

Preliminary

# [MS-OFFDI]: Microsoft Office File Format Documentation Introduction

---

## Intellectual Property Rights Notice for Open Specifications Documentation

- **Technical Documentation.** Microsoft publishes Open Specifications documentation for protocols, file formats, languages, standards as well as overviews of the interaction among each of these technologies.
- **Copyrights.** This documentation is covered by Microsoft copyrights. Regardless of any other terms that are contained in the terms of use for the Microsoft website that hosts this documentation, you may make copies of it in order to develop implementations of the technologies described in the Open Specifications and may distribute portions of it in your implementations using these technologies or your documentation as necessary to properly document the implementation. You may also distribute in your implementation, with or without modification, any schema, IDL's, or code samples that are included in the documentation. This permission also applies to any documents that are referenced in the Open Specifications.
- **No Trade Secrets.** Microsoft does not claim any trade secret rights in this documentation.
- **Patents.** Microsoft has patents that may cover your implementations of the technologies described in the Open Specifications. Neither this notice nor Microsoft's delivery of the documentation grants any licenses under those or any other Microsoft patents. However, a given Open Specification may be covered by Microsoft [Open Specification Promise](#) or the [Community Promise](#). If you would prefer a written license, or if the technologies described in the Open Specifications are not covered by the Open Specifications Promise or Community Promise, as applicable, patent licenses are available by contacting [iplg@microsoft.com](mailto:iplg@microsoft.com).
- **Trademarks.** The names of companies and products contained in this documentation may be covered by trademarks or similar intellectual property rights. This notice does not grant any licenses under those rights.
- **Fictitious Names.** The example companies, organizations, products, domain names, e-mail addresses, logos, people, places, and events depicted in this documentation are fictitious. No association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

**Reservation of Rights.** All other rights are reserved, and this notice does not grant any rights other than specifically described above, whether by implication, estoppel, or otherwise.

**Tools.** The Open Specifications do not require the use of Microsoft programming tools or programming environments in order for you to develop an implementation. If you have access to Microsoft programming tools and environments you are free to take advantage of them. Certain Open Specifications are intended for use in conjunction with publicly available standard specifications and network programming art, and assumes that the reader either is familiar with the aforementioned material or has immediate access to it.

**Preliminary Documentation.** This Open Specification provides documentation for past and current releases and/or for the pre-release (beta) version of this technology. This Open Specification is final documentation for past or current releases as specifically noted in the document, as applicable; it is

preliminary documentation for the pre-release (beta) versions. Microsoft will release final documentation in connection with the commercial release of the updated or new version of this technology. As the documentation may change between this preliminary version and the final version of this technology, there are risks in relying on preliminary documentation. To the extent that you incur additional development obligations or any other costs as a result of relying on this preliminary documentation, you do so at your own risk.

## Revision Summary

Date	Revision History	Revision Class	Comments
03/18/2009	1.0	Major	Initial Availability
07/13/2009	1.01	Major	Changes made for template compliance
08/28/2009	1.02	Editorial	Revised and edited the technical content
11/06/2009	1.03	Editorial	Revised and edited the technical content
02/19/2010	2.0	Editorial	Revised and edited the technical content
03/31/2010	2.01	Editorial	Revised and edited the technical content
04/30/2010	2.02	Editorial	Revised and edited the technical content
06/07/2010	2.03	Editorial	Revised and edited the technical content
06/29/2010	2.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
11/15/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
12/17/2010	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
03/18/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
06/10/2011	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
01/20/2012	2.04	No change	No changes to the meaning, language, or formatting of the technical content.
04/11/2012	2.04	No change	No changes to the meaning, language, or formatting of the technical content.

# Table of Contents

1.1	Glossary .....	6
1.2	References.....	6
1.2.1	Normative References.....	6
1.2.2	Informative References.....	7
<b>2</b>	<b>Microsoft Word Persistence Formats .....</b>	<b>8</b>
2.1	Word Binary File Format .....	8
2.1.1	Applicability.....	8
2.1.2	Application and Versions .....	8
2.1.3	File Name Extensions.....	8
2.2	Ecma Office Open XML Document .....	9
2.2.1	Applicability.....	9
2.2.2	Application and Versions .....	9
2.2.3	File Name Extensions.....	9
2.2.4	Reference Information .....	9
2.3	Office Open XML Document.....	10
2.3.1	Applicability.....	10
2.3.2	Application and Versions .....	10
2.3.3	File Name Extensions.....	10
2.3.4	Reference Information .....	10
2.4	OpenDocument Text Document .....	11
2.4.1	Applicability.....	11
2.4.2	Application and Versions .....	11
2.4.3	File Name Extensions.....	11
2.4.4	Reference Information .....	11
<b>3</b>	<b>Microsoft Excel Persistence Formats .....</b>	<b>12</b>
3.1	Excel Binary File Format .....	12
3.1.1	Applicability.....	12
3.1.2	Application and Versions .....	12
3.1.3	File Name Extensions.....	12
3.2	Office Excel 2007 Binary File Format .....	13
3.2.1	Applicability.....	13
3.2.2	Application and Versions .....	13
3.2.3	File Name Extensions.....	13
3.3	Ecma Office Open XML Spreadsheet.....	13
3.3.1	Applicability.....	13
3.3.2	Application and Versions .....	13
3.3.3	File Name Extensions.....	14
3.3.4	Reference Information .....	14
3.4	Office Open XML Spreadsheet.....	14
3.4.1	Applicability.....	14
3.4.2	Applications and Versions .....	15
3.4.3	File Name Extensions.....	15
3.4.4	Reference Information .....	15
3.5	OpenDocument Spreadsheet Document.....	15
3.5.1	Applicability.....	15
3.5.2	Application and Versions .....	15
3.5.3	File Name Extensions.....	15
3.5.4	Reference Information .....	16

