

# [MS-PPTX]: PowerPoint (.pptx) Extensions to the Office Open XML File Format

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## Revision Summary

Date	Revision History	Revision Class	Comments
07/13/2009	0.1	Major	Initial Availability
08/28/2009	0.2	Major	Updated and revised the technical content
11/06/2009	0.3	Editorial	Revised and edited the technical content
02/19/2010	1.0	Major	Updated and revised the technical content
03/31/2010	1.01	Editorial	Revised and edited the technical content
04/30/2010	1.02	Editorial	Revised and edited the technical content
06/07/2010	1.03	Editorial	Revised and edited the technical content
06/29/2010	1.04	Editorial	Changed language and formatting in the technical content.
07/23/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
09/27/2010	1.04	No change	No changes to the meaning, language, or formatting of the technical content.
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Preliminary

# Table of Contents

<b>1 Introduction</b>	<b>7</b>
1.1 Glossary	7
1.2 References	7
1.2.1 Normative References	7
1.2.2 Informative References	8
1.3 Overview	8
1.4 Relationship to Protocols and Other Structures	9
1.5 Applicability Statement	9
1.6 Versioning and Localization	9
1.7 Vendor-Extensible Fields	9
<b>2 Structures</b>	<b>10</b>
2.1 Part Enumerations	10
2.1.1 Media Part	10
2.2 Extensions	10
2.2.1 Slide Transition Extensions	10
2.2.2 Animation Info Extensions	11
2.2.3 Content Part Extensions	12
2.2.4 Media Extensions	13
2.2.5 Section Extensions	13
2.2.6 Slide Show Extensions	13
2.2.7 Image Extensions	14
2.2.8 Math Extensions	14
2.2.9 Change Tracking Extensions	14
2.2.10 Comment Extensions	14
2.2.11 Guide Extensions	15
2.2.12 Charting Extensions	16
2.3 Global Elements	16
2.3.1 vortex	16
2.3.2 switch	16
2.3.3 flip	17
2.3.4 ripple	17
2.3.5 honeycomb	18
2.3.6 prism	18
2.3.7 doors	19
2.3.8 window	19
2.3.9 ferris	20
2.3.10 gallery	20
2.3.11 conveyor	21
2.3.12 pan	21
2.3.13 glitter	22
2.3.14 warp	22
2.3.15 flythrough	22
2.3.16 flash	23
2.3.17 shred	23
2.3.18 reveal	24
2.3.19 wheelReverse	24
2.3.20 bmkJgt	25
2.3.21 nvContentPartPr	25
2.3.22 xfrm	25

2.3.23	extLst .....	25
2.3.24	media .....	26
2.3.25	sectionLst .....	26
2.3.26	browseMode .....	26
2.3.27	laserClr .....	27
2.3.28	defaultImageDpi.....	27
2.3.29	discardImageEditData .....	27
2.3.30	showMediaCtrls .....	27
2.3.31	laserTraceLst .....	28
2.3.32	creationId.....	28
2.3.33	modId .....	28
2.3.34	showEvtLst .....	29
2.3.35	presenceInfo.....	29
2.3.36	threadingInfo .....	29
2.3.37	sldGuideLst.....	29
2.3.38	notesGuideLst .....	30
2.3.39	chartTrackingRefBased.....	30
2.3.40	prstTrans.....	30
2.4	Global Attributes.....	31
2.4.1	dur .....	31
2.4.2	presetBounceEnd .....	31
2.4.3	bounceEnd .....	31
2.4.4	bwMode .....	31
2.5	Complex Types.....	32
2.5.1	CT_LeftRightDirectionTransition .....	32
2.5.2	CT_RippleTransition .....	32
2.5.3	CT_PrismTransition.....	33
2.5.4	CT_GlitterTransition.....	33
2.5.5	CT_FlyThroughTransition.....	34
2.5.6	CT_ShredTransition .....	34
2.5.7	CT_RevealTransition .....	35
2.5.8	CT_MediaBookmarkTarget.....	35
2.5.9	CT_ContentPartNonVisual.....	36
2.5.10	CT_MediaTrim .....	36
2.5.11	CT_MediaFade.....	37
2.5.12	CT_MediaBookmark .....	37
2.5.13	CT_MediaBookmarkList .....	38
2.5.14	CT_Media .....	38
2.5.15	CT_SectionSlideIdListEntry .....	39
2.5.16	CT_SectionSlideIdList.....	40
2.5.17	CT_Section .....	40
2.5.18	CT_SectionList .....	41
2.5.19	CT_BrowseMode .....	41
2.5.20	CT_DefaultImageDpi .....	41
2.5.21	CT_DiscardImageEditData .....	42
2.5.22	CT_ShowMediaControls .....	42
2.5.23	CT_LaserTracePoint .....	43
2.5.24	CT_LaserTrace .....	43
2.5.25	CT_LaserTraceList .....	44
2.5.26	CT_RandomId .....	44
2.5.27	CT_TriggerEventRecord .....	45
2.5.28	CT_NullEventRecord.....	45
2.5.29	CT_MediaPlaybackEventRecord .....	46

2.5.30	CT_MediaSeekEventRecord .....	46
2.5.31	CT_ShowEventRecordList .....	47
2.5.32	CT_ParentCommentIdentifier .....	47
2.5.33	CT_CommentThreading .....	48
2.5.34	CT_ExtendedGuide .....	49
2.5.35	CT_ExtendedGuideList .....	50
2.5.36	CT_ChartTrackingRefBased .....	50
2.5.37	CT_PresenceInfo .....	51
2.5.38	CT_PresetTransition .....	51
2.6	Simple Types .....	52
2.6.1	ST_UniversalTimeOffset .....	52
2.6.2	ST_TransitionPattern .....	53
2.6.3	ST_TransitionCenterDirectionType .....	54
2.6.4	ST_TransitionShredPattern .....	54
2.6.5	ST_TransitionCornerAndCenterDirectionType .....	55
2.6.6	ST_TransitionLeftRightDirectionType .....	55
<b>3</b>	<b>Structure Examples .....</b>	<b>56</b>
3.1	Slide Transitions .....	56
3.2	Media .....	56
3.3	Sections .....	57
3.4	Slide Show .....	58
<b>4</b>	<b>Security .....</b>	<b>61</b>
4.1	Security Considerations for Implementers .....	61
4.2	Index of Security Parameters .....	61
<b>5</b>	<b>Appendix A: Full XML Schemas .....</b>	<b>62</b>
5.1	<a href="http://schemas.microsoft.com/office/powerpoint/2010/main">http://schemas.microsoft.com/office/powerpoint/2010/main</a> .....	62
5.2	<a href="http://schemas.microsoft.com/office/powerpoint/2012/main">http://schemas.microsoft.com/office/powerpoint/2012/main</a> .....	66
<b>6</b>	<b>Appendix B: Product Behavior .....</b>	<b>68</b>
<b>7</b>	<b>Change Tracking .....</b>	<b>69</b>
<b>8</b>	<b>Index .....</b>	<b>71</b>

# 1 Introduction

The PowerPoint (.pptx) Extensions to the Office Open XML File Format specifies elements and attributes that extend the XML vocabulary for representing PresentationML documents described in the [\[ISO/IEC-29500:2008\]](#) specification. The new elements and attributes are presented using the extensibility mechanisms provided by the [\[ISO/IEC-29500:2008\]](#) specification.

Sections 1.7 and 2 of this specification are normative and can contain the terms MAY, SHOULD, MUST, MUST NOT, and SHOULD NOT as defined in RFC 2119. All other sections and examples in this specification are informative.

## 1.1 Glossary

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

**GUID**  
**XML**

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

**comment**  
**ink**  
**presentation**  
**presentation slide**  
**shape**  
**shape identifier**  
**slide show**  
**time node**

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 technical 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.

[ISO/IEC-29500:2008] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Parts 1-4", ISO/IEC 29500-1:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51463](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51463)

[ISO/IEC-29500-1] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51463](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51463)

[ISO/IEC-29500-2] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51459](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51459)

[ISO/IEC-29500-3] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 3: Markup Compatibility and Extensibility", ISO/IEC 29500-3:2008, [http://www.iso.org/iso/catalogue\\_detail?csnumber=51461](http://www.iso.org/iso/catalogue_detail?csnumber=51461)

[ISO/IEC-29500-4] International Organization for Standardization, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 4: Transitional Migration Features", ISO/IEC 29500-4:2008, [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=51462](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51462)

[MS-DTYP] Microsoft Corporation, "[Windows Data Types](#)".

