
**Information technology — Document
description and processing languages —
Office Open XML File Formats —**

**Part 4:
Transitional Migration Features**

*Technologies de l'information — Description des documents et
langages de traitement — Formats de fichier "Office Open XML" —*

Partie 4: Caractéristiques de migration transitoire

This document is a preview generated by EVIS



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Table of Contents

Foreword.....	xiii
Introduction	xiv
1. Scope.....	1
2. Conformance	2
2.1 Document Conformance.....	2
2.2 Application Conformance	2
3. Normative References.....	4
4. Terms and Definitions	8
5. Notational Conventions.....	11
6. Acronyms and Abbreviations.....	12
7. General Description.....	13
8. Additional Shared Parts.....	15
8.1 VML Drawing Part	15
9. WordprocessingML	17
9.1 Part Summary (Part 1, §11.3)	17
9.1.1 Alternative Format Import Part (Part 1, §11.3.1)	17
9.1.2 Comments Part (Part 1, §11.3.2)	17
9.1.3 Document Settings Part (Part 1, §11.3.3)	17
9.1.4 Endnotes Part (Part 1, §11.3.4).....	17
9.1.5 Fonts Table Part (Part 1, §11.3.5)	17
9.1.6 Footer Part (Part 1, §11.3.6)	17
9.1.7 Footnotes Part (Part 1, §11.3.7).....	18
9.1.8 Glossary Document Part (Part 1, §11.3.8)	18
9.1.9 Header Part (Part 1, §11.3.9)	18
9.1.10 Main Document Part (Part 1, §11.3.10).....	18
9.1.11 Numbering Definitions Part (Part 1, §11.3.11)	18
9.1.12 Style Definitions Part (Part 1, §11.3.12).....	18
9.1.13 Web Settings Part (Part 1, §11.3.13).....	18
9.2 Document Template (Part 1, §11.4)	19
9.3 Framesets (Part 1, §11.5).....	19
9.4 Master Documents and Subdocuments (Part 1, §11.6)	19
9.5 Mail Merge Data Source (Part 1, §11.7)	19
9.6 Mail Merger Header Data Source (Part 1, §11.8)	19
9.7 XSL Transformation (Part 1, §11.9).....	19
10. SpreadsheetML.....	20
10.1 Part Summary (Part 1, §12.3)	20
10.1.1 Calculation Chain Part (Part 1, §12.3.1).....	20
10.1.2 Chartsheet Part (Part 1, §12.3.2)	20
10.1.3 Comments Part (Part 1, §12.3.3)	20

10.1.4	Connections Part (Part 1, §12.3.4).....	20
10.1.5	Custom Property Part (Part 1, §12.3.5).....	20
10.1.6	Custom XML Mappings Part (Part 1, §12.3.6).....	21
10.1.7	Dialogsheet Part (Part 1, §12.3.7).....	21
10.1.8	Drawings Part (Part 1, §12.3.8).....	21
10.1.9	External Workbook References Part (Part 1, §12.3.9).....	21
10.1.10	Metadata Part (Part 1, §12.3.10).....	21
10.1.11	Pivot Table Part (Part 1, §12.3.11).....	21
10.1.12	Pivot Table Cache Definition Part (Part 1, §12.3.12).....	21
10.1.13	Pivot Table Cache Records Part (Part 1, §12.3.13).....	22
10.1.14	Query Table Part (Part 1, §12.3.14).....	22
10.1.15	Shared Strings Table Part (Part 1, §12.3.15).....	22
10.1.16	Shared Workbook Revision Headers Part (Part 1, §12.3.16).....	22
10.1.17	Shared Workbook Revision Log Part (Part 1, §12.3.17).....	22
10.1.18	Shared Workbook User Data part (Part 1, §12.3.18).....	22
10.1.19	Single Cell Table Definitions Part (Part 1, §12.3.19).....	22
10.1.20	Styles Part (Part 1, §12.3.20).....	23
10.1.21	Table Definition Part (Part 1, §12.3.21).....	23
10.1.22	Volatile Dependencies Part (Part 1, §12.3.22).....	23
10.1.23	Workbook Part (Part 1, §12.3.23).....	23
10.1.24	Worksheet Part (Part 1, §12.3.24).....	23
10.2	External Workbooks (Part 1, §12.4).....	23
11.	PresentationML.....	24
11.1	Part Summary (Part 1, §13.3).....	24
11.1.1	Comment Authors Part (Part 1, §13.3.1).....	24
11.1.2	Comments Part (Part 1, §13.3.2).....	24
11.1.3	Handout Master Part (Part 1, §13.3.3).....	24
11.1.4	Notes Master Part (Part 1, §13.3.4).....	24
11.1.5	Notes Slide Part (Part 1, §13.3.5).....	24
11.1.6	Presentation Part (Part 1, §13.3.6).....	25
11.1.7	Presentation Properties Part (Part 1, §13.3.7).....	25
11.1.8	Slide Part (Part 1, §13.3.8).....	25
11.1.9	Slide Layout Part (Part 1, §13.3.9).....	25
11.1.10	Slide Master Part (Part 1, §13.3.10).....	25
11.1.11	Slide Synchronization Data Part (Part 1, §13.3.11).....	25
11.1.12	User Defined Tags Part (Part 1, §13.3.12).....	25
11.1.13	View Properties Part (Part 1, §13.3.13).....	26
11.2	HTML Publish Location (Part 1, §13.4).....	26
11.3	Slide Synchronization Server Location (Part 1, §13.5).....	26
12.	DrawingML.....	27
12.1	Part Summary (Part 1, §14.2).....	27
12.1.1	Chart Part (Part 1, §14.2.1).....	27
12.1.2	Chart Drawing Part (Part 1, §14.2.2).....	27
12.1.3	Diagram Colors Part (Part 1, §14.2.3).....	27
12.1.4	Diagram Data Part (Part 1, §14.2.4).....	27
12.1.5	Diagram Layout Definition Part (Part 1, §14.2.5).....	27
12.1.6	Diagram Style Part (Part 1, §14.2.6).....	28