<b>4 Microsoft PowerPoint Persistence Formats .....</b>	<b>17</b>
4.1 PowerPoint Binary File Format .....	17
4.1.1 Applicability .....	17
4.1.2 Application and Versions .....	17
4.1.3 File Name Extensions .....	17
4.2 Ecma Office Open XML Presentation .....	18
4.2.1 Applicability .....	18
4.2.2 Application and Versions .....	18
4.2.3 File Name Extensions .....	18
4.2.4 Reference Information .....	18
4.3 Office Open XML Presentation .....	19
4.3.1 Applicability .....	19
4.3.2 Application and Versions .....	19
4.3.3 File Name Extensions .....	19
4.3.4 Reference Information .....	19
4.4 OpenDocument Presentation Document .....	20
4.4.1 Applicability .....	20
4.4.2 Application and Versions .....	20
4.4.3 File Name Extensions .....	20
4.4.4 Reference Information .....	20
<b>5 Change Tracking .....</b>	<b>21</b>
<b>6 Index .....</b>	<b>22</b>

## 1 Introduction

This document introduces the persistence formats that are primarily used by the following product versions:

- Microsoft® Excel® 97
- Microsoft® Excel® 2000
- Microsoft® Excel® 2002
- Microsoft® Office Excel® 2003
- Microsoft® Office Excel® 2007
- Microsoft® Excel® 2010
- Microsoft® PowerPoint® 97
- Microsoft® PowerPoint® 2000
- Microsoft® PowerPoint® 2002
- Microsoft® Office PowerPoint® 2003
- Microsoft® Office PowerPoint® 2007
- Microsoft® PowerPoint® 2010
- Microsoft® Word 97

- Microsoft® Word 2000
- Microsoft® Word 2002
- Microsoft® Office Word 2003
- Microsoft® Office Word 2007
- Microsoft® Word 2010

Each format consists of a set of data structures to which applications can read or write data, typically by writing a conforming stream of bytes to a file system as a stand-alone file.

In addition to introducing the persistence formats that are primarily used by these product versions, this document identifies related documents and specifications that provide more information about each format and how each format is implemented in each product version.

## 1.1 Glossary

The following terms are defined in [\[MS-OFCGLOS\]](#):

**animation**  
**document template**  
**drawing object**  
**embedded object**  
**formula**  
**presentation**  
**slide**  
**slide show**  
**table**  
**template**  
**workbook**  
**XML schema**

The following terms are specific to this document:

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as described in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

References to Microsoft Open Specifications documentation do not include a publishing year because links are to the latest version of the documents, which are updated frequently. References to other documents include a publishing year when one is available.

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[ECMA-376] ECMA International, "Office Open XML File Formats", 1st Edition, ECMA-376, December 2006, <http://www.ecma-international.org/publications/standards/Ecma-376.htm>

[ISO/IEC-29500:2008] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Parts 1-4", Publicly Available Standards, <http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html>

[MS-DOC] Microsoft Corporation, "[Word Binary File Format \(.doc\) Structure Specification](#)".

[MS-OLEDS] Microsoft Corporation, "[Object Linking and Embedding \(OLE\) Data Structures](#)".

[MS-PPT] Microsoft Corporation, "[PowerPoint Binary File Format \(.ppt\) Structure Specification](#)".

[MS-XLS] Microsoft Corporation, "[Excel Binary File Format \(.xls\) Structure Specification](#)".

[MS-XLSB] Microsoft Corporation, "[Excel Binary File Format \(.xlsb\) Structure Specification](#)".

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

### 1.2.2 Informative References

[MSDN-COMPAC] Microsoft Corporation, "Microsoft Office Compatibility Pack for Word, Excel, and PowerPoint 2007 File Formats", Microsoft Download Center, <http://www.microsoft.com/downloads/details.aspx?familyid=941B3470-3AE9-4AEE-8F43-C6BB74CD1466&displaylang=en>

[MS-OFGLS] Microsoft Corporation, "[Microsoft Office Master Glossary](#)".