[MS-ODRAWXML] Microsoft Corporation, "[Office Drawing Extensions to Office Open XML 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>

[RFC5234] Crocker, D., Ed., and Overell, P., "Augmented BNF for Syntax Specifications: ABNF", STD 68, RFC 5234, January 2008, <http://www.rfc-editor.org/rfc/rfc5234.txt>

[XMLSCHEMA1] Thompson, H.S., Ed., Beech, D., Ed., Maloney, M., Ed., and Mendelsohn, N., Ed., "XML Schema Part 1: Structures", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/>

[XMLSCHEMA2] Biron, P.V., Ed. and Malhotra, A., Ed., "XML Schema Part 2: Datatypes", W3C Recommendation, May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

## 1.2.2 Informative References

[MS-GLOS] Microsoft Corporation, "[Windows Protocols Master Glossary](#)".

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

## 1.3 Overview

This structure provides an extended **XML** vocabulary for a PresentationML document. The extended elements and attributes allow the format to indicate further information about a document, or content and formatting of parts of the document beyond the elements and attributes described in [\[ISO/IEC-29500:2008\]](#). Because these elements and attributes are meant as extensions, their intent and usage varies.

The extensions support new functionality involving slide transitions (section [2.2.1](#)), slide animations (section [2.2.2](#)), content parts (section [2.2.3](#)), multimedia (section [2.2.4](#)), sections (section [2.2.5](#)), **slide show** (section [2.2.6](#)), images (section [2.2.7](#)), math (section [2.2.8](#)), change tracking (section [2.2.9](#)), comments (section [2.2.10](#)), guides (section [2.2.11](#)), and charts (section [2.2.12](#)).



The extensions in this format are integrated into [\[ISO/IEC-29500:2008\]](#) by means of the Markup Compatibility and Extensibility features as described in [\[ISO/IEC-29500-3\]](#). Specifically, the **Ignorable** attribute ([\[ISO/IEC-29500-3\]](#) section 10.1.1), the **AlternateContent** element ([\[ISO/IEC-29500-3\]](#) section 10.2.1), and application-defined extension elements are used to maintain compatibility with [\[ISO/IEC-29500:2008\]](#) implementations when integrating the extensions from this format. Using these extensions as described in this document will result in a PresentationML document that is conformant to [\[ISO/IEC-29500:2008\]](#).

#### 1.4 Relationship to Protocols and Other Structures

The structures described in this document are incorporated into PresentationML documents as described in [\[ISO/IEC-29500-1\]](#) using the Markup Compatibility and Extensibility features as described in [\[ISO/IEC-29500-3\]](#). The global elements described in this format appear as optional child elements of certain elements described in [\[ISO/IEC-29500-1\]](#) as described in section 2.3. The global attributes described in this format appear as optional attributes on certain elements described in [\[ISO/IEC-29500-1\]](#) as described in section 2.4. Some of the elements, attributes, simple types and complex types here also refer to complex or simple types described in [\[ISO/IEC-29500-4\]](#).

#### 1.5 Applicability Statement

This document specifies a set of structures to extend the XML vocabulary of [\[ISO/IEC-29500:2008\]](#) PresentationML documents. The extensions specified in this document allow for expressing additional document content and properties, and are not applicable as a stand-alone file format. Each structure specified in this document is integrated with [\[ISO/IEC-29500:2008\]](#) PresentationML documents in a particular way, as specified in the description of that structure. All structures are integrated into PresentationML documents in such a way that maintains compatibility with [\[ISO/IEC-29500:2008\]](#) implementations.

The extensions specified in this document do not require any other extensions to be used, and do not prohibit any other extensions from being used in the same PresentationML document.

#### 1.6 Versioning and Localization

None.

#### 1.7 Vendor-Extensible Fields

None.

## 2 Structures

### 2.1 Part Enumerations

#### 2.1.1 Media Part

The following table specifies a new Media part that can be stored in a PresentationML document.

Part components	Value
Content types	Any supported audio or video type. See <a href="#">[ISO/IEC-29500-1]</a> sections 15.2.2 and 15.2.17 for a list of possible content types.
Source relationship	<a href="http://schemas.microsoft.com/office/2007/relationships/media">http://schemas.microsoft.com/office/2007/relationships/media</a>

An instance of a Media part specifies the binary data of a media file containing audio information, video information, or both audio and video information.

A Media part MUST be the target of an explicit relationship from a Slide part ([\[ISO/IEC-29500-1\]](#) section 13.3.8), a Slide Layout part ([\[ISO/IEC-29500-1\]](#) section 13.3.9), or a Slide Master part ([\[ISO/IEC-29500-1\]](#) section 13.3.10).

A Media part is not stored as XML; instead, it involves a relationship target that is a media clip.

A Media part can be located within or external to the package containing the relationships part; as such, the value of the **TargetMode** attribute of the **Relationship** element ([\[ISO/IEC-29500-2\]](#) section 9.3.2) can be either "Internal" or "External".

A Media part MUST NOT have implicit or explicit relationships to other parts specified in [\[ISO/IEC-29500:2008\]](#) or this document.

### 2.2 Extensions

This section specifies the elements from [\[ISO/IEC-29500-1\]](#) that are extended by this format. Either the **Ignorable** attribute ([\[ISO/IEC-29500-3\]](#) section 10.1.1), **AlternateContent** element ([\[ISO/IEC-29500-3\]](#) section 10.2.1), or the **extLst** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.12) MUST be used to maintain compatibility with [\[ISO/IEC-29500:2008\]](#) implementations.

#### 2.2.1 Slide Transition Extensions

The **sld** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.38), the **sldLayout** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.39), and the **sldMaster** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.42) are extended by the addition of an **AlternateContent** child element ([\[ISO/IEC-29500-3\]](#) section 10.2.1), whose structure is specified in the following table.

AlternateContent components	Child element
Choice: <a href="http://schemas.microsoft.com/office/powerpoint/2010/main">http://schemas.microsoft.com/office/powerpoint/2010/main</a>	<b>transition</b> ( <a href="#">[ISO/IEC-29500-1]</a> section 19.3.1.50)
Fallback	<b>transition</b> ( <a href="#">[ISO/IEC-29500-1]</a> section 19.3.1.50)

The **transition** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.50) is extended by the addition of the following child elements to the **xsd:choice** content model of the **CT\_SlideTransition** complex type ([\[ISO/IEC-29500-1\]](#) section A.3):

- **vortex** (section [2.3.1](#))
- **switch** (section [2.3.2](#))
- **flip** (section [2.3.3](#))
- **ripple** (section [2.3.4](#))
- **honeycomb** (section [2.3.5](#))
- **prism** (section [2.3.6](#))
- **doors** (section [2.3.7](#))
- **window** (section [2.3.8](#))
- **ferris** (section [2.3.9](#))
- **gallery** (section [2.3.10](#))
- **conveyor** (section [2.3.11](#))
- **pan** (section [2.3.12](#))
- **glitter** (section [2.3.13](#))
- **warp** (section [2.3.14](#))
- **flythrough** (section [2.3.15](#))
- **flash** (section [2.3.16](#))
- **shred** (section [2.3.17](#))
- **reveal** (section [2.3.18](#))
- **wheelReverse** (section [2.3.19](#))

The **transition** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.50) is further extended by the addition of the following attribute to the **CT\_SlideTransition** complex type ([\[ISO/IEC-29500-1\]](#) section A.3): **dur** (section [2.4.1](#)).

## 2.2.2 Animation Info Extensions

The **sld** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.38), the **sldLayout** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.39), and the **sldMaster** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.42) are extended by the addition of an **AlternateContent** child element ([\[ISO/IEC-29500-3\]](#) section 10.2.1), whose structure is specified in the following table.

AlternateContent components	Child element
Choice: <a href="http://schemas.microsoft.com/office/powerpoint/2010/main">http://schemas.microsoft.com/office/powerpoint/2010/main</a>	<b>timing</b> ( <a href="#">[ISO/IEC-29500-1]</a> section 19.3.1.48)

AlternateContent components	Child element
Fallback	<b>timing</b> ([ISO/IEC-29500-1] section 19.3.1.48)

The **tgtEl** element ([ISO/IEC-29500-1] section 19.5.81) is extended by the addition of the following child elements to the **xsd:choice** content model of the **CT\_TLTimeTargetElement** complex type ([ISO/IEC-29500-1] section A.3): **bmktgt** (section 2.3.20).

The **cTn** element ([ISO/IEC-29500-1] section 19.5.33) is extended by the addition of the following attribute to the **CT\_TLCommonTimeNodeData** complex type ([ISO/IEC-29500-1] section A.3): **presetBounceEnd** (section 2.4.2).

The **anim** element ([ISO/IEC-29500-1] section 19.5.1) is extended by the addition of the following attribute to the **CT\_TLAnimateBehavior** complex type ([ISO/IEC-29500-1] section A.3): **bounceEnd** (section 2.4.3).