12.1.7	Theme Part (Part 1, §14.2.7).....	28
12.1.8	Theme Override Part (Part 1, §14.2.8).....	28
12.1.9	Table Styles Part (Part 1, §14.2.9).....	28
13.	Shared MLs.....	29
13.1	Part Summary (Part 1, §15.2).....	29
13.1.1	Additional Characteristics Part (Part 1, §15.2.1).....	29
13.1.2	Audio Part (Part 1, §15.2.2).....	29
13.1.3	Bibliography Part (Part 1, §15.2.3).....	29
13.1.4	Content Part (Part 1, §15.2.4).....	29
13.1.5	Custom XML Data Storage Part (Part 1, §15.2.5).....	29
13.1.6	Custom XML Data Storage Properties Part (Part 1, §15.2.6).....	29
13.1.7	Embedded Control Persistence Part (Part 1, §15.2.9).....	30
13.1.8	Embedded Object Part (Part 1, §15.2.10).....	30
13.1.9	Embedded Package Part (Part 1, §15.2.11).....	30
13.1.10	Core File Properties Part (Part 1, §15.2.12.1).....	30
13.1.11	Custom File Properties Part (Part 1, §15.2.12.2).....	30
13.1.12	Extended File Properties Part (Part 1, §15.2.12.3).....	30
13.1.13	Font Part (Part 1, §15.2.13).....	30
13.1.14	Image Part (Part 1, §15.2.14).....	30
13.1.15	Printer Settings Part (Part 1, §15.2.15).....	30
13.1.16	Thumbnail Part (Part 1, §15.2.16).....	31
13.1.17	Video Part (Part 1, §15.2.17).....	31
13.2	Hyperlinks Part (Part 1, §15.3).....	31
14.	WordprocessingML Reference Material.....	32
14.1	Table of Contents.....	32
14.2	Paragraphs and Rich Formatting.....	35
14.2.1	Paragraphs.....	35
14.2.2	Run Content.....	37
14.3	Tables.....	39
14.3.1	left (Table Cell Leading Edge Border).....	39
14.3.2	left (Table Leading Edge Border).....	39
14.3.3	left (Table Cell Leading Margin Exception).....	39
14.3.4	left (Table Cell Leading Margin Default).....	40
14.3.5	right (Table Cell Trailing Edge Border).....	40
14.3.6	right (Table Trailing Edge Border).....	40
14.3.7	right (Table Cell Trailing Margin Default).....	40
14.3.8	right (Table Cell Trailing Margin Exception).....	40
14.3.9	Additional attribute for cnfStyle element (Part 1, §17.4.7).....	40
14.3.10	Additional attribute for cnfStyle element (Part 1, §17.4.8).....	42
14.3.11	Additional attribute for tblLook element (Part 1, §17.4.55).....	43
14.3.12	Additional attribute for tblLook element (Part 1, §17.4.56).....	43
14.3.13	hMerge (Horizontally Merged Cell).....	44
14.4	Fonts.....	46
14.4.1	Elements.....	46
14.5	Numbering.....	48
14.5.1	pict (Picture Numbering Symbol Properties).....	48
14.5.2	legacy (Legacy Numbering Level Properties).....	49

14.6	Annotations	50
14.6.1	Revisions	50
14.7	Settings	59
14.7.1	Legacy Password Hash Algorithm	59
14.7.2	Document Settings.....	66
14.7.3	Compatibility Settings	80
14.7.4	Web Page Settings	159
14.8	Miscellaneous Topics.....	160
14.8.1	Text Box Content.....	160
14.9	Fields and Hyperlinks.....	162
14.9.1	Syntax.....	162
14.9.2	Legacy language references.....	163
14.9.3	Use of DOS File Paths.....	170
14.9.4	Field definitions.....	170
14.9.5	fldData (Custom Field Data).....	179
14.9.6	fldData (Custom Field Data).....	180
14.9.7	hyperlink (Hyperlink) (Part 1, §17.16.22).....	181
14.10	Simple Types.....	181
14.10.1	Additional member types for the union in ST_DecimalNumberOrPercent (Part 1, §17.18.11) ...	181
14.10.2	Additional enumeration values for ST_Jc (Part 1, §17.18.44).....	181
14.10.3	Additional enumeration values for ST_JcTable (Part 1, §17.18.45).....	181
14.10.4	Additional enumeration values for ST_NumberFormat (Part 1, §17.18.59)	182
14.10.5	Additional enumeration values for ST_StyleSort (Part 1, §17.18.82).....	182
14.10.6	Additional enumeration values for ST_TabJc (Part 1, §17.18.84).....	183
14.10.7	Additional enumeration values for ST_TextDirection (Part 1, §17.18.93).....	183
14.10.8	Additional member types for the union in ST_TextScale (Part 1, §17.18.95)	183
14.10.9	ST_Cnf (Conditional Formatting Bitmask).....	183
14.10.10	ST_UnqualifiedPercentage (Percentage Value Without Percent Sign).....	185
14.10.11	ST_TextScaleDecimal (Text Expansion/Compression Percentage).....	185
14.11	Changed attributes	186
14.11.1	Changed attribute for contentPart element (Part 1, §17.3.3.2).....	186
14.11.2	Changed attribute for control element (Part 1, §17.3.3.3).....	187
14.11.3	Changed attribute for movie element (Part 1, §17.3.3.17).....	187
14.11.4	Changed attribute for objectEmbed element (Part 1, §17.3.3.20).....	188
14.11.5	Changed attribute for objectLink element (Part 1, §17.3.3.21).....	189
14.11.6	Changed attribute for bottom element (Part 1, §17.6.2)	189
14.11.7	Changed attribute for left element (Part 1, §17.6.7).....	190
14.11.8	Changed attribute for printerSettings element (Part 1, §17.6.14)	191
14.11.9	Changed attribute for right element (Part 1, §17.6.15).....	192
14.11.10	Changed attribute for top element (Part 1, §17.6.21).....	192
14.11.11	Changed attribute for embedBold element (Part 1, §17.8.3.3).....	194
14.11.12	Changed attribute for embedBoldItalic element (Part 1, §17.8.3.4).....	194
14.11.13	Changed attribute for embedItalic element (Part 1, §17.8.3.5)	195
14.11.14	Changed attribute for embedRegular element (Part 1, §17.8.3.6).....	196
14.11.15	Changed attribute for footerReference element (Part 1, §17.10.2).....	196
14.11.16	Changed attribute for headerReference element (Part 1, §17.10.5)	197
14.11.17	Changed attribute for dataSource element (Part 1, §17.14.9).....	198
14.11.18	Changed attribute for headerSource element (Part 1, §17.14.16).....	198