[MS-OI29500] Microsoft Corporation, "[Office Implementation Information for ISO/IEC 29500 Standards Support](#)".

[MS-OODF] Microsoft Corporation, "[Office Implementation Information for ODF 1.1 Standards Support](#)".

[MS-OODF2] Microsoft Corporation, "[Office Implementation Information for ODF 1.1 Version 2 Standards Support](#)".

[ODF] OASIS, "Open Document Format for Office Applications (OpenDocument) v1.1", 1 February 2007, <http://www.oasis-open.org/specs/#opendocumentv1.1>

[RELAXNG] OASIS, Clark, J., Ed., and Makoto, M., Ed., "RELAX NG Specification", 3 December 2001, <http://relaxng.org/spec-20011203.html>

## 2 Microsoft Word Persistence Formats

Microsoft Word supports primarily four file formats:

- Word Binary File Format, as specified in [\[MS-DOC\]](#)
- Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#)
- Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#)
- Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#)

### 2.1 Word Binary File Format

#### 2.1.1 Applicability

The Word Binary File Format, as specified in [\[MS-DOC\]](#), is a persistence format that supports word-processing tasks for content in documents and **document templates**. These tasks include authoring and manipulating text, images, **tables**, and the layout of pages, and managing custom **XML schemas** that are associated with document content.

The Word Binary File Format is applicable to document content that is intended to flow across a set of pages and might be printed. It is also applicable to content that is to be presented as a stand-alone document or is contained within other documents as an **embedded object**, as specified in [\[MS-OLEDS\]](#).

The Word Binary File Format is not applicable to content that is to be presented across various media and devices as an exact reproduction of a specific representation of that content.

#### 2.1.2 Application and Versions

Users can create, open, or save files that conform to the Word Binary File Format, as specified in [\[MS-DOC\]](#), by using Microsoft® Word 2010, Microsoft® Office Word 2007, Microsoft® Office Word 2003, Microsoft® Word 2002, Microsoft® Word 2000, or Microsoft® Word 97.

#### 2.1.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Word Binary File Format, as specified in [\[MS-DOC\]](#), and were created by using a product version identified in section [2.1.2](#).

File name extension	Typical usage
.doc	Microsoft® Office Word 2003, Microsoft® Word 2002, Microsoft® Word 2000, or Microsoft® Word 97 document
.dot	Office Word 2003, Word 2002, Word 2000, or Word 97 document template

## 2.2 Ecma Office Open XML Document

### 2.2.1 Applicability

The Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), is a persistence format that supports the same types of word-processing tasks described in section [2.1.1](#). It additionally provides the following benefits:

- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by Ecma International instead of a single, specific vendor.

### 2.2.2 Application and Versions

By using Microsoft® Word 2010, users can open document files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#). To create document files that conform to the Office Open XML File Format that is specified in [\[ISO/IEC-29500:2008\]](#), and pursuant to the implementation notes that are cited in section [2.3.4](#) of this document, Word 2010 is required. For more information, see section [2.3](#).

Users can create, open, or save conforming document files by using Microsoft® Office Word 2007 Service Pack 2, Microsoft® Office Word 2007 Service Pack 1, or Microsoft® Office Word 2007. In addition, if they install the Microsoft Office Compatibility Pack, as described in [\[MSDN-COMPAC\]](#), users can create, open, or save conforming document files by using Microsoft® Office Word 2003 Service Pack 1, Microsoft® Word 2002 Service Pack 3, or Microsoft® Word 2000 Service Pack 3.

### 2.2.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#) and pursuant to the implementation notes that are cited in section [2.2.4](#) of this document, and were created by using a product version identified in section [2.2.2](#).

File name extension	Typical usage
.docx	Microsoft® Office Word 2007 XML-based document
.docm	Office Word 2007 macro-enabled document
.dotx	Office Word 2007 XML-based document template

### 2.2.4 Reference Information

The Ecma Office Open XML File Format is specified in [\[ECMA-376\]](#). That specification includes relevant normative text, markup samples, informative notes, and the associated schemas for the format. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the 2007 Microsoft® Office system implementation of the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), are described in [\[MS-OE376\]](#). These notes

describe how the 2007 Office system applications implement the format and they are organized according to sections of the Ecma Office Open XML File Format specification.

## 2.3 Office Open XML Document

### 2.3.1 Applicability

The Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), is a persistence format that supports the same types of word-processing tasks described in section [2.1.1](#). It additionally provides the following benefits:

- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by the International Organization for Standardization (ISO) instead of a single, specific vendor.

### 2.3.2 Application and Versions

By using Microsoft® Word 2010, users can create, open, or save document files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [2.3.4](#) of this document.

### 2.3.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [2.3.4](#) of this document, and were created by using a product version identified in section [2.3.2](#).