The **animMotion** element ([ISO/IEC-29500-1] section 19.5.4) is extended by the addition of the following attribute to the **CT\_TLAnimateMotionBehavior** complex type ([ISO/IEC-29500-1] section A.3): **bounceEnd** (section 2.4.3).

The **animRot** element ([ISO/IEC-29500-1] section 19.5.5) is extended by the addition of the following attribute to the **CT\_TLAnimateRotationBehavior** complex type ([ISO/IEC-29500-1] section A.3): **bounceEnd** (section 2.4.3).

The **animScale** element ([ISO/IEC-29500-1] section 19.5.6) is extended by the addition of the following attribute to the **CT\_TLAnimateScaleBehavior** complex type ([ISO/IEC-29500-1] section A.3): **bounceEnd** (section 2.4.3).

### 2.2.3 Content Part Extensions

The **grpSp** element ([ISO/IEC-29500-1] section 19.3.1.22) is extended by the addition of an **AlternateContent** child element ([ISO/IEC-29500-3] section 10.2.1), whose structure is specified in the following table.

AlternateContent components	Child element
Choice: http://schemas.microsoft.com/office/powerpoint/2010/main	<b>contentPart</b> ([ISO/IEC-29500-1] section 19.3.1.14)
Fallback	<b>sp</b> ([ISO/IEC-29500-1] section 19.3.1.43)

The **contentPart** element ([ISO/IEC-29500-1] section 19.3.1.14) is extended by the addition of the following child elements to a new **xsd:sequence** content model of the **CT\_Rel** complex type ([ISO/IEC-29500-1] section A.3):

- **nvContentPartPr** (section 2.3.21)
- **xfrm** (section 2.3.22)
- **extLst** (section 2.3.23).

The **contentPart** element ([ISO/IEC-29500-1] section 19.3.1.14) is further extended by the addition of the following attribute to the **CT\_Rel** complex type ([ISO/IEC-29500-1] section A.3): **bwMode** (section 2.4.4).

## 2.2.4 Media Extensions

The **extLst** child element of the **nvPr** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.33) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table.

Ext uri	Child element
{DAA4B4D4-6D71-4841-9C94-3DE7FCFB9230}	<b>media</b> (section <a href="#">2.3.24</a> )

The **extLst** child element of the **showPr** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.30) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table.

Ext uri	Child element
{2FDB2607-1784-4EEB-B798-7EB5836EED8A}	<b>showMediaCtrls</b> (section <a href="#">2.3.30</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.5 Section Extensions

The **extLst** child element of the **presentation** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.26) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table:

Ext uri	Child element
{521415D9-36F7-43E2-AB2F-B90AF26B5E84}	<b>sectionLst</b> (section <a href="#">2.3.25</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.6 Slide Show Extensions

The **extLst** child element of the **showPr** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.30) is extended by the addition of new **ext** child elements ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure are specified in the following table.

Ext uri	Child element
{F99C55AA-B7CB-42B0-86F8-08522FDF87E8}	<b>browseMode</b> (section <a href="#">2.3.26</a> )
{EC167BDD-8182-4AB7-AECC-EB403E3ABB37}	<b>laserClr</b> (section <a href="#">2.3.27</a> )

The **extLst** child element of the **slid** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.31) is extended by the addition of new **ext** child elements ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure are specified in the following table.

Ext uri	Child element
{3A86A75C-4F4B-4683-9AE1-C65F6400EC91}	<b>laserTraceLst</b> (section <a href="#">2.3.31</a> )
{E180D4A7-C9FB-4DFB-919C-405C955672EB}	<b>showEvtLst</b> (section <a href="#">2.3.34</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.7 Image Extensions

The **extLst** child element of the **presentationPr** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.27) is extended by the addition of new **ext** child elements ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure are specified in the following table.

Ext uri	Child element
{E76CE94A-603C-4142-B9EB-6D1370010A27}	<b>discardImageEditData</b> (section <a href="#">2.3.29</a> )
{D31A062A-798A-4329-ABDD-BBA856620510}	<b>defaultImageDpi</b> (section <a href="#">2.3.28</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.8 Math Extensions

The **extLst** child element of the **presentationPr** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.27) is extended by the addition of new **ext** child elements ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure are specified in the following table.

Ext uri	Child element
{4599F94E-CEE6-441E-89CC-EB005ECD8F06}	<b>a14:m</b> ( <a href="#">[MS-ODRAWXML]</a> section 2.3.3)

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.9 Change Tracking Extensions

The **extLst** child element of the **nvPr** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.33) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table.

Ext uri	Child element
{D42A27DB-BD31-4B8C-83A1-F6EECF244321}	<b>modId</b> (section <a href="#">2.3.33</a> )

The **extLst** child element of the **csId** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.16) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table.

Ext uri	Child element
{BB962C8B-B14F-4D97-AF65-F5344CB8AC3E}	<b>creationId</b> (section <a href="#">2.3.32</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.10 Comment Extensions

The **extLst** child element of the **cmAuthor** element ([\[ISO/IEC-29500-1\]](#) section 19.4.2) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. [<1>](#)

Ext uri	Child element
{19B8F6BF-5375-455C-9EA6-DF929625EA0E}	<b>presenceInfo</b> (section <a href="#">2.3.35</a> )

The **extLst** child element of the **cm** element ([\[ISO/IEC-29500-1\]](#) section 19.4.1) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <2>

Ext uri	Child element
{C676402C-5697-4E1C-873F-D02D1690AC5C}	<b>threadingInfo</b> (section <a href="#">2.3.36</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

### 2.2.11 Guide Extensions

The **extLst** child element of the **presentation** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.26) is extended by the addition of new **ext** child elements ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure are specified in the following table. <3>

Ext uri	Child element
{EFAFB233-063F-42B5-8137-9DF3F51BA10A}	<b>sldGuideLst</b> (section <a href="#">2.3.37</a> )
{2D200454-40CA-4A62-9FC3-DE9A4176ACB9}	<b>notesGuideLst</b> (section <a href="#">2.3.38</a> )

The **extLst** child element of the **sldLayout** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.39) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <4>

Ext uri	Child element
{DCECCB84-F9BA-43D5-87BE-67443E8EF086}	<b>sldGuideLst</b> (section <a href="#">2.3.37</a> )

The **extLst** child element of the **sldMaster** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.42) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <5>

Ext uri	Child element
{27BBF7A9-308A-43DC-89C8-2F10F3537804}	<b>sldGuideLst</b> (section <a href="#">2.3.37</a> )

The **extLst** child element of the **handoutMaster** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.24) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <6>

Ext uri	Child element
{56416CCD-93CA-4268-BC5B-53C4BB910035}	<b>sldGuideLst</b> (section <a href="#">2.3.37</a> )

The **extLst** child element of the **notesMaster** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.27) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <7>

Ext uri	Child element
{620B2872-D7B9-4A21-9093-7833F8D536E1}	<b>sldGuideLst</b> (section <a href="#">2.3.37</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2.

## 2.2.12 Charting Extensions

The **extLst** child element of the **presentationPr** element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.27) is extended by the addition of a new **ext** child element ([\[ISO/IEC-29500-1\]](#) section 19.2.1.11), whose structure is specified in the following table. <8>

Ext uri	Child element
{FD5EFAAD-0ECE-453E-9831-46B23BE46B34}	<b>chartTrackingRefBased</b> (section <a href="#">2.3.39</a> )

For more information about how extension lists are used, see [\[ISO/IEC-29500-3\]](#) section 10.1.2

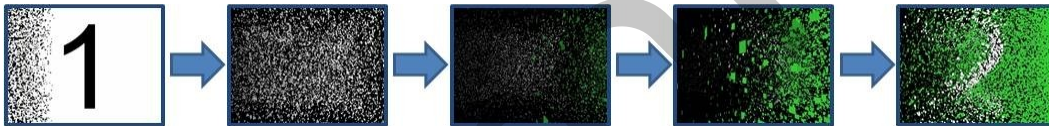
## 2.3 Global Elements

### 2.3.1 vortex

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_SideDirectionTransition** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a vortex transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "r" (right):



**Figure 1: Sample vortex transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="vortex" type="p:CT_SideDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.2 switch

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_LeftRightDirectionTransition** element (section [2.5.1](#)) that specifies a switch transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "r" (right):





**Figure 2: Sample switch transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="switch" type="CT_LeftRightDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.3 flip

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_LeftRightDirectionTransition** element (section [2.5.1](#)) that specifies a flip transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "r" (right).



**Figure 3: Sample flip transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="flip" type="CT_LeftRightDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.4 ripple

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_RippleTransition** element (section [2.5.2](#)) that specifies a ripple transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "center".