14.11.19	Changed attribute for recipientData element (Part 1, §17.14.28)	199
14.11.20	Changed attribute for src element (Part 1, §17.14.30)	200
14.11.21	Changed attribute for attachedTemplate element (Part 1, §17.15.1.6)	200
14.11.22	Changed attribute for saveThroughXslt element (Part 1, §17.15.1.76)	201
14.11.23	Changed attribute for longDesc element (Part 1, §17.15.2.23)	201
14.11.24	Changed attribute for sourceFileName element (Part 1, §17.15.2.39)	202
14.11.25	Changed attribute for subDoc element (Part 1, §17.17.1.1)	203
14.11.26	Changed attribute for altChunk element (Part 1, §17.17.2.1)	203
15.	SpreadsheetML Reference Material	205
15.1	Table of Contents	205
15.2	Workbook	206
15.2.1	Additional attribute for fileSharing element (Part 1, §18.2.12)	206
15.2.2	Additional attribute for webPublishing element (Part 1, §18.2.24)	206
15.2.3	Additional attributes for workbookProtection element (Part 1, §18.2.29)	206
15.2.4	Modified content for Date Conversion for Serial Date-Times (Part 1, §18.17.4.1)	212
15.3	Worksheets	213
15.3.1	Worksheets	213
15.3.2	AutoFilter Settings	216
15.4	Styles	217
15.4.1	left (Leading Edge Border)	217
15.4.2	right (Trailing Edge Border)	217
15.5	Pivot Tables	217
15.5.1	Pivot Tables	217
15.6	External Data Connections	218
15.6.1	Additional attribute for textPr element (Part 1, §18.13.12)	218
15.7	Simple Types	218
15.7.1	Additional enumeration values for ST_PivotAreaType (Part 1, §18.18.58)	218
15.7.2	ST_UnsignedShortHex (Unsigned Short Hex)	218
15.7.3	Removed enumeration values for ST_CellType (Part 1, §18.18.11)	219
15.8	Formulas	219
15.8.1	Attribute synonym for c element (Part 1, §18.6.1)	219
15.8.2	Additional representation for dates and times (Part 1, §18.17.4)	219
15.9	Changed attributes	219
15.9.1	Changed attribute for externalReference element (Part 1, §18.2.8)	219
15.9.2	Changed attribute for pivotCache element (Part 1, §18.2.17)	219
15.9.3	Changed attribute for sheet element (Part 1, §18.2.19)	220
15.9.4	Changed attribute for control element (Part 1, §18.3.1.19)	220
15.9.5	Changed attribute for controlPr element (Part 1, §18.3.1.20)	220
15.9.6	Changed attribute for customPr element (Part 1, §18.3.1.22)	221
15.9.7	Changed attribute for dataRef element (Part 1, §18.3.1.30)	221
15.9.8	Changed attribute for drawing element (Part 1, §18.3.1.36)	221
15.9.9	Changed attribute for drawingHF element (Part 1, §18.3.1.37)	221
15.9.10	Changed attribute for hyperlink element (Part 1, §18.3.1.47)	222
15.9.11	Changed attribute for objectPr element (Part 1, §18.3.1.56)	222
15.9.12	Changed attribute for oleObject element (Part 1, §18.3.1.59)	222
15.9.13	Changed attribute for pageSetup element (Part 1, §18.3.1.63)	223
15.9.14	Changed attribute for pageSetup element (Part 1, §18.3.1.64)	223