File name extension	Typical usage
.docx	Microsoft® Word 2010 XML-based document
.docm	Word 2010 macro-enabled document
.dotx	Word 2010 XML-based document template

### 2.3.4 Reference Information

The Office Open XML File Format is specified in [\[ISO/IEC-29500:2008\]](#). That specification includes relevant normative text, markup samples, informative notes, and associated schemas for the format. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), are described in [\[MS-OI29500\]](#). These notes describe how Office 2010 applications implement the format and they are organized according to sections of the Office Open XML File Format specification.

## 2.4 OpenDocument Text Document

### 2.4.1 Applicability

The Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#), is an appropriate persistence format for performing word-processing tasks with documents that might need to be viewed or edited by using other applications or technologies that implement the OpenDocument format.

### 2.4.2 Application and Versions

By using Microsoft® Word 2010 or Microsoft® Office Word 2007 Service Pack 2, users can create, open, or save document files that conform to the OpenDocument format, as described in [\[ODF\]](#) and pursuant to the implementation notes that are cited in section [2.4.4](#) of this document.

### 2.4.3 File Name Extensions

Document files that conform to the OpenDocument format, as described in [\[ODF\]](#) and pursuant to the implementation notes that are cited in section [2.4.4](#) of this document, and were created by using a product version identified in section [2.4.2](#) typically have an .odt (OpenDocument format document) file name extension.

### 2.4.4 Reference Information

The OpenDocument format is described in [\[ODF\]](#). That specification includes relevant normative text and informative notes. It also provides the associated schema in Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the OpenDocument format are described in [\[MS-OODF2\]](#). Implementation notes for the Microsoft® Office 2007 Service Pack 2 (SP2) implementation of the OpenDocument format are described in [\[MS-OODF\]](#). These notes describe how Office 2010 and Office 2007 SP2 applications implement the format and they are organized according to sections of the OpenDocument format specification.

## 3 Microsoft Excel Persistence Formats

Microsoft Excel supports primarily five file formats:

- Excel Binary File Format, as specified in [\[MS-XLS\]](#)
- Office Excel 2007 Binary File Format, as specified in [\[MS-XLSB\]](#)
- Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#)
- Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#)
- Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#)

### 3.1 Excel Binary File Format

#### 3.1.1 Applicability

The Excel Binary File Format, as specified in [\[MS-XLS\]](#), is a persistence format that supports authoring and manipulating content in **workbooks** and workbook **templates**. This content can include unstructured or semi-structured tables of numbers, text, and combinations of numbers and text, in addition to **formulas**, connections to external data sources, charts, and images.

The Excel Binary File Format is applicable to content that has a grid-based layout, including content that contains numeric data, structured data, and formulas. It is also applicable to content that is to be presented as a stand-alone workbook or is contained within other documents as an embedded object, as specified in [\[MS-OLEDS\]](#).

#### 3.1.2 Application and Versions

Users can create, open, or save workbook files that conform to the Excel Binary File Format, as specified in [\[MS-XLS\]](#), by using Microsoft® Excel® 2010, Microsoft® Office Excel® 2007, Microsoft® Office Excel® 2003, Microsoft® Excel® 2002, Microsoft® Excel® 2000, or Microsoft® Excel® 97.

#### 3.1.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Excel Binary File Format, as specified in [\[MS-XLS\]](#), and were created by using a product version identified in section [3.1.2](#).

File name extension	Typical usage
.xls	Microsoft® Office Excel® 2003, Microsoft® Excel® 2002, Microsoft® Excel® 2000, or Microsoft® Excel® 97 workbook
.xlt	Office Excel 2003, Excel 2002, Excel 2000, or Excel 97 workbook template

## 3.2 Office Excel 2007 Binary File Format

### 3.2.1 Applicability

The Office Excel 2007 Binary File Format, as specified in [\[MS-XLSB\]](#), is a persistence format that supports the same types of tasks described in section [3.1.1](#). It is applicable to content that has a grid-based layout, including content that contains numeric data, structured data, and formulas. It is also applicable to content that is to be presented as a stand-alone workbook or is contained within other documents as an embedded object, as specified in [\[MS-OLEDS\]](#).

### 3.2.2 Application and Versions

By using Microsoft® Excel® 2010 or Microsoft® Office Excel® 2007, users can create, open, or save workbook files that conform to the Office Excel 2007 Binary File Format, as specified in [\[MS-XLSB\]](#). In addition, if they install the Microsoft Office Compatibility Pack, as described in [\[MSDN-COMPAC\]](#), users can create, open, or save conforming workbook files by using Microsoft® Office Excel® 2003 Service Pack 1, Microsoft® Excel® 2002 Service Pack 3, or Microsoft® Excel® 2000 Service Pack 3.

### 3.2.3 File Name Extensions

Workbook files that conform to the Office Excel 2007 Binary File Format, as specified in [\[MS-XLSB\]](#), and were created by using a product version identified in section [3.2.2](#) typically have an .xlsb (Excel 2007 binary workbook) file name extension.

