standards"; anyone may download and use this standard free-of-charge under the terms of a click-through license. [61]

Additional royalty-free licensing

Obligated members^[62] of the OASIS ODF TC have agreed to make deliverables available to implementors under the OASIS Royalty Free with Limited Terms policy (http://www.oasis-open.org/who/intellectualprop erty.php).

Key contributor <u>Sun Microsystems</u> made an irrevocable intellectual property covenant, providing all implementers with the guarantee that Sun will not seek to enforce any of its enforceable U.S. or foreign patents against any implementation of the OpenDocument specification in which development Sun participates to the point of incurring an obligation. [63]

A second contributor to ODF development, <u>IBM</u> – which, for instance, has contributed Lotus spreadsheet documentation — has made their patent rights available through their *Interoperability Specifications Pledge* in which "IBM irrevocably covenants to you that it will not assert any Necessary Claims against you for your making, using, importing, selling, or offering for sale Covered Implementations." [65]

The Software Freedom Law Center has examined (http://www.softwarefreedom.org/resources/2006/Open Document.html) whether there are any legal barriers to the use of the OpenDocument Format (ODF) in free and open source software arising from the standardization process. In their opinion ODF is free of legal encumbrances that would prevent its use in free and open source software, as distributed under licenses authored by Apache and the FSF.

Response

Support for OpenDocument

Several governments, companies, organizations and software products support the OpenDocument format. For example:

- The OpenDoc Society runs frequent <u>ODF Plugfests</u> in association with industry groups and Public Sector organisations. The 10th Plugfest [66] was hosted by the UK <u>Government Digital Service</u> in conjunction with industry associations including the <u>OpenForum Europe</u> and <u>OpenUK</u> (formerly Open Source Consortium).
 - An output of the 10th Plugfest was an ODF toolkit [67] which includes "Open Document Format principles for Government Technology" that has the purpose of simply explaining the case for ODF directed at the "average civil servant" and includes an extract from the UK Government policy relating to Open Document Format.
 - The toolkit also includes a single page graphical image^[68] designed to articulate the consequences of not choosing Open Document Format. The illustration has now been translated into more than 10 languages.
- Information technology companies like <u>Apple Inc.</u>, <u>Adobe Systems</u>, <u>Google</u>, <u>IBM</u>, <u>Intel</u>, <u>Microsoft</u>, <u>Nokia</u>, <u>Novell</u>, <u>Red Hat</u>, <u>Oracle</u> as well as other companies who may or may not be working inside the OASIS OpenDocument Adoption Technical Committee.
- Over 600 companies and organizations promote OpenDocument format through The OpenDocument Format Alliance. [69]
- NATO with its 26 members uses ODF as a mandatory standard for all members. [70]
- The TAC (Telematics between Administrations Committee), composed of e-government policy-makers from the 25 <u>European Union</u> Member States, endorsed a set of recommendations for promoting the use of open document formats in the public sector. [71]
- The free office suites <u>Apache OpenOffice</u>, <u>Calligra</u>, <u>KOffice</u>, <u>NeoOffice</u> and <u>LibreOffice</u> all use OpenDocument as their default file format.
- Several organisations, such as the OpenDocument Fellowship (https://web.archive.org/web/20071027064136/http://opendocumentfellowship.com/) and OpenDoc Society (http://opendocsociety.org/) Archived (https://web.archive.org/web/20211119055806/http://opendocsociety.org/) 19 November 2021 at the Wayback Machine were founded to support and promote OpenDocument.
- The UK government has adopted ODF as the standard for all documents in the UK civil service^[72]
- The Russian government has recommended adopting ODF as the standard in the public sector as by GOST R ISO/MEK 26300-2010
- The <u>Wikimedia Foundation</u> supports ODF export from <u>MediaWiki</u>, which powers <u>Wikipedia</u> and a number of other Internet wiki-based sites. [73]
- The default text processing applications in Windows 10 (WordPad) and Mac OS 10.9 (TextEdit) support OpenDocument Text.