**Figure 4: Sample ripple transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="ripple" type="CT_RippleTransition"/>
```

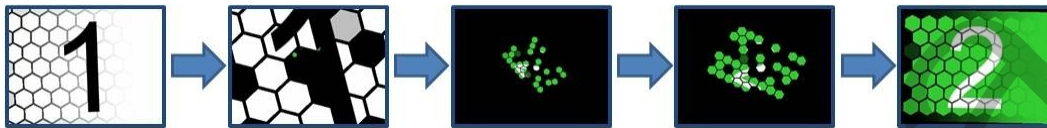
See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.5 honeycomb

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_Empty** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a honeycomb transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample:



**Figure 5: Sample honeycomb transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="honeycomb" type="p:CT_Empty"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.6 prism

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [CT\\_PrismTransition](#) element (section [2.5.3](#)) that specifies a prism transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "l" (left), **isContent** equal to **false**, **isInverted** equal to **false**:



**Figure 6: Sample prism transition 1**

The following figure is a sample with **dir** equal to "r" (right), **isContent** equal to **false**, **isInverted** equal to **true**:



### Figure 7: Sample prism transition 2

The following figure is a sample with **dir** equal to "u" (up), **isContent** equal to **true**, **isInverted** equal to **false**:



### Figure 8: Sample prism transition 3

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="prism" type="CT_PrismTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.3.7 doors

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_OrientationTransition** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a doors transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "vert" (vertical):



### Figure 9: Sample doors transition

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="doors" type="p:CT_OrientationTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.3.8 window

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_OrientationTransition** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a window transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "vert" (vertical):



**Figure 10: Sample window transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="window" type="p:CT_OrientationTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.9 ferris

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_LeftRightDirectionTransition** element (section [2.5.1](#)) that specifies a ferris transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "l" (left):



**Figure 11: Sample ferris transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="ferris" type="CT_LeftRightDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.10 gallery

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_LeftRightDirectionTransition** element (section [2.5.1](#)) that specifies a gallery transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "l" (left).



**Figure 12: Sample gallery transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="gallery" type="CT_LeftRightDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.11 conveyor

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [CT\\_LeftRightDirectionTransition](#) element (section [2.5.1](#)) that specifies a conveyor transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "l" (left):



**Figure 13: Sample conveyor transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="conveyor" type="CT_LeftRightDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.12 pan

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [p:CT\\_SideDirectionTransition](#) element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a pan transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "u" (up).



**Figure 14: Sample pan transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="pan" type="p:CT_SideDirectionTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.13 glitter

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [CT\\_GlitterTransition](#) element (section 2.5.4) that specifies a glitter transition. See section 2.2.1 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "l" (left), **pattern** equal to "diamond":



**Figure 15: Sample glitter transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="glitter" type="CT_GlitterTransition"/>
```

See section 5.1 for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.14 warp

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_InOutTransition** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a warp transition. See section 2.2.1 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **dir** equal to "in":



**Figure 16: Sample warp transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="warp" type="p:CT_InOutTransition"/>
```

See section 5.1 for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.15 flythrough

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [CT\\_FlyThroughTransition](#) element (section 2.5.5) that specifies a fly through transition. See section 2.2.1 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **dir** equal to "in", **hasBounce** equal to **false**:



**Figure 17: Sample flythrough transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="flythrough" type="CT_FlyThroughTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.16 flash

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_Empty** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a flash transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample:



**Figure 18: Sample flash transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="flash" type="p:CT_Empty"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.17 shred

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_ShredTransition** element (section [2.5.6](#)) that specifies a shred transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **pattern** equal to "strip", **dir** equal to "in":



**Figure 19: Sample shred transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="shred" type="CT_ShredTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.18 reveal

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [CT\\_RevealTransition](#) element (section [2.5.7](#)) that specifies a reveal transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following is a sample with **thruBlk** equal to **true**, **dir** equal to "l" (left):



**Figure 20: Sample reveal transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="reveal" type="CT_RevealTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.19 wheelReverse

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A [p:CT\\_WheelTransition](#) element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies a reverse wheel transition. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following figure is a sample with **spokes** equal to 1.



**Figure 21: Sample wheelReverse transition**

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="wheelReverse" type="p:CT_WheelTransition"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).



### 2.3.20 bmkTgt

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_MediaBookmarkTarget** element (section 2.5.8) that specifies a media bookmark that triggers an animation. See section 2.2.2 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="bmkTgt" type="CT_MediaBookmarkTarget"/>
```

See section 5.1 for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.21 nvContentPartPr

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_ContentPartNonVisual** element (section 2.5.9) that specifies the non-visual drawing properties for a **contentPart** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.14). These non-visual properties are properties that the generating application uses when rendering and editing the content part. See section 2.2.3 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual"/>
```

See section 5.1 for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.22 xfrm

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **a:CT\_Transform2D** element ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the 2-D transform for a content part. See section 2.2.3 for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="xfrm" type="a:CT_Transform2D"/>
```

See section 5.1 for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.23 extLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **p:CT\_ExtensionListModify** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the extension list with modification ability. All future extensions to the **contentPart** element ([\[ISO/IEC-](#)

[29500-1](#) section 19.3.1.14) will be stored within this extension list. See section [2.2.3](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="extLst" type="p:CT_ExtensionListModify"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.24 media

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_Media** element (section [2.5.14](#)) that specifies a media object. See section [2.2.4](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="media" type="CT_Media"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.25 sectionLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_SectionList** element (section [2.5.18](#)) that specifies section properties for the document. See section [2.2.5](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="sectionLst" type="CT_SectionList"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.26 browseMode

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_BrowseMode** element (section [2.5.19](#)) that specifies the status bar visibility when slide show is in browse mode. See section [2.2.6](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="browseMode" type="CT_BrowseMode"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.27 laserClr

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **a:CT\_Color** element ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the color to be used to render the laser dot. See section [2.2.6](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="laserClr" type="a:CT_Color"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.28 defaultImageDpi

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_DefaultImageDpi** element (section [2.5.20](#)) that specifies the resolution, in dots per inch (dpi), to use when saving images in the document. This element value is used only when the **autoCompressPictures** attribute ([\[ISO/IEC-29500-1\]](#) section 19.2.1.26) is set to **true**, and the **useLocalDpi** element ([\[MS-ODRAWXML\]](#) section 2.3.2) is set to **false**. See section [2.2.7](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="defaultImageDpi" type="CT_DefaultImageDpi"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.29 discardImageEditData

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_DiscardImageEditData** element (section [2.5.21](#)) that specifies that all **imgProps** elements ([\[MS-ODRAWXML\]](#) section 2.3.1) and cropped out areas of images are not to be saved. See section [2.2.7](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="discardImageEditData" type="CT_DiscardImageEditData"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.30 showMediaCtrls

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_ShowMediaControls** element (section [2.5.22](#)) that specifies the visibility of media user interface controls during slide show. See section [2.2.4](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="showMediaCtrls" type="CT_ShowMediaControls"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.31 laserTraceLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_LaserTraceList** element (section [2.5.25](#)) that specifies a list of laser traces on the **presentation slide**. See section [2.2.6](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="laserTraceLst" type="CT_LaserTraceList"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.32 creationId

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_RandomId** element (section [2.5.26](#)) that specifies an identifier that is generated when a slide is created. See section [2.2.9](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="creationId" type="CT_RandomId"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.33 modId

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_RandomId** element (section [2.5.26](#)) that specifies an identifier that is updated each time a **shape** is modified. Each identifier specified MUST be unique to the presentation slide that contains it. See section [2.2.9](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="modId" type="CT_RandomId"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.34 showEvtLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

A **CT\_ShowEventRecordList** element (section [2.5.31](#)) that specifies a list of slide show events that occur during slide show. See section [2.2.6](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="showEvtLst" type="CT_ShowEventRecordList"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.35 presenceInfo

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_PresenceInfo** element (section [2.5.37](#)) that specifies presence information for a **comment** author. [<9>](#) See section [2.2.10](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="presenceInfo" type="CT_PresenceInfo"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.36 threadingInfo

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_CommentThreading** element (section [2.5.33](#)) that specifies comment threading. [<10>](#) See section [2.2.10](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="threadingInfo" type="CT_CommentThreading"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.37 sldGuideLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_ExtendedGuideList** element (section [2.5.35](#)) that specifies a list of extended guides for a master slide, a slide layout or a slide view of the presentation. [<11>](#) See section [2.2.11](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="sldGuideLst" type="CT_ExtendedGuideList"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.38 notesGuideLst