## 3.3 Ecma Office Open XML Spreadsheet

### 3.3.1 Applicability

The Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), is an appropriate persistence format for spreadsheets that require the functionality provided by the Excel Binary File Format, as specified in [\[MS-XLS\]](#). It additionally provides the following benefits:

- Standard syntax – The format uses a documented, standard syntax for formulas in spreadsheets.
- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by Ecma International instead of a single, specific vendor.

### 3.3.2 Application and Versions

By using Microsoft® Excel® 2010, users can open spreadsheet files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#). To create spreadsheet files that conform to the Office Open XML File Format that is specified in [\[ISO/IEC-29500:2008\]](#), and pursuant to the implementation notes that are cited in section [3.4.4](#) of this document, Excel 2010 is required. For more information, see section [3.4](#).

Users can create, open, or save conforming spreadsheet files by using Microsoft® Office Excel® 2007 Service Pack 2, Microsoft® Office Excel® 2007 Service Pack 1, or Microsoft® Office Excel® 2007. In addition, if they install the Microsoft Office Compatibility Pack, as described in [\[MSDN-](#)

[COMPAC](#)], users can create, open, or save conforming spreadsheet files by using Microsoft® Office Excel® 2003 Service Pack 1, Microsoft® Excel® 2002 Service Pack 3, or Microsoft® Excel® 2000 Service Pack 3.

### 3.3.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#) and pursuant to the implementation notes that are cited in section [3.3.4](#) of this document, and were created by using a product version identified in section [3.3.2](#).

File name extension	Typical usage
.xlsx	Microsoft® Office Excel® 2007 XML-based workbook
.xlsm	Office Excel 2007 macro-enabled workbook
.xltx	Office Excel 2007 XML-based workbook template

### 3.3.4 Reference Information

The Ecma Office Open XML File Format is specified in [\[ECMA-376\]](#). That specification includes relevant normative text, markup samples, informative notes, and the associated schemas for the format. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the 2007 Microsoft® Office system implementation of the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), are described in [\[MS-OE376\]](#). These notes describe how the 2007 Office system applications implement the format and they are organized according to sections of the Ecma Office Open XML File Format specification.

## 3.4 Office Open XML Spreadsheet

### 3.4.1 Applicability

The Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), is an appropriate persistence format for spreadsheets that require the functionality of the Excel Binary File Format, as specified in [\[MS-XLS\]](#), and the interoperability and archival benefits of using an open, standard format. It additionally provides the following benefits:

- Standard syntax – The format uses a documented, standard syntax for formulas in spreadsheets.
- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by the International Organization for Standardization (ISO) instead of a single, specific vendor.

### 3.4.2 Applications and Versions

By using Microsoft® Excel® 2010, users can create, open, and save spreadsheet files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [3.4.4](#) of this document.

### 3.4.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [3.4.4](#) of this document, and were created by using a product version identified in section [3.4.2](#).

File name extension	Typical usage
.xlsx	Microsoft® Excel® 2010 XML-based workbook
.xlsm	Excel 2010 macro-enabled workbook
.xltx	Excel 2010 XML-based workbook template

### 3.4.4 Reference Information

The Office Open XML File Format is specified in [\[ISO/IEC-29500:2008\]](#). That specification includes relevant normative text, markup samples, informative notes, and associated schemas for the format. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), are described in [\[MS-OI29500\]](#). These notes describe how Office 2010 applications implement the format and they are organized according to sections of the Office Open XML File Format specification.

## 3.5 OpenDocument Spreadsheet Document

### 3.5.1 Applicability

The Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#), is an appropriate persistence format for performing tasks with spreadsheets that might need to be viewed or edited by using other applications or technologies that implement the OpenDocument format.

### 3.5.2 Application and Versions

By using Microsoft® Excel® 2010 or Microsoft® Office Excel® 2007 Service Pack 2, users can create, open, or save spreadsheet files that conform to the OpenDocument format, as described in [\[ODF\]](#) and pursuant to the implementation notes that are cited in section [3.5.4](#) of this document.

### 3.5.3 File Name Extensions

Spreadsheet files that conform to the OpenDocument format, as described in [\[ODF\]](#) and pursuant to the implementation notes that are cited in section [3.5.4](#) of this document, and were created by using a product version identified in section [3.5.2](#) typically have an .ods (OpenDocument format spreadsheet) file name extension.

### 3.5.4 Reference Information

The OpenDocument format is described in [\[ODF\]](#). That specification includes relevant normative text and informative notes. It also provides the associated schema in Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the OpenDocument format are described in [\[MS-ODDF2\]](#). Implementation notes for the Microsoft® Office 2007 Service Pack 2 (SP2) implementation of the OpenDocument format are described in [\[MS-ODDF\]](#). These notes describe how Office 2010 and Office 2007 SP2 applications implement the format and they are organized according to sections of the OpenDocument format specification.