15.9.15	Changed attribute for picture element (Part 1, §18.3.1.67).....	223
15.9.16	Changed attribute for pivotSelection element (Part 1, §18.3.1.69)	223
15.9.17	Changed attribute for tablePart element (Part 1, §18.3.1.94)	223
15.9.18	Changed attribute for pivotCacheDefinition element (Part 1, §18.10.1.67)	224
15.9.19	Changed attribute for rangeSet element (Part 1, §18.10.1.79).....	224
15.9.20	Changed attribute for worksheetSource element (Part 1, §18.10.1.95).....	224
15.9.21	Changed attribute for header element (Part 1, §18.11.1.1).....	224
15.9.22	Changed attribute for externalBook element (Part 1, §18.14.7).....	225
15.9.23	Changed attribute for oleLink element (Part 1, §18.14.11).....	225
16.	PresentationML Reference Material	226
16.1	Table of Contents.....	226
16.2	Presentation.....	227
16.2.1	Presentation Properties	227
16.3	Slides.....	235
16.3.1	Embedded Objects.....	235
16.4	Simple Types.....	236
16.4.1	ST_WebColorType (HTML Slide Navigation Control Colors).....	236
16.4.2	ST_WebEncoding (Web Encoding).....	236
16.4.3	ST_WebScreenSize (HTML/Web Screen Size Target)	236
16.5	Changed attributes	237
16.5.1	Changed attribute for bold element (Part 1, §19.2.1.1)	237
16.5.2	Changed attribute for boldItalic element (Part 1, §19.2.1.2)	238
16.5.3	Changed attribute for font element (Part 1, §19.2.1.13)	238
16.5.4	Changed attribute for handoutMasterId element (Part 1, §19.2.1.14).....	240
16.5.5	Changed attribute for italic element (Part 1, §19.2.1.16).....	240
16.5.6	Changed attribute for notesMasterId element (Part 1, §19.2.1.20)	241
16.5.7	Changed attribute for notesSz element (Part 1, §19.2.1.22).....	241
16.5.8	Changed attribute for regular element (Part 1, §19.2.1.29).....	242
16.5.9	Changed attribute for sld element (Part 1, §19.2.1.31).....	242
16.5.10	Changed attribute for sldId element (Part 1, §19.2.1.33).....	242
16.5.11	Changed attribute for sldMasterId element (Part 1, §19.2.1.36).....	242
16.5.12	Changed attribute for SmartTags element (Part 1, §19.2.1.40)	243
16.5.13	Changed attribute for gridSpacing element (Part 1, §19.2.2.3).....	243
16.5.14	Changed attribute for origin element (Part 1, §19.2.2.9).....	244
16.5.15	Changed attribute for sld element (Part 1, §19.2.2.14).....	244
16.5.16	Changed attribute for bgRef element (Part 1, §19.3.1.3).....	245
16.5.17	Changed attribute for blipFill element (Part 1, §19.3.1.4).....	245
16.5.18	Changed attribute for clrMap element (Part 1, §19.3.1.6).....	245
16.5.19	Changed attribute for cNvPicPr element (Part 1, §19.3.1.11)	247
16.5.20	Changed attribute for cNvPr element (Part 1, §19.3.1.12).....	247
16.5.21	Changed attribute for cNvSpPr element (Part 1, §19.3.1.13).....	249
16.5.22	Changed attribute for contentPart element (Part 1, §19.3.1.14).....	249
16.5.23	Changed attribute for custData element (Part 1, §19.3.1.17).....	250
16.5.24	Changed attribute for grpSpPr element (Part 1, §19.3.1.23)	250
16.5.25	Changed attribute for sldLayoutId element (Part 1, §19.3.1.40).....	250
16.5.26	Changed attribute for spPr element (Part 1, §19.3.1.44)	250
16.5.27	Changed attribute for tags element (Part 1, §19.3.1.47)	251

16.5.28	Changed attribute for xfrm element (Part 1, §19.3.1.53).....	251
16.5.29	Changed attribute for control element (Part 1, §19.3.2.1).....	252
16.5.30	Changed attribute for oleObj element (Part 1, §19.3.2.4).....	252
16.5.31	Changed attribute for pos element (Part 1, §19.4.5)	252
16.5.32	Changed attribute for snd element (Part 1, §19.5.68)	253
16.5.33	Changed attribute for sndTgt element (Part 1, §19.5.70)	253
17.	DrawingML - Framework Reference Material.....	254
17.1	DrawingML - Main	254
17.1.1	Table of Contents.....	254
17.1.2	Simple Types	254
17.2	DrawingML - Legacy Compatibility	258
17.2.1	Table of Contents.....	258
17.2.2	Basics.....	259
17.3	Changed attributes	260
17.3.1	Changed attribute for hlinkHover element (Part 1, §20.1.2.2.23).....	260
17.3.2	Changed attribute for snd element (Part 1, §20.1.2.2.32)	260
17.3.3	Changed attribute for audioFile element (Part 1, §20.1.3.2)	260
17.3.4	Changed attribute for quickTimeFile element (Part 1, §20.1.3.4).....	261
17.3.5	Changed attribute for videoFile element (Part 1, §20.1.3.6).....	261
17.3.6	Changed attribute for wavAudioFile element (Part 1, §20.1.3.7)	261
17.3.7	Changed attribute for blip element (Part 1, §20.1.8.13)	261
17.3.8	Changed attribute for blipFill element (Part 1, §20.2.2.1).....	262
17.3.9	Changed attribute for cNvPicPr element (Part 1, §20.2.2.2)	262
17.3.10	Changed attribute for cNvPr element (Part 1, §20.2.2.3).....	263
17.3.11	Changed attribute for spPr element (Part 1, §20.2.2.6)	264
17.3.12	Changed attribute for docPr element (Part 1, §20.4.2.5).....	265
17.3.13	Changed attribute for extent element (Part 1, §20.4.2.7).....	266
17.3.14	Changed attribute for lineTo element (Part 1, §20.4.2.9)	267
17.3.15	Changed attribute for simplePos element (Part 1, §20.4.2.13).....	267
17.3.16	Changed attribute for start element (Part 1, §20.4.2.14).....	268
17.3.17	Changed attribute for blipFill element (Part 1, §20.5.2.2).....	269
17.3.18	Changed attribute for cNvPicPr element (Part 1, §20.5.2.7).....	269
17.3.19	Changed attribute for cNvPr element (Part 1, §20.5.2.8).....	270
17.3.20	Changed attribute for cNvSpPr element (Part 1, §20.5.2.9).....	271
17.3.21	Changed attribute for contentPart element (Part 1, §20.5.2.12).....	272
17.3.22	Changed attribute for ext element (Part 1, §20.5.2.14)	272
17.3.23	Changed attribute for grpSpPr element (Part 1, §20.5.2.18)	273
17.3.24	Changed attribute for pos element (Part 1, §20.5.2.26)	273
17.3.25	Changed attribute for spPr element (Part 1, §20.5.2.30)	274
17.3.26	Changed attribute for xfrm element (Part 1, §20.5.2.36).....	274
18.	DrawingML - Components Reference Material.....	276
18.1	DrawingML - Charts	276
18.1.1	Table of Contents.....	276
18.1.2	Elements	277
18.1.3	Simple Types	277
18.2	Changed attributes	281
18.2.1	Changed attribute for hlinkClick element (Part 1, §21.1.2.3.5).....	281