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_ExtendedGuideList** element (section [2.5.35](#)) that specifies a list of extended guides for a notes page view. [<12>](#) See section [2.2.11](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="notesGuideLst" type="CT_ExtendedGuideList"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.39 chartTrackingRefBased

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_ChartTrackingRefBased** element (section [2.5.36](#)) that specifies how data point properties and datalabels ([\[MS-ODRAWXML\]](#) section 2.2.1.2) in all charts ([\[ISO/IEC-29500-1\]](#) section 21.2) in this **presentation** behave. [<13>](#) See section [2.2.12](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="chartTrackingRefBased" type="CT_ChartTrackingRefBased"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.3.40 prstTrans

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

A **CT\_PresetTransition** element (section [2.5.38](#)) that specifies a preset transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="prstTrans" type="CT_PresetTransition"/>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.4 Global Attributes

### 2.4.1 dur

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time a transition takes to display from start to finish. See section [2.2.1](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this attribute.

```
<xsd:attribute name="dur" type="ST_UniversalTimeOffset"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.4.2 presetBounceEnd

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **s:ST\_PositiveFixedPercentage** attribute ([\[ISO/IEC-29500-4\]](#) section A.7.9) that specifies a preset percentage of a **time node**'s duration to do a bounce at the end of the animation. This value is used only by the user interface. The actual bounce animations are specified by the **bounceEnd** (section [2.4.3](#)) attributes. See section [2.2.2](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this attribute.

```
<xsd:attribute name="presetBounceEnd" type="s:ST_PositiveFixedPercentage"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.4.3 bounceEnd

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **s:ST\_PositiveFixedPercentage** attribute ([\[ISO/IEC-29500-4\]](#) section A.7.9) that specifies the percentage of the time node's duration to do a bounce at the end of the animation. The bounce emulates a mass-spring-damper system. See section [2.2.2](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this attribute.

```
<xsd:attribute name="bounceEnd" type="s:ST_PositiveFixedPercentage"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.4.4 bwMode

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

An **a:ST\_BlackWhiteMode** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies how to interpret color information contained within a content part to achieve a color, black and white, or grayscale rendering of the content part. This attribute specifies only the rendering mode applied to the content part; it does not affect how the actual color information is persisted. See section [2.2.3](#) for how this element integrates with [\[ISO/IEC-29500:2008\]](#).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this attribute.

```
<xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5 Complex Types

### 2.5.1 CT\_LeftRightDirectionTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [switch](#), [flip](#), [ferris](#), [gallery](#), [conveyor](#)

A complex type that specifies a transition restricted to left and right directions.

*Attributes:*

**dir:** An **ST\_TransitionLeftRightDirectionType** attribute (section [2.6.6](#)) that specifies the direction presentation slides move during the transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_LeftRightDirectionTransition">
  <xsd:attribute name="dir" type="ST_TransitionLeftRightDirectionType"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.2 CT\_RippleTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [ripple](#)

A complex type that specifies the parameters for a ripple transition.

*Attributes:*

**dir:** An **ST\_TransitionCornerAndCenterDirectionType** attribute (section [2.6.5](#)) that specifies the direction presentation slides move during the transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_RippleTransition">
```



```
<xsd:attribute name="dir" type="ST_TransitionCornerAndCenterDirectionType" use="optional"
default="center"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.3 CT\_PrismTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [prism](#)

A complex type that specifies the parameters for a prism transition.

*Attributes:*

**dir:** A **p:ST\_TransitionSideDirectionType** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the direction presentation slides move during the transition.

**isContent:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the visual representation draws presentation slide content and presentation slide background separately.

**isInverted:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the layout of the presentation slides during the transition is concave instead of convex.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_PrismTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionSideDirectionType" use="optional"
default="1"/>
  <xsd:attribute name="isContent" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="isInverted" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.4 CT\_GlitterTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [glitter](#)

A complex type that specifies the parameters for a glitter transition.

*Attributes:*

**dir:** A **p:ST\_TransitionSideDirectionType** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the direction presentation slides move during the transition.

**pattern:** An [ST\\_TransitionPattern](#) (section [2.6.2](#)) attribute that specifies the shape of the visuals used during the transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_GlitterTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionSideDirectionType" use="optional"
    default="1"/>
  <xsd:attribute name="pattern" type="ST_TransitionPattern" use="optional"
    default="diamond"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.5 CT\_FlyThroughTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [flythrough](#)

A complex type that specifies the parameters for a fly-through transition.

*Attributes:*

**dir:** A **p:ST\_TransitionInOutDirectionType** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the direction presentation slides move during the transition.

**hasBounce:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies that the movement of the presentation slides during the transition includes a bounce.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_FlyThroughTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionInOutDirectionType" use="optional"
    default="in"/>
  <xsd:attribute name="hasBounce" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.6 CT\_ShredTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [shred](#)

A complex type that specifies the parameters for a shred transition.

*Attributes:*

**pattern:** An **ST\_TransitionShredPattern** attribute (section [2.6.4](#)) that specifies the shape of the visuals used during the transition.

**dir:** A **p:ST\_TransitionInOutDirectionType** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the direction presentation slides move during the transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ShredTransition">
  <xsd:attribute name="pattern" type="ST_TransitionShredPattern" use="optional"
    default="strip"/>
  <xsd:attribute name="dir" type="p:ST_TransitionInOutDirectionType" use="optional"
    default="in"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.7 CT\_RevealTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [reveal](#)

A complex type that specifies the parameters for a reveal transition.

*Attributes:*

**thruBlk:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether the transition fades through black.

**dir:** An [ST\\_TransitionLeftRightDirectionType](#) attribute (section [2.6.6](#)) that specifies the direction presentation slides move during the transition.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_RevealTransition">
  <xsd:attribute name="thruBlk" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="dir" type="ST_TransitionLeftRightDirectionType" use="optional"
    default="1"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.8 CT\_MediaBookmarkTarget

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [bmkTgt](#)

A complex type that specifies a media bookmark that triggers an animation.

*Attributes:*

**spid:** An **a:ST\_DrawingElementId** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the **shape identifier** of the shape that contains video or audio data.

**bmkName:** An **xsd:string** attribute ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name of the bookmark for the media that is contained in the shape specified by **spid**. The name MUST exist in the **CT\_MediaBookmarkList** (section [2.5.13](#)) contained by the media.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```