Preliminary

## 4 Microsoft PowerPoint Persistence Formats

Microsoft PowerPoint supports primarily four file formats:

- PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#)
- Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#)
- Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#)
- Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#)

### 4.1 PowerPoint Binary File Format

#### 4.1.1 Applicability

The PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#), is a persistence format that supports tasks for authoring and manipulating content in **presentations** and presentation templates. Such content includes **slides**, **drawing objects**, text, images, transitions, and **animations**.

The PowerPoint Binary File Format is applicable when the primary format for presentation content is electronic. It is also applicable to content that is to be presented as a stand-alone document or is contained within other documents as an embedded object, as specified in [\[MS-OLEDS\]](#).

#### 4.1.2 Application and Versions

Users can create, open, or save files that conform to the PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#), by using Microsoft® PowerPoint® 2010, Microsoft® Office PowerPoint® 2007, Microsoft® Office PowerPoint® 2003, Microsoft® PowerPoint® 2002, Microsoft® PowerPoint® 2000, or Microsoft® PowerPoint® 97.

#### 4.1.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#), and were created by using a product version identified in section [4.1.2](#).

File name extension	Typical usage
.ppt	Microsoft® Office PowerPoint® 2003, Microsoft® PowerPoint® 2000, or Microsoft® PowerPoint® 97 presentation
.pot	Office PowerPoint 2003, PowerPoint 2000, or PowerPoint 97 presentation template
.pps	Office PowerPoint 2003, PowerPoint 2000, or PowerPoint 97 <b>slide show</b>

## 4.2 Ecma Office Open XML Presentation

### 4.2.1 Applicability

The Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), is an appropriate persistence format for presentation content that requires the functionality provided by the PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#). It additionally provides the following benefits:

- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by Ecma International instead of a single, specific vendor.

### 4.2.2 Application and Versions

By using Microsoft® PowerPoint® 2010, users can open presentation files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#). To create presentation files that conform to the Office Open XML File Format that is specified in [\[ISO/IEC-29500:2008\]](#), and pursuant to the implementation notes that are cited in section [4.3.4](#) of this document, PowerPoint 2010 is required. For more information, see section [4.3](#).

Users can create, open, or save conforming presentation files by using Microsoft® Office PowerPoint® 2007 Service Pack 2, Microsoft® Office PowerPoint® 2007 Service Pack 1, or Microsoft® Office PowerPoint® 2007. In addition, if they install the Microsoft Office Compatibility Pack, as described in [\[MSDN-COMPAC\]](#), users can create, open, and save conforming presentation files by using Microsoft® Office PowerPoint® 2003 Service Pack 1, Microsoft® PowerPoint® 2002 Service Pack 3, or Microsoft® PowerPoint® 2000 Service Pack 3.

### 4.2.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#) and pursuant to the implementation notes that are cited in section [4.2.4](#) of this document, and were created by using a product version identified in section [4.2.2](#).

File name extension	Typical usage
.pptx	Microsoft® Office PowerPoint® 2007 XML-based presentation
.pptm	Office PowerPoint 2007 macro-enabled presentation
.potx	Office PowerPoint 2007 XML-based presentation template
.ppsx	Office PowerPoint 2007 XML-based slide show

### 4.2.4 Reference Information

The Ecma Office Open XML File Format is specified in [\[ECMA-376\]](#). That specification includes relevant normative text, markup samples, informative notes, and the associated schemas for the format. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the 2007 Microsoft® Office system implementation of the Ecma Office Open XML File Format, as specified in [\[ECMA-376\]](#), are described in [\[MS-OE376\]](#). These notes describe how the 2007 Office system applications implement the format and they are organized according to sections of the Ecma Office Open XML File Format specification.

## 4.3 Office Open XML Presentation

### 4.3.1 Applicability

The Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), is an appropriate persistence format for presentation content that requires the functionality provided by the PowerPoint Binary File Format, as specified in [\[MS-PPT\]](#). It additionally provides the following benefits:

- Improved interoperability and business process integration – The XML-based architecture and approval of the format as an international standard help ensure interoperability and integration between documents and technologies.
- Long-term archival protection – The format is documented and maintained by the International Organization for Standardization (ISO) instead of a single, specific vendor.

### 4.3.2 Application and Versions

By using Microsoft® PowerPoint® 2010, users can create, open, or save presentation files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [4.2.4](#) of this document.

### 4.3.3 File Name Extensions

The following table lists file name extensions and descriptions of files that conform to the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#) and pursuant to the implementation notes that are cited in section [4.3.4](#) of this document, and were created by using a product version identified in section [4.3.2](#).