18.2.2	Changed attribute for hlinkMouseOver element (Part 1, §21.1.2.3.6)	281
18.2.3	Changed attribute for chart element (Part 1, §21.2.2.26).....	281
18.2.4	Changed attribute for clrMapOvr element (Part 1, §21.2.2.30).....	281
18.2.5	Changed attribute for externalData element (Part 1, §21.2.2.63)	283
18.2.6	Changed attribute for spPr element (Part 1, §21.2.2.197).....	283
18.2.7	Changed attribute for userShapes element (Part 1, §21.2.2.221).....	284
18.2.8	Changed attribute for blipFill element (Part 1, §21.3.2.2).....	284
18.2.9	Changed attribute for cNvPicPr element (Part 1, §21.3.2.6).....	284
18.2.10	Changed attribute for cNvPr element (Part 1, §21.3.2.7).....	285
18.2.11	Changed attribute for cNvSpPr element (Part 1, §21.3.2.8).....	287
18.2.12	Changed attribute for ext element (Part 1, §21.3.2.10)	287
18.2.13	Changed attribute for grpSpPr element (Part 1, §21.3.2.14)	288
18.2.14	Changed attribute for spPr element (Part 1, §21.3.2.23).....	288
18.2.15	Changed attribute for xfrm element (Part 1, §21.3.2.28).....	289
18.2.16	Changed attribute for rellds element (Part 1, §21.4.2.22)	289
18.2.17	Changed attribute for shape element (Part 1, §21.4.2.27)	290
18.2.18	Changed attribute for spPr element (Part 1, §21.4.3.7).....	291
18.2.19	Changed attribute for sp3d element (Part 1, §21.4.5.6)	291
19.	VML Reference Material	294
19.1	VML.....	294
19.1.1	Table of Contents.....	295
19.1.2	Elements	296
19.1.3	Simple Types	671
19.2	VML - Office Drawing.....	678
19.2.1	Table of Contents.....	679
19.2.2	Elements	680
19.2.3	Simple Types	801
19.3	VML - WordprocessingML Drawing.....	811
19.3.1	Table of Contents.....	811
19.3.2	Elements	812
19.3.3	Simple Types	820
19.4	VML - SpreadsheetML Drawing.....	826
19.4.1	Table of Contents.....	827
19.4.2	Elements	829
19.4.3	Simple Types	855
19.5	VML - PresentationML Drawing.....	857
19.5.1	Table of Contents.....	857
19.5.2	Elements	858
20.	Shared MLs Reference Material.....	860
20.1	Shared Simple Types.....	860
20.1.1	Table of Contents.....	860
20.1.2	Simple Types	860
20.2	Extended Properties (Part 1, §22.2)	864
20.3	Custom Properties (Part 1, §22.3)	864
20.4	Changed attributes	864
20.4.1	Changed attribute for sources element (Part 1, §22.6.2.60).....	864

Annex A. (normative) Schemas – W3C XML Schema	867
A.1 WordprocessingML.....	867
A.2 SpreadsheetML.....	936
A.3 PresentationML.....	1021
A.4 DrawingML - Framework.....	1053
A.4.1 DrawingML - Main.....	1053
A.4.2 DrawingML - Picture.....	1112
A.4.3 DrawingML - Locked Canvas.....	1112
A.4.4 DrawingML - WordprocessingML Drawing.....	1113
A.4.5 DrawingML - SpreadsheetML Drawing.....	1118
A.5 DrawingML - Components.....	1122
A.5.1 DrawingML - Charts.....	1122
A.5.2 DrawingML - Chart Drawings.....	1150
A.5.3 DrawingML - Diagrams.....	1153
A.6 VML.....	1174
A.6.1 VML.....	1174
A.6.2 VML - Office Drawing.....	1185
A.6.3 VML - WordprocessingML Drawing.....	1195
A.6.4 VML - SpreadsheetML Drawing.....	1197
A.6.5 VML - PresentationML Drawing.....	1199
A.7 Shared MLs.....	1199
A.7.1 Math.....	1199
A.7.2 Extended Properties.....	1210
A.7.3 Custom Properties.....	1211
A.7.4 Variant Types.....	1213
A.7.5 Custom XML Data Properties.....	1216
A.7.6 Bibliography.....	1217
A.7.7 Additional Characteristics.....	1220
A.7.8 Office Document Relationships.....	1220
A.7.9 Shared Simple Types.....	1221
A.8 Custom XML Schema References.....	1224
Annex B. (informative) Schemas – RELAX NG	1225
B.1 WordprocessingML.....	1225
B.1.1 Part Schemas.....	1270
B.2 SpreadsheetML.....	1276
B.2.1 Part Schemas.....	1364
B.3 PresentationML.....	1371
B.3.1 Part Schemas.....	1394
B.4 DrawingML - Framework.....	1398
B.4.1 DrawingML - Main.....	1398
B.4.2 DrawingML - Picture.....	1443
B.4.3 DrawingML - Locked Canvas.....	1443
B.4.4 DrawingML - Wordprocessing Drawing.....	1443
B.4.5 DrawingML - Spreadsheet Drawing.....	1447
B.5 DrawingML - Components.....	1449
B.5.1 DrawingML - Chart.....	1449
B.5.2 DrawingML - Chart Drawing.....	1468