On 4 November 2005, IBM and Sun Microsystems convened the "OpenDocument (ODF) Summit" in Armonk, New York, to discuss how to boost OpenDocument adoption. The ODF Summit brought together representatives from several industry groups and technology companies, including Oracle, Google, Adobe, Novell, Red Hat, Computer Associates, Corel, Nokia, Intel, and Linux e-mail company Scalix (LaMonica, 10 November 2005). The providers committed resources to technically improve OpenDocument through existing standards bodies and to promote its usage in the marketplace, possibly through a stand-alone foundation. Scholars have suggested that the "OpenDocument standard is the wedge that can hold open the door for competition, particularly with regard to the specific concerns of the public sector. Indeed, adoption by the public sector has risen considerably since the promulgation of the OpenDocument format initiated the 2005/2006 time period.

- Different applications using ODF as a standard document format have different methods of providing macro/scripting capabilities. There is no macro language specified in ODF. Users and developers differ on whether inclusion of a standard scripting language would be desirable. [76]
- The ODF specification for tracked changes is limited and does not fully specify all cases, resulting in implementation-specific behaviors. [77] In addition, OpenDocument does not support change tracking in elements like tables or MathML. [78]
- It is not permitted to use generic ODF formatting style elements (like font information) for the MathML elements. [78]

Adoption

One objective of open formats like OpenDocument is to guarantee long-term access to data without legal or technical barriers, and some governments have come to view open formats as a public policy issue. Several governments around the world have introduced policies of partial or complete adoption. What this means varies from case to case; in some cases, it means that the ODF standard has a national standard identifier; in some cases, it means that the ODF standard is permitted to be used where national regulation says that non-proprietary formats must be used, and in still other cases, it means that some government body has actually decided that ODF will be used in some specific context. The following is an incomplete list:

- International
 - NATO^[79]
 - European Union^{[71][80]}
- Argentina
- Belgium
- Brazil
- Croatia
- Finland
- Denmark
- France
- Germany^[81]
- Hungary
- India
- Italy
- Japan
- Latvia^[82]

- Malaysia
- Netherlands^[83]
- Norway^[84]
- Poland^[85]
- Portugal^[86]
- Russia^{[note 1][87]}
- Slovakia
- Sweden^[88]
- Serbia
- South Africa
- South Korea
- Switzerland
- Taiwan^{[89][90][91]}
- Turkey
- United Kingdom^[92]
- Uruguay^[93]
- Venezuela
- Subnational
 - Andalusia, Spain
 - Assam, India
 - Extremadura, Spain
 - Hong Kong, China
 - Kerala, India
 - Massachusetts, United States^[94]
 - Misiones, Argentina
 - Munich, Bavaria, Germany^[95]
 - Paraná, Brazil

See also

- OpenDocument technical specification
- Comparison of Office Open XML and OpenDocument
- Comparison of document markup languages
- List of document markup languages
- OpenDocument software
- Reactions to Microsoft lobbying at ISO

Notes

1. The standard that was proclaimed to be national is in fact the following: «ISO/IEC 26300:2006 "Information technology - Open Document Format for Office Applications (OpenDocument) v1.0"». Designation as the national standard only means that it's

encouraged to be used voluntarily and is not a legally bounding. <u>Eurasian Economic Union</u> is the territory where the standard is assumed to be applied.

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External links

- Media related to OpenDocument at Wikimedia Commons
- OpenDocumentFormat.org (http://opendocumentformat.org/) Portal for consumers, business users, and developers with information on OpenDocument format.
- Document Freedom Day (https://web.archive.org/web/20150105141925/http://documentfreedom.org/index.en.html)
- OpenDoc Society (http://opendocsociety.org/) Archived (https://web.archive.org/web/202111 19055806/http://opendocsociety.org/) 19 November 2021 at the Wayback Machine Association with members around the world that promote best practices in office productivity such as OpenDocument format.
- OpenDocument Fellowship (https://web.archive.org/web/20171026125034/http://opendocumentfellowship.com/) Volunteer organization with members around the world to promote the adoption, use, and development of the OpenDocument format.
- OpenDocument XML.org (http://opendocument.xml.org/) The official community gathering place and information resource for the OpenDocument OASIS Standard (ISO/IEC 26300).
- OASIS OpenDocument Technical Committee (http://www.oasis-open.org/committees/tc_hom e.php?wg_abbrev=office) coordinates the OpenDocument development and is the official source for specifications, schemas, etc.
- Technical disputes regarding ODF vs. OOXML (http://www.robweir.com/blog/2009/06/odf-lies -and-whispers.html)
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