File name extension	Typical usage
.pptx	Microsoft® PowerPoint® 2010 XML-based presentation
.pptm	PowerPoint 2010 macro-enabled presentation
.potx	PowerPoint 2010 XML-based presentation template
.ppsx	PowerPoint 2010 XML-based slide show

### 4.3.4 Reference Information

The Office Open XML File Format is specified in [\[ISO/IEC-29500:2008\]](#). That specification includes relevant normative text, markup samples, informative notes, and the associated schemas. The associated schemas are available in XML schema (.xsd) format and Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the Office Open XML File Format, as specified in [\[ISO/IEC-29500:2008\]](#), are described in [\[MS-OI29500\]](#). These notes

describe how Office 2010 applications implement the format and they are organized according to sections of the Office Open XML File Format specification.

## **4.4 OpenDocument Presentation Document**

### **4.4.1 Applicability**

The Open Document Format for Office Applications (OpenDocument), as described in [\[ODF\]](#), is an appropriate persistence format for presentations that might need to be viewed or edited by using other applications or technologies that implement the OpenDocument format.

### **4.4.2 Application and Versions**

By using Microsoft® PowerPoint® 2010 or Microsoft® Office PowerPoint® 2007 Service Pack 2, users can create, open, or save presentation files that conform to the OpenDocument format, as specified in [\[ODF\]](#) and pursuant to the implementation notes that are cited in [section 4.4.4](#) of this document.

### **4.4.3 File Name Extensions**

Presentation files that conform to the OpenDocument format, as described in [\[ODF\]](#) and pursuant to the implementation notes that are cited in [section 4.4.4](#) of this document, and were created by using a product version identified in [section 4.4.2](#) typically have an .odp (OpenDocument format presentation) file name extension.

### **4.4.4 Reference Information**

The OpenDocument format is described in [\[ODF\]](#). That specification includes relevant normative text and informative notes. It also provides the associated schema in Relax NG (.rng) format, which is described in [\[RELAXNG\]](#).

Implementation notes for the Microsoft Office 2010 implementation of the OpenDocument format are described in [\[MS-OODF2\]](#). Implementation notes for the Microsoft® Office 2007 Service Pack 2 (SP2) implementation of the OpenDocument format are described in [\[MS-OODF\]](#). These notes describe how Office 2010 and Office 2007 SP2 applications implement the format and they are organized according to sections of the OpenDocument format specification.

## 5 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

Preliminary

## 6 Index

[.doc file name extension](#) 8  
.docm file name extension ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
.docx file name extension ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
[.dot file name extension](#) 8  
.dotx file name extension ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
[.odp file name extension](#) 20  
[.ods file name extension](#) 15  
[.odt file name extension](#) 11  
[.pot file name extension](#) 17  
.potx file name extension ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.pps file name extension](#) 17  
.ppsx file name extension ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.ppt file name extension](#) 17  
.pptm file name extension ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
.pptx file name extension ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.xls file name extension](#) 12  
[.xlsb file name extension](#) 13  
.xslm file name extension ([section 3.3.3](#) 14, [section 3.4.3](#) 15)  
.xlsx file name extension ([section 3.3.3](#) 14, [section 3.4.3](#) 15)  
[.xlt file name extension](#) 12  
.xltx file name extension ([section 3.3.3](#) 14, [section 3.4.3](#) 15)

### A

Applicability – binary file formats  
[Excel](#) 12  
[Excel 2007](#) 13  
[PowerPoint](#) 17  
[Word](#) 8  
Applicability - Ecma Office Open XML File Format  
[Excel](#) 13  
[PowerPoint](#) 18  
[Word](#) 9  
Applicability - Office Open XML File Format  
[Excel](#) 14  
[PowerPoint](#) 19  
[Word](#) 10  
Applicability - Open Document Format for Office Applications (OpenDocument)  
[Excel](#) 15  
[PowerPoint](#) 20  
[Word](#) 11  
Application – binary file formats  
[Excel](#) 12  
[Excel 2007](#) 13  
[PowerPoint](#) 17  
[Word](#) 8

Application - Ecma Office Open XML File Format  
[Excel](#) 13  
[PowerPoint](#) 18  
[Word](#) 9  
Application - Office Open XML File Format  
[Excel](#) 15  
[PowerPoint](#) 19  
[Word](#) 10  
Application - Open Document Format for Office Applications (OpenDocument)  
[Excel](#) 15  
[PowerPoint](#) 20  
[Word](#) 11

### B

Binary file formats  
Excel ([section 3.1.1](#) 12, [section 3.2.1](#) 13)  
[PowerPoint](#) 17  
[Word](#) 8

### C

[Change tracking](#) 21

### E

Ecma Office Open XML File Format – applicability  
[Excel](#) 13  
[PowerPoint](#) 18  
[Word](#) 9  
Ecma Office Open XML File Format - application and versions  
[Excel](#) 13  
[PowerPoint](#) 18  
[Word](#) 9  
Excel 2007 Binary File Format  
[applicability](#) 13  
[application and versions](#) 13  
Excel Binary File Format  
[applicability](#) 12  
[application and versions](#) 12  
Excel persistence formats  
[Ecma Office Open XML File Format](#) 13  
[Excel Binary File Format](#) 12  
[Office Excel 2007 Binary File Format](#) 13  
[Office Open XML File Format](#) 14  
[Open Document Format for Office Applications \(OpenDocument\)](#) 15  
[overview](#) 12