B.5.3	DrawingML - Diagrams.....	1470
B.6	VML.....	1486
B.6.1	VML - Main.....	1486
B.6.2	VML - Office Drawing.....	1494
B.6.3	VML - Wordprocessing Drawing.....	1501
B.6.4	VML - Spreadsheet Drawing.....	1503
B.6.5	VML - Presentation Drawing.....	1505
B.6.6	Part Schemas.....	1505
B.7	Shared MLs.....	1507
B.7.1	Math.....	1507
B.7.2	Extended Properties.....	1512
B.7.3	Custom Properties.....	1513
B.7.4	Variant Types.....	1514
B.7.5	Custom XML Data Properties.....	1518
B.7.6	Bibliography.....	1518
B.7.7	Additional Characteristics.....	1521
B.7.8	Office Document Relationships.....	1521
B.7.9	Shared Simple Types.....	1522
B.8	Custom XML Schema References.....	1524
B.9	Additional Resources.....	1524
B.9.1	Any.....	1524
B.9.2	XML.....	1524
Annex C. (informative) Namespace Prefix Mapping in Examples.....		1525
Annex D. (informative) Differences Between ISO/IEC 29500 and ECMA-376:2006.....		1527
D.1	WordprocessingML.....	1527
D.2	SpreadsheetML.....	1529
D.3	PresentationML.....	1530
D.4	DrawingML.....	1530
D.4.1	DrawingML – Main.....	1530
D.4.2	DrawingML – Chart.....	1531
D.4.3	DrawingML – Diagrams.....	1531
D.4.4	DrawingML – Spreadsheet Drawing.....	1531
D.5	VML.....	1532
D.5.1	VML.....	1532
D.5.2	VML – Office Drawing.....	1532
D.5.3	VML – Spreadsheet Drawing.....	1532
D.6	Shared.....	1532
D.6.1	Shared – Bibliography.....	1532
D.6.2	Shared – Custom Properties Variant Types.....	1532
D.6.3	Shared – Math.....	1532
D.6.4	Shared Simple Types.....	1533
D.7	Custom XML Schema References.....	1533
Bibliography.....		1534

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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 29500-4 was prepared by ISO/IEC JTC 1, Information technology, Subcommittee SC 34, Document description and processing languages.

This third edition cancels and replaces the second edition (ISO/IEC 29500-4:2011), which has been technically revised by incorporation of the Amendment ISO/IEC 29500-4:2011/Amd.1:2012 and the Technical Corrigendum ISO/IEC 29500-4:2011/Cor.1:2012.

ISO/IEC 29500 consists of the following parts, under the general title *Information technology — Document description and processing languages — Office Open XML File Formats*:

- *Part 1: Fundamentals and Markup Language Reference*
- *Part 2: Open Packaging Conventions*
- *Part 3: Markup Compatibility and Extensibility*
- *Part 4: Transitional Migration Features*

Annex A forms a normative part of this Part of ISO/IEC 29500. Annexes B, C, and D are for information only.

This Part of ISO/IEC 29500 includes two annexes (Annex A and Annex B) that refer to data files provided in electronic form.

The document representation formats defined by this Part 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 D of this Part.

Introduction

ISO/IEC 29500 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 documents.

The intent of this Part of ISO/IEC 29500 is to enable a transitional period during which existing binary documents being migrated to ISO/IEC 29500 can make use of legacy features to preserve their fidelity, while noting that new documents should not use them. Part 1, §2.4, “Document Conformance”, notes that WML Strict, SML Strict and PML Strict documents do not use any of the features defined in Part 4.

This Part of ISO/IEC 29500 is normative for the current edition of ISO/IEC 29500, but is not guaranteed to be included in future revisions of that Standard. The intent is to enable the group responsible for maintenance of ISO/IEC 29500 to choose, at a later date, to remove this set of features from a revised version of that Standard.

In general, this Part of ISO/IEC 29500 augments Part 1, and inherits the provisions of that Part. Exceptions to this are indicated explicitly.

The following organizations have participated in the creation of ISO/IEC 29500 and their contributions are gratefully acknowledged:

Apple, Barclays Capital, BP, The British Library, Essilor, Intel, Microsoft, NextPage, Novell, Statoil, Toshiba, and the United States Library of Congress.

Information technology — Document description and processing languages — Office Open XML File Formats

Part 4: Transitional Migration Features

1. Scope

ISO/IEC 29500 defines a set of XML vocabularies for representing word-processing documents, spreadsheets and presentations. On the one hand, the goal of ISO/IEC 29500 is to represent faithfully the existing corpus of word-processing documents, spreadsheets and presentations that have been produced by Microsoft Office applications (from Microsoft Office 97 to Microsoft Office 2008, inclusive). It also specifies requirements for Office Open XML consumers and producers. On the other hand, the goal is to facilitate extensibility and interoperability by enabling implementations by multiple vendors and on multiple platforms.

This Part of ISO/IEC 29500 defines features for backward-compatibility and that are useful for high-quality migration of existing binary documents to ISO/IEC 29500. These features are used only by documents of conformance class WML Transitional (§2.1), SML Transitional (§2.1), or PML Transitional (§2.1). These features are sometimes needed for high-quality migration of existing binary documents to ISO/IEC 29500.