<xsd:complexType name="CT_MediaBookmarkTarget">
  <xsd:attribute name="spid" type="a:ST_DrawingElementId" use="required"/>
  <xsd:attribute name="bmkName" type="xsd:string" use="required"/>
</xsd:complexType>

```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.9 CT\_ContentPartNonVisual

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [nvContentPartPr](#)

A complex type which specifies non-visual properties for a **contentPart** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.14).

*Child Elements:*

**cNvPr:** An **a:CT\_NonVisualDrawingProps** element ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the non-visual drawing properties for the content part. This element allows for additional information that does not affect the appearance of the content part to be stored.

**cNvContentPartPr:** An **a14:CT\_NonVisualInkContentPartProperties** element ([\[MS-ODRAWXML\]](#) section 2.5.36) that specifies non-visual **ink** properties for the content part. This element allows for additional information that does not affect the appearance of ink in the content part to be stored.

**nvPr:** A **p:CT\_ApplicationNonVisualDrawingProps** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies PresentationML Drawing specific non-visual properties for the content part.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```

<xsd:complexType name="CT_ContentPartNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="cNvContentPartPr" type="a14:CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="nvPr" type="p:CT_ApplicationNonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.10 CT\_MediaTrim

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_Media](#)

A complex type that specifies the amount of time to be trimmed from the start and end of the media during playback.

*Attributes:*

**st:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies a duration of time to be removed from the start of the media during playback. It MUST be less than the total length of the media minus the **end**.

**end:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies a duration of time to be removed from the end of the media during playback. It MUST be less than the total length of the media minus the **st**.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaTrim">
  <xsd:attribute name="st" type="ST_UniversalTimeOffset" use="optional" default="0"/>
  <xsd:attribute name="end" type="ST_UniversalTimeOffset" use="optional" default="0"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.11 CT\_MediaFade

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_Media](#)

A complex type that specifies the time duration for the starting and ending fades.

*Attributes:*

**in:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the duration of the starting fade. It MUST be less than or equal to the total length of the media minus the **out**.

**out:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the duration of the ending fade. It MUST be less than or equal to the total length of the media minus the **in**.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaFade">
  <xsd:attribute name="in" type="ST_UniversalTimeOffset" use="optional" default="0"/>
  <xsd:attribute name="out" type="ST_UniversalTimeOffset" use="optional" default="0"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.12 CT\_MediaBookmark

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_MediaBookmarkList](#)

A complex type that specifies a bookmark time on the media.

*Attributes:*

**name:** An **xsd:string** attribute ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name for the bookmark. The bookmark name MUST be unique among all bookmarks in its parent **CT\_MediaBookmarkList** (section [2.5.13](#)).

**time:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time of the bookmark relative to the beginning of the media. It MUST be unique among all bookmarks in its parent **CT\_MediaBookmarkList** (section [2.5.13](#)). It MUST be less than or equal to the length of the media.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaBookmark">
  <xsd:attribute name="name" type="xsd:string"/>
  <xsd:attribute name="time" type="ST_UniversalTimeOffset"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.13 CT\_MediaBookmarkList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_Media](#)

A complex type that specifies a list of media bookmarks on the media.

*Child Elements:*

**bmk:** A **CT\_MediaBookmark** element (section [2.5.12](#)) that specifies a bookmark name and time.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaBookmarkList">
  <xsd:sequence>
    <xsd:element name="bmk" type="CT_MediaBookmark" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.14 CT\_Media

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [media](#)

A complex type that specifies the media file data and its associated parameters.

*Child Elements:*

**trim:** A **CT\_MediaTrim** element (section [2.5.10](#)) that specifies the amount of time to be trimmed from the start and end of the media during playback.

**fade:** A **CT\_MediaFade** element (section [2.5.11](#)) that specifies the starting and ending fade durations for the media.

**bmkLst:** A **CT\_MediaBookmarkList** element (section [2.5.13](#)) that specifies a list of bookmarks on the media.

**extLst:** A **p:CT\_ExtensionList** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the extension list. All future extensions to the media will be stored in the extension list.

*Attributes:*

**r:embed:** An **r:ST\_RelationshipId** attribute ([\[ISO/IEC-29500-4\]](#) section A.7.8) that specifies the relationship identifier that is used to determine the location of the media if it is embedded in the document. The **r:embed** attribute MUST be present if the **r:link** attribute is not present. If both the **r:embed** and **r:link** attributes are present, the **r:link** attribute takes precedence.

**r:link:** An **r:ST\_RelationshipId** attribute ([\[ISO/IEC-29500-4\]](#) section A.7.8) that specifies the relationship identifier that is used to determine the location of the media if it is linked from the document. The **r:link** attribute MUST be present if the **r:embed** attribute is not present. If both the **r:link** and **r:embed** attributes are present, the **r:link** attribute takes precedence.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_Media">
  <xsd:sequence>
    <xsd:element name="trim" type="CT_MediaTrim" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="fade" type="CT_MediaFade" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="bmkLst" type="CT_MediaBookmarkList" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attributeGroup ref="a:AG_Blob"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.15 CT\_SectionSlideIdListEntry

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_SectionSlideIdList](#)

A complex type that specifies the presentation slide identifier.

*Attributes:*

**id:** A **p:ST\_SlideId** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the slide identifier.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_SectionSlideIdListEntry">
  <xsd:attribute name="id" type="p:ST_SlideId" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.16 CT\_SectionSlideIdList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_Section](#)

A complex type that specifies the list of presentation slides that belong to a section.

*Child Elements:*

**sldId:** A [CT\\_SectionSlideIdListEntry](#) element (section [2.5.15](#)) that specifies a presentation slide.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_SectionSlideIdList">
  <xsd:sequence>
    <xsd:element name="sldId" type="CT_SectionSlideIdListEntry" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.17 CT\_Section

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_SectionList](#)

A complex type that specifies a section and its properties.

*Child Elements:*

**sldIdLst:** A [CT\\_SectionSlideIdList](#) element (section [2.5.16](#)) that specifies a list of presentation slides in a section.

**extLst:** A **p:CT\_ExtensionList** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the extension list. All future extensions to the section will be stored in the extension list.

*Attributes:*

**name:** An **xsd:string** attribute ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name of the section.

**id:** A **s:ST\_Guid** attribute ([\[ISO/IEC-29500-4\]](#) section A.7.9) that specifies a **GUID** used to uniquely identify a section in the **CT\_SectionList** (section [2.5.18](#)).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_Section">
  <xsd:sequence>
    <xsd:element name="sldIdLst" type="CT_SectionSlideIdList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string"/>
</xsd:complexType>
```



```
<xsd:attribute name="id" type="s:ST_Guid"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.18 CT\_SectionList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [sectionLst](#)

A complex type that specifies section properties for the document.

*Child Elements:*

**section:** A **CT\_Section** element (section [2.5.17](#)) that specifies a section in the document.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_SectionList">
  <xsd:sequence>
    <xsd:element name="section" type="CT_Section" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.19 CT\_BrowseMode

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [browseMode](#)

A complex type that specifies the visibility of the status bar in slide show browse mode.

*Attributes:*

**showStatus:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies the visibility of status bar when slide show is in browse mode.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_BrowseMode">
  <xsd:attribute name="showStatus" type="xsd:boolean" use="optional" default="true"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.20 CT\_DefaultImageDpi

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

Referenced by: [defaultImageDpi](#)

A complex type that specifies the default dpi to use when saving each image in the document.

Attributes:

**val:** An **xsd:unsignedInt** attribute ([\[XMLSCHEMA2\]](#) section 3.3.22) that specifies the dpi.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_DefaultImageDpi">
  <xsd:attribute name="val" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.21 CT\_DiscardImageEditData

Target namespace: <http://schemas.microsoft.com/office/powerpoint/2010/main>

Referenced by: [discardImageEditData](#)

A complex type that specifies whether to discard editing data for images when saving.

Attributes:

**val:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies whether to discard image editing data when saving.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_DiscardImageEditData">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.22 CT\_ShowMediaControls

Target namespace: <http://schemas.microsoft.com/office/powerpoint/2010/main>

Referenced by: [showMediaCtrls](#)

A complex type that specifies the visibility of media user interface controls during slide show.

Attributes:

**val:** An **xsd:boolean** attribute ([\[XMLSCHEMA2\]](#) section 3.2.2) that specifies the visibility of media user interface controls.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ShowMediaControls">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.23 CT\_LaserTracePoint

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_LaserTrace](#)

A complex type that specifies the time and location of the laser pointer on a presentation slide.

*Attributes:*

**t:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time relative to the beginning of the slide timeline and not including transition time.

**x:** An **a:ST\_Coordinate** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the horizontal location relative to the top-left corner of the presentation slide.

**y:** An **a:ST\_Coordinate** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the vertical location relative to the top-left corner of the presentation slide.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_LaserTracePoint">
  <xsd:attribute name="t" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="x" type="a:ST_Coordinate" use="required"/>
  <xsd:attribute name="y" type="a:ST_Coordinate" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.24 CT\_LaserTrace

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_LaserTraceList](#)

A complex type that specifies a list of laser trace points. The first point in the list of points specifies when and where the laser point appears. The last point in the list of points specifies when and where the laser point disappears. Other trace points in the list of points specify laser point appearance time and locations.

*Child Elements:*

**tracePt:** A **CT\_LaserTracePoint** element (section [2.5.23](#)) that specifies a location of the laser point.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_LaserTrace">
  <xsd:sequence>
    <xsd:element name="tracePt" type="CT_LaserTracePoint" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.25 CT\_LaserTraceList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [laserTraceLst](#)

A complex type that specifies a list of laser traces.

*Child Elements:*

**tracePtLst:** A **CT\_LaserTrace** element (section [2.5.24](#)) that specifies a laser trace.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_LaserTraceList">
  <xsd:sequence>
    <xsd:element name="tracePtLst" type="CT_LaserTrace" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.26 CT\_RandomId

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [creationId](#), [modId](#)

A complex type that specifies a cryptographically strong random number.

*Attributes:*

**val:** An **xsd:unsignedInt** attribute ([\[XMLSCHEMA2\]](#) section 3.3.22) that specifies the random number.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_RandomId">
  <xsd:attribute name="val" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.27 CT\_TriggerEventRecord

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_ShowEventRecordList](#)

A complex type that specifies a triggered event that occurs during slide show.

*Attributes:*

**type:** A **p:ST\_TLTriggerEvent** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the type of the triggered event.

**time:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time that the event occurs. The value is relative to the beginning of the slide timeline, which does not include slide transition time.

**objId:** An **a:ST\_DrawingElementId** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the identifier of the shape object on the slide that is the target of this event.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TriggerEventRecord">
  <xsd:attribute name="type" type="p:ST_TLTriggerEvent" use="required"/>
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.28 CT\_NullEventRecord

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_ShowEventRecordList](#)

A complex type that specifies an unknown event in slide show. This is for future extension.

*Attributes:*

**time:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time that the event occurs. The value is relative to the beginning of the slide timeline, which does not include slide transition time.

**objId:** An **a:ST\_DrawingElementId** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the identifier of the shape object on the slide that is the target of this event.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_NullEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.29 CT\_MediaPlaybackEventRecord

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_ShowEventRecordList](#)

A complex type that specifies a media playback event that occurs during slide show.

*Attributes:*

**time:** An **ST\_UniversalTimeOffset** (section [2.6.1](#)) attribute that specifies the time that the event occurs. The value is relative to the beginning of the slide timeline, which does not include side transition time.

**objId:** An **a:ST\_DrawingElementId** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the identifier of the media object on the slide that is the target of the event.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaPlaybackEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.30 CT\_MediaSeekEventRecord

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_ShowEventRecordList](#)

A complex type that specifies a media seek event that occurs during slide show.

*Attributes:*

**time:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time that the event occurs. The value is relative to the beginning of the slide timeline, which does not include slide transition time.

**objId:** An **a:ST\_DrawingElementId** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the identifier of the media object on the slide that is the target of this event.

**seek:** An **ST\_UniversalTimeOffset** attribute (section [2.6.1](#)) that specifies the time of the position to seek to in the media stream.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_MediaSeekEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
  <xsd:attribute name="seek" type="ST_UniversalTimeOffset" use="required"/>
</xsd:complexType>
```