### F

File formats - overview  
[Excel](#) 12  
[PowerPoint](#) 17  
[Word](#) 8

File name extensions

[.doc](#) 8  
[.docm](#) ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
[.docx](#) ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
[.dot](#) 8  
[.dotx](#) ([section 2.2.3](#) 9, [section 2.3.3](#) 10)  
[.odp](#) 20  
[.ods](#) 15  
[.odt](#) 11  
[.pot](#) 17  
[.potx](#) ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.pps](#) 17  
[.ppsx](#) ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.ppt](#) 17  
[.pptm](#) ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.pptx](#) ([section 4.2.3](#) 18, [section 4.3.3](#) 19)  
[.xls](#) 12  
[.xlsb](#) 13  
[.xism](#) ([section 3.3.3](#) 14, [section 3.4.3](#) 15)  
[.xlsx](#) ([section 3.3.3](#) 14, [section 3.4.3](#) 15)  
[.xlt](#) 12  
[.xltx](#) ([section 3.3.3](#) 14, [section 3.4.3](#) 15)

File name extensions - binary file formats

Excel ([section 3.1.3](#) 12, [section 3.2.3](#) 13)  
[PowerPoint](#) 17  
[Word](#) 8

File name extensions - Ecma Office Open XML File Format

[Excel](#) 14  
[PowerPoint](#) 18  
[Word](#) 9

File name extensions - Office Open XML File Format

[Excel](#) 15  
[PowerPoint](#) 19  
[Word](#) 10

File name extensions - Open Document Format for Office Applications (OpenDocument)

[Excel](#) 15  
[PowerPoint](#) 20  
[Word](#) 11

**G**

[Glossary](#) 6

**I**

Implementation notes - Ecma Office Open XML File Format

[Excel](#) 14  
[PowerPoint](#) 18  
[Word](#) 9

Implementation notes - Office Open XML File Format

[Excel](#) 15  
[PowerPoint](#) 19  
[Word](#) 10

Implementation notes - Open Document Format for Office Applications (OpenDocument)

[Excel](#) 16  
[PowerPoint](#) 20  
[Word](#) 11

[Informative references](#) 7

[Introduction](#) 5

**N**

[Normative references](#) 6

**O**

Office Excel 2007 Binary File Format

[applicability](#) 13  
[application and versions](#) 13

Office Open XML File Format - applicability

[Excel](#) 14  
[PowerPoint](#) 19  
[Word](#) 10

Office Open XML File Format - application and versions

[Excel](#) 15  
[PowerPoint](#) 19  
[Word](#) 10

Open Document Format for Office Applications (OpenDocument) - applicability

[Excel](#) 15  
[PowerPoint](#) 20  
[Word](#) 11

Open Document Format for Office Applications (OpenDocument) - application and versions

[Excel](#) 15  
[PowerPoint](#) 20  
[Word](#) 11

**P**

Persistence formats

[Excel](#) 12  
[PowerPoint](#) 17  
[Word](#) 8

PowerPoint Binary File Format

[applicability](#) 17  
[application and versions](#) 17

PowerPoint persistence formats

[Ecma Office Open XML File Format](#) 18  
[Office Open XML File Format](#) 19  
[Open Document Format for Office Applications \(OpenDocument\)](#) 20  
[overview](#) 17  
[PowerPoint Binary File Format](#) 17

**R**

Reference information - Ecma Office Open XML File Format

[Excel](#) 14  
[PowerPoint](#) 18  
[Word](#) 9

Reference information - Office Open XML File Format

[Excel](#) 15  
[PowerPoint](#) 19  
[Word](#) 10

Reference information - Open Document Format for Office Applications (OpenDocument)

[Excel](#) 16

[PowerPoint](#) 20

[Word](#) 11

References

[informative](#) 7

[normative](#) 6

## T

[Tracking changes](#) 21

## V

Versions

[Excel 2007 Binary File Format](#) 13

[Excel Binary File Format](#) 12

[PowerPoint Binary File Format](#) 17

[Word Binary File Format](#) 8

Versions - Ecma Office Open XML File Format

[Excel](#) 13

[PowerPoint](#) 18

[Word](#) 9

Versions - Office Open XML File Format

[Excel](#) 15

[PowerPoint](#) 19

[Word](#) 10

Versions - Open Document Format for Office Applications (OpenDocument)

[Excel](#) 15

[PowerPoint](#) 20

[Word](#) 11

## W

Word Binary File Format

[applicability](#) 8

[application and versions](#) 8

Word persistence formats

[Ecma Office Open XML File Format](#) 9

[Office Open XML File Format](#) 10

[Open Document Format for Office Applications \(OpenDocument\)](#) 11

[overview](#) 8

[Word Binary File Format](#) 8