2. Conformance

2.1 Document Conformance

A document of conformance class Office Open XML Transitional shall be a package of conformance class OPC, as specified in ISO/IEC 29500-2, for which all the following shall hold:

- The document obeys all constraints specified in this Part of ISO/IEC 29500
- The document is of category Wordprocessing, Spreadsheet, or Presentation. These categories are defined in ISO/IEC 29500-1:2011 §4
- VML Drawing Parts (§8.1) are of conformance class MCE, as specified in ISO/IEC 29500-3. Any child elements of the root element of VMLDrawing Parts are valid against the VML schema shown in A.6, “VML”, after the removal of any extensions specified using the mechanisms in ISO/IEC 29500-3. VML Drawing Parts obey all constraints specified in this Part of ISO/IEC 29500
- For each OPC Part of the document of the types listed in §9.1 or ISO/IEC 29500-1:2011 §11.3, §12.3, §13.3, §14.2, and §15.2, all the following shall hold:
 - i. The part is of conformance class MCE, as specified in ISO/IEC 29500-3
 - ii. After the removal of any extensions using the mechanisms in ISO/IEC 29500-3, the part is valid against the Transitional W3C XML Schema (Annex A)

This Part of ISO/IEC 29500 uses the following further terms to refer to documents of conformance class Office Open XML Transitional:

- *WML Transitional*, if the document is of category Wordprocessing
- *SML Transitional*, if the document is of category Spreadsheet
- *PML Transitional*, if the document is of category Presentation

2.2 Application Conformance

Application conformance incorporates both syntax and semantics.

- A conforming consumer shall not reject any conforming documents of at least one document conformance class.
- A conforming producer shall be able to produce conforming documents of at least one document conformance class.
- A conforming application shall treat the information in Office Open XML documents in a manner consistent with the semantic definitions given in ISO/IEC 29500. An application's intended behavior need not require that application to process all of the information in an Office Open XML document. However, the information that it does process shall be processed in a manner that is consistent with the semantic definitions given in ISO/IEC 29500.

[Note: This note illustrates the third bullet above. Conforming applications might serve various functions. Examples include a viewer, an editor, and a back-end processor. Here is an illustration of how the third bullet applies to each of those examples:

- If a conforming viewer supports a given feature, then when it displays information using that feature, it respects the semantics of that feature as described in the Standard.
- If a conforming editor supports a given feature, then when it provides its user with an interface for manipulating information using that feature, it respects the semantics of that feature as described in the Standard.
- If a conforming back-end processor supports a given feature, then when that processor transforms or assembles information involving that feature, that processor respects the semantics of that feature as described in the Standard.

end note]

This Part of ISO/IEC 29500 defines the following application conformance classes:

- *WML Transitional*, if the application is a conforming application that is a consumer or producer of documents having conformance class WML Transitional.
- *SML Transitional*, if the application is a conforming application that is a consumer or producer of documents having conformance class SML Transitional.
- *PML Transitional*, if the application is a conforming application that is a consumer or producer of documents having conformance class PML Transitional.

3. 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.

ANSI X3.4-1986, *American Standard Code for Information Interchange (ASCII)*

Bureau of Standards, Metrology and Inspection of the Ministry of Economic Affairs, *CNS 7648: Data Elements and Interchange Formats — Information Interchange — Representation of Dates and Times*

Calendar Reform Committee, *Indian Ephemeris and Nautical Almanac*. 1957

Stokes, M., M. Anderson, S. Chandrasekar, and R. Motta. *A Standard Default color Space for the Internet*. Vers. 1.10. November 5, 1996. <http://www.w3.org/Graphics/Color/sRGB>

Har'El, Zvi, *Gauss Formula for the Julian Date of Passover*. Department of Mathematics, Technion, Israel Institute of Technology, Haifa 32000, Israel, 2005, 6

Duerst, M, and M Suignard. *Internationalized Resource Identifiers (IRIs)*. IETF. January 2005. <http://tools.ietf.org/html/rfc3987>

IANA, *Character Sets from IANA*, as specified at <http://www.iana.org/assignments/character-sets>

IANA. *MIME Media Types*. Internet Assigned Numbers Authority. <http://www.iana.org/assignments/media-types/>

IEC 60559:1989, *Binary Floating-Point Arithmetic for Microprocessor Systems*

ISO/IEC 2382-1:1993, *Information technology — Vocabulary — Part 1: Fundamental terms*

ISO 8601:2004, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/IEC 8859-1:1998, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1* (referred to in ISO/IEC 29500 as the ANSI character set)

ISO/IEC 9075-1, *Information technology — Database languages — SQL — Part 1: Framework (SQL/Framework)*

ISO/IEC 10118-3:2004, *Information technology — Security techniques — Hash-functions — Part 3: Dedicated hash-functions*.

ISO/IEC 10646, *Information technology — Universal Coded Character Set (UCS)*.

ISO/IEC 14496-22:2009, *Information technology — Coding of audio-visual objects — Part 22: Open Font Format*

ISO/IEC 29500-1:2012, *Information technology — Document description and processing languages — Office Open XML File Formats, Part 1: Fundamentals and Markup Language Reference.*

ISO/IEC 29500-3:2011, *Information technology — Document description and processing languages — Office Open XML File Formats — Part 3: Markup Compatibility and Extensibility*

Japanese Industrial Standard, JIS X 0301: *Data elements and interchange formats — Information interchange — Representation of dates and times.* Japan, 2002.

Kingdom of Saudi Arabia, Ministry of Islamic Affairs, Endowments, Da'wah and Guidance.

Korean Law Enactment No. 4, 1961.

Faure, D. (n.d.). *Creating and Using Components (KParts)*. <http://techbase.kde.org/Projects/Documentation>.

Maimon, Rabbi Moshe ben, *Complete Restatement of the Oral Law (Mishneh Torah)*.

Ausbrooks, Ron, et al. *Mathematical Markup Language (MathML) Version 2.0 (Second Edition)*. October 21, 2003. <http://www.w3.org/TR/MathML/>.