</xsd:complexType>

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.31 CT\_ShowEventRecordList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [showEvtLst](#)

A complex type that specifies a list of slide show events that occurs during slide show.

*Child Elements:*

**triggerEvt:** A **CT\_TriggerEventRecord** element (section [2.5.27](#)) that specifies a triggered animation event.

**playEvt:** A **CT\_MediaPlaybackEventRecord** element (section [2.5.29](#)) that specifies an event targeting a media object that starts playback.

**stopEvt:** A **CT\_MediaPlaybackEventRecord** element (section [2.5.29](#)) that specifies an event targeting a media object that stops playback.

**pauseEvt:** A **CT\_MediaPlaybackEventRecord** element (section [2.5.29](#)) that specifies an event targeting a media object that pauses playback.

**resumeEvt:** A **CT\_MediaPlaybackEventRecord** element (section [2.5.29](#)) that specifies an event targeting a media object that assumes playback.

**seekEvt:** A **CT\_MediaSeekEventRecord** element (section [2.5.30](#)) that specifies an event targeting a media object that seeks to a specified time in the media stream.

**nullEvt:** A **CT\_NullEventRecord** element (section [2.5.28](#)) that specifies an unknown event.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ShowEventRecordList">
  <xsd:sequence>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="triggerEvt" type="CT_TriggerEventRecord"/>
      <xsd:element name="playEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="stopEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="pauseEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="resumeEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="seekEvt" type="CT_MediaSeekEventRecord"/>
      <xsd:element name="nullEvt" type="CT_NullEventRecord"/>
    </xsd:choice>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.32 CT\_ParentCommentIdentifier

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

Referenced by: [CT\\_CommentThreading](#)

A complex type that specifies the comment author ID and comment index of the parent comment. <14> Together, they identify the parent comment within a presentation.

Attributes:

**authorId:** An **xsd:unsignedInt** attribute ([\[XMLSCHEMA2\]](#) section 3.3.22) that specifies the author of the parent comment by reference to the **authorId** attribute contained within the **CT\_Comment** complex type ([\[ISO/IEC-29500-4\]](#) section A.3).

**idx:** An **xsd:unsignedInt** attribute ([\[XMLSCHEMA2\]](#) section 3.3.22) that specifies the index of the parent comment by reference to the **idx** attribute contained within the **CT\_Comment** complex type ([\[ISO/IEC-29500-4\]](#) section A.3).

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ParentCommentIdentifier">
  <xsd:attribute name="authorId" type="xsd:unsignedInt"/>
  <xsd:attribute name="idx" type="xsd:unsignedInt"/>
</xsd:complexType>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.33 CT\_CommentThreading

Target namespace: <http://schemas.microsoft.com/office/powerpoint/2012/main>

Referenced by: [threadingInfo](#)

A complex type that specifies threading extensions to the **CT\_Comment** complex type ([\[ISO/IEC-29500-4\]](#) section A.3). <15>

Child Elements:

**parentCm:** A [CT\\_ParentCommentIdentifier](#) element (section [2.5.32](#)) that specifies the parent comment.

Attributes:

**timeZoneBias:** An **xsd:int** attribute ([\[XMLSCHEMA2\]](#) section 3.3.17) that specifies the time zone bias, in minutes. The bias is the difference between Coordinated Universal Time (UTC) and time stored in the **dt** attribute of the **CT\_Comment** complex type ([\[ISO/IEC-29500-4\]](#) section A.3). All translations between UTC and local time are based on the following formula: UTC = local time + bias

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_CommentThreading">
  <xsd:sequence>
    <xsd:element name="parentCm" type="CT_ParentCommentIdentifier" minOccurs="0"
      maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="timeZoneBias" type="xsd:int"/>
</xsd:complexType>
```



</xsd:complexType>

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.34 CT\_ExtendedGuide

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

*Referenced by:* [CT\\_ExtendedGuideList](#)

A complex type that specifies a guide within a presentation. [<16>](#) Guides are lines used for arranging shapes and other content.

*Child Elements:*

**clr:** A **CT\_Color** element ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the color of the guide.

**extLst:** A **CT\_ExtensionList** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the extension list. All future extensions to the guide will be stored in the extension list.

*Attributes:*

**id:** An **xsd:unsignedInt** attribute ([\[XMLSCHEMA2\]](#) section 3.3.22) that specifies a unique identifier for the guide. The identifier MUST be unique within its parent CT\_ExtendedGuideList (section [2.5.35](#)).

**name:** An **xsd:string** attribute ([\[XMLSCHEMA2\]](#) section 3.2.1) that specifies the name of the guide.

**orient:** An **ST\_Direction** attribute ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the orientation of the guide.

**pos:** An **ST\_Coordinate32** attribute ([\[ISO/IEC-29500-4\]](#) section A.4.1) that specifies the position of the guide relative to the top or left side of the slide.

**userDrawn:** A **xsd:boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies whether the guide was inserted by the user.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ExtendedGuide">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="name" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="orient" type="p:ST_Direction" use="optional" default="vert"/>
  <xsd:attribute name="pos" type="a:ST_Coordinate32" use="optional" default="0"/>
  <xsd:attribute name="userDrawn" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.35 CT\_ExtendedGuideList

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

*Referenced by:* [sldGuideLst](#), [notesGuideLst](#)

A complex type that specifies a list of extended guides for a master slide, a slide layout, or a particular view of the presentation. [<17>](#)

*Child Elements:*

**guide:** A **CT\_ExtendedGuide** element (section [2.5.34](#)) that specifies a guide in a presentation.

**extLst:** A **CT\_ExtensionList** element ([\[ISO/IEC-29500-4\]](#) section A.3) that specifies the extension list. All future extensions to the guide list will be stored in the extension list.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ExtendedGuideList">
  <xsd:sequence>
    <xsd:element name="guide" type="CT_ExtendedGuide" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.5.36 CT\_ChartTrackingRefBased

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

*Referenced by:* [chartTrackingRefBased](#)

A complex type that specifies how data point properties and datalabels ([\[MS-ODRAWXML\]](#) section 2.2.1.2) in all charts ([\[ISO/IEC-29500-1\]](#) section 21.2) in this presentation behave. [<18>](#)

*Attributes:*

**val:** An **xsd:boolean** ([\[XMLSCHEMA2\]](#) section 3.2.2) attribute that specifies the behavior of data point properties and datalabels ([\[MS-ODRAWXML\]](#) section 2.2.1.2) in all charts ([\[ISO/IEC-29500-1\]](#) section 21.2) in this presentation as defined by the following table.

Value	Meaning
True	Datapoint properties and datalabels in all charts ( <a href="#">[ISO/IEC-29500-1]</a> section 21.2) in this presentation follow their reference.
False	Datapoint properties and datalabels in all charts ( <a href="#">[ISO/IEC-29500-1]</a> section 21.2) in this presentation follow their position in the chart.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_ChartTrackingRefBased">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
```

</xsd:complexType>

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.37 CT\_PresenceInfo

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

*Referenced by:* [presenceInfo](#)

A complex type that specifies presence information extensions to the **CT\_CommentAuthor** complex type ([\[ISO/IEC-29500-4\]](#) section A.3).[<19>](#)

*Attributes:*

**userId:** A **xsd:string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies a unique user id for a person.

**providerId:** A **xsd:string** ([\[XMLSCHEMA2\]](#) section 3.2.1) attribute that specifies the identity provider that produced the subsequent **userId** attribute.

This table lists example data for these attributes.