Kaliski, B. *The MD2 Message-Digest Algorithm*. April 1992. <http://www.ietf.org/rfc/rfc1319.txt>

Rivest, R. *The MD4 Message-Digest Algorithm*. April 1992. <http://www.ietf.org/rfc/rfc1320.txt>

The MD5 Message-Digest Algorithm. April 1992. <http://www.ietf.org/rfc/rfc1321.txt>

National Measurement Regulations 1999, Commonwealth of Australia
<http://www.comlaw.gov.au/Details/F2011C00445>

NIST Guide to SI Units, <http://physics.nist.gov/Pubs/SP811/appenB9.html>

QuickTime File Format Specification (2007-09-04 version)
<http://developer.apple.com/standards/classicquicktime.html>

Resource Description Framework (RDF), <http://www.w3.org/RDF/>

RFC 822, *Standard for ARPA Internet Text Messages* (<http://www.ietf.org/rfc/rfc0822.txt>)

RFC 2045, Borenstein, N., and N. Freed. *Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies*. The Internet Society. 1996. <http://www.ietf.org/rfc/rfc2045.txt>

RFC 2119, Bradner, Scott, 1997: *Key words for use in RFCs to Indicate Requirement Levels*.
<http://www.ietf.org/rfc/rfc2119.txt>

RFC 2616, Berners-Lee, T., R. Fielding, H. Frystyk, J. Gettys, P. Leach, L. Masinter, and J. Mogul. *Hypertext Transfer Protocol—HTTP/1.1*. The Internet Society. 1999. <http://www.ietf.org/rfc/rfc2616.txt>

RFC 3066, Alvestrand, H. *Tags for the Identification of Languages*. The Internet Society. 2001.

<http://www.ietf.org/rfc/rfc3066.txt>

RFC 3339, Klyne, G. and C. Newman. *Date and Time on the Internet: Timestamps*. The Internet Society. 2002.

<http://www.ietf.org/rfc/rfc3339.txt>

RFC 3629, Yergeau, F. *UTF-8, a transformation format of ISO 10646*. The Internet Society. 2003.

<http://www.ietf.org/rfc/rfc3629.txt>

RFC 3986, Berners-Lee, T., R. Fielding, and L. Masinter. *Uniform Resource Identifier (URI): Generic Syntax*. The Internet Society. 2005. <http://www.ietf.org/rfc/rfc3986.txt>

Simple Object Access Protocol (SOAP), <http://www.w3.org/TR/soap12>

SMIL, Bulterman, D., Grassel, G., Jansen, J., Koivisto, A., Layaïda, N., Michel, T., et al. (2005, December 13).

Synchronized Multimedia Integration Language (SMIL 2.1). Retrieved from W3C: <http://www.w3.org/TR/SMIL/>

SVG, Andersson, O., Armstrong, P., Axelsson, H., Berjon, R., Bézaire, B., Bowler, J., et al. (2003, January 14).

Scalable Vector Graphics (SVG) 1.1 Specification. Retrieved from W3C - World Wide Web Consortium:

<http://www.w3.org/TR/SVG/>

The GNOME Project. (2003, December 12). *Component Model - Bonobo Document Model*. Retrieved from The GNOME Development Site: <http://developer.gnome.org/arch/gnome/componentmodel/bonobo.htm>

The Unicode Consortium. *The Unicode Standard*, <http://www.unicode.org/standard/standard.html>

Unicode Technical Report #25, <http://www.unicode.org/reports/tr25/>

Unicode Technical Note #28, *Nearly Plain-Text Encoding of Mathematics*. August 29, 2006,

<http://www.unicode.org/notes/tn28>

United States Postal Service. *Domestic Mail Manual*. United States Postal Service. November 8, 2007.

<http://pe.usps.com/cpim/ftp/manuals/dmm300/Full/MailingStandards.pdf>

The Units of Measurement Regulations 1995, United Kingdom

http://www.opsi.gov.uk/si/si1995/Uksi_19951804_en_2.htm

Universal Postal Union. *POST*CODE: Postal addressing systems*. Berne: UPU Publications, 2006, ISBN 92-95025-37-7, ISSN 1020-6019

Web Accessibility Initiative (WAI), <http://www.w3.org/WAI/>

XSLT, Clark, James, *XSL Transformations (XSLT) Version 1.0*, World Wide Web Consortium Recommendation.

1999. <http://www.w3.org/TR/xslt>

XML, Tim Bray, Jean Paoli, Eve Maler, C. M. Sperberg-McQueen, and François Yergeau (editors). *Extensible Markup Language (XML) 1.0*, Fourth Edition.1 World Wide Web Consortium. 2006.

<http://www.w3.org/TR/2006/REC-xml-20060816/> [Implementers should be aware that a further correction of the normative reference to XML to refer to the 5th Edition will be necessary when the related Reference Specifications to which this International Standard also makes normative reference and which also depend upon XML, such as XSLT, XML Namespaces and XML Base, are all aligned with the 5th Edition.]

XML Base, Marsh, Jonathan. *XML Base*. World Wide Web Consortium. 2001. <http://www.w3.org/TR/2001/REC-xmlbase-20010627/>

XML Namespaces, Tim Bray, Dave Hollander, Andrew Layman, and Richard Tobin (editors). *Namespaces in XML 1.0 (Third Edition)*, 8 December 2009. World Wide Web Consortium. <http://www.w3.org/TR/2009/REC-xml-names-20091208/>

XPATH, Clark, James; DeRose, Steve. *XML Path Language (XPath) Version 1.0*, World Wide Web Consortium Recommendation. 1999. <http://www.w3.org/TR/xpath>.

XML Schema Part 0: Primer (Second Edition), W3C Recommendation 28 October 2004, <http://www.w3.org/TR/xmlschema-0/>

XML Schema Part 1: Structures (Second Edition), W3C Recommendation 28 October 2004, <http://www.w3.org/TR/xmlschema-1/>

XML Schema Part 2: Datatypes (Second Edition), W3C Recommendation 28 October 2004, <http://www.w3.org/TR/xmlschema-2/>

.ZIP File Format Specification from PKWARE, Inc., version 6.2.0 (2004), as specified in http://www.pkware.com/documents/APPNOTE/APPNOTE_6.2.0.