Identity Provider	providerIdvalue	userIdvalue	Description of userId value
No Provider	"None"	"Name"	Author's name
Active Directory	"AD"	SID	Active Directory Security Identifier (as specified in <a href="#">[MS-DTYP]</a> section 2.4.2)
Windows Live ID	"Windows Live"	CID	A 64-bit signed decimal that uniquely identifies a user on Windows Live.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_PresenceInfo">  
  <xsd:attribute name="userId" type="xsd:string" use="required"/>  
  <xsd:attribute name="providerId" type="xsd:string" use="required"/>  
</xsd:complexType>
```

See section [5.2](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.5.38 CT\_PresetTransition

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2012/main>

*Referenced by:* [prstTrans](#)

A complex type that specifies the parameters of a preset transition.

*Attributes:*

**prst:** A `xsd:string` ([XMLSCHEMA2] section 3.2.1) attribute that specifies the name of the preset transition. This name specifies the internal resource to use for the transition.

prst Value	Meaning
pageCurlDouble	A double page curl transition as shown in figure 22 following.
pageCurlSingle	A single page curl transition as shown in figure 23 following.

The following figures are samples of all values for this attribute.



**Figure 22: Sample with prst equal to "pageCurlDouble"**



**Figure 23: Sample with prst equal to "pageCurlSingle"**

**invX:** A `xsd:boolean` ([XMLSCHEMA2] section 3.2.2) attribute that specifies that the X coordinates of the transition should be inverted. This can be used to make a left direction-based transition preset into a right direction-based transition.

**invY:** A `xsd:boolean` ([XMLSCHEMA2] section 3.2.2) attribute that specifies that the Y coordinates of the transition should be inverted. This can be used to make an up direction-based transition preset into a down direction-based transition preset.

The following W3C XML Schema ([XMLSCHEMA1] section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_PresetTransition">
  <xsd:attribute name="prst" type="xsd:string"/>
  <xsd:attribute name="invX" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="invY" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
```

See section 5.2 for the full W3C XML Schema ([XMLSCHEMA1] section 2.1).

## 2.6 Simple Types

### 2.6.1 ST\_UniversalTimeOffset

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [dur](#), [CT\\_MediaTrim](#), [CT\\_MediaFade](#), [CT\\_MediaBookmark](#), [CT\\_LaserTracePoint](#), [CT\\_TriggerEventRecord](#), [CT\\_NullEventRecord](#), [CT\\_MediaPlaybackEventRecord](#), [CT\\_MediaSeekEventRecord](#)

A simple type that specifies an amount of time. It MUST be a valid TIMEOFFSET as specified in the following ABNF [\[RFC5234\]](#) grammar:

TIMEOFFSET = TIME [UNITS]

TIME = 1\*DIGIT [ "." 1\*DIGIT]

UNITS = "h" / "min" / "s" / "ms" / "µs" / "ns"

UNITS specifies one of the following units of time:

Abbreviation	Unit of Time
h	Hour
min	Minute
s	Second
ms	Millisecond
µs	Microsecond
ns	Nanosecond

If no units are specified, the default is milliseconds.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_UniversalTimeOffset">
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 2.6.2 ST\_TransitionPattern

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_GlitterTransition](#)

A simple type that specifies a geometric pattern that tiles together to fill a larger area.

Value	Meaning
diamond	Diamond tile pattern
hexagon	Hexagon tile pattern

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_TransitionPattern">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="diamond"/>
  </xsd:restriction>
</xsd:simpleType>
```

```

    <xsd:enumeration value="hexagon"/>
  </xsd:restriction>
</xsd:simpleType>

```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.6.3 ST\_TransitionCenterDirectionType

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [ST\\_TransitionCornerAndCenterDirectionType](#)

A simple type that specifies a direction restricted to the center.

Value	Meaning
center	Direction of movement is to or from the center.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```

<xsd:simpleType name="ST_TransitionCenterDirectionType">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="center"/>
  </xsd:restriction>
</xsd:simpleType>

```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.6.4 ST\_TransitionShredPattern

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_ShredTransition](#)

A simple type that specifies a geometric shape that tiles together to fill a larger area.

Value	Meaning
strip	Vertical strips
rectangle	Small rectangles

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```

<xsd:simpleType name="ST_TransitionShredPattern">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="strip"/>
    <xsd:enumeration value="rectangle"/>
  </xsd:restriction>
</xsd:simpleType>

```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.6.5 ST\_TransitionCornerAndCenterDirectionType

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_RippleTransition](#)

A simple type that specifies a direction restricted to the corners and center.

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_TransitionCornerAndCenterDirectionType">
  <xsd:union memberTypes="p:ST_TransitionCornerDirectionType
  ST_TransitionCenterDirectionType"/>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

### 2.6.6 ST\_TransitionLeftRightDirectionType

*Target namespace:* <http://schemas.microsoft.com/office/powerpoint/2010/main>

*Referenced by:* [CT\\_LeftRightDirectionTransition](#), [CT\\_RevealTransition](#)

A simple type that specifies a direction restricted to the values of left and right.

Value	Meaning
l	Left
r	Right

The following W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_TransitionLeftRightDirectionType">
  <xsd:restriction base="xsd:token">
    <xsd:enumeration value="l"/>
    <xsd:enumeration value="r"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1\]](#) section 2.1).

## 3 Structure Examples

The following sections provide examples of some of the extensions specified in this document. Some otherwise required markup has been elided and marked with "..." to focus the example on the particular elements being described.

### 3.1 Slide Transitions

The following shows an example of a **ripple** transition (section [2.3.4](#)):

```
<p:sld xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:p="http://schemas.openxmlformats.org/presentationml/2006/main"
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main"
xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006">
...
  <mc:AlternateContent>
    <mc:Choice Requires="p14">
      <p:transition spd="slow" p14:dur="1500">
        <p14:ripple dir="ld"/>
      </p:transition>
    </mc:Choice>
    <mc:Fallback>
      <p:transition spd="slow">
        <p:fade/>
      </p:transition>
    </mc:Fallback>
  </mc:AlternateContent>
...
</p:sld>
```

This example shows a **ripple** slide transition (section [2.3.4](#)). The **p14:dur** (section [2.4.1](#)) attribute on the **p:transition** element ([\[ISO/IEC-29500-1\]](#) section 19.3.1.50) has a value of 1500 and indicates the transition runs for 1.5 seconds. The **dir** attribute on the **p14:ripple** element (section [2.3.4](#)) has a value of "ld" and indicates the ripple will be to the left and down.

### 3.2 Media

The following shows an example of a **media** (section [2.3.24](#)) extension:

```
<p:pic>
  <p:nvPicPr>
    <p:cNvPr id="4" name="video1.wmv" />
    <p:cNvPicPr>
      <a:picLocks noChangeAspect="1"/>
    </p:cNvPicPr>
    <p:nvPr>
      <a:videoFile r:link="rId1"/>
      <p:extLst>
        <p:ext uri="{DAA4B4D4-6D71-4841-9C94-3DE7FCFB9230}">
          <p14:media
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main" r:embed="rId2">
```



```

        <p14:trim st="18374.0515" end="29596.7072"/>
        <p14:fade in="1000"/>
        <p14:bmKlst>
            <p14:bmK name="Bookmark 1" time="53703.3597"/>
        </p14:bmKlst>
    </p14:media>
</p:ext>
</p:extLst>
</p:nvPr>
</p:nvPicPr>
</p:pic>

```

This example shows an embedded media that represents a video. The **r:embed** attribute of the **p14:media** element has a value of "rId2" and indicates the relationship identifier to use to find the **Media** (section [2.3.24](#)) part. The **st** attribute of the **p14:trim** element has value of 18374.0515 and the **end** attribute has a value of 29596.7072. Together they indicate that the video has been trimmed, such that the first frame played is 18.3749515 seconds from the start of the video and the last frame played is 29.5967072 seconds from the end of the video. The **in** attribute of the **p14:fade** element has a value of 1000 and indicates the video will fade in for 1 second of playback. Finally, the **p14:bmK** element indicates a media bookmark. The **time** attribute has a value of 53703.3597 and indicates the bookmark location is 53.7033597 seconds from the start of the video. The bookmark can be used to easily jump to a particular point in the video or to trigger a separate animation.

### 3.3 Sections

The following shows an example of a **sectionLst** (section [2.3.25](#)) extension:

```

<p:presentation xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:p="http://schemas.openxmlformats.org/presentationml/2006/main"
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main" saveSubsetFonts="1">
...
    <p:sldIdLst>
        <p:sldId id="256" r:id="rId2"/>
        <p:sldId id="257" r:id="rId3"/>
        <p:sldId id="259" r:id="rId4"/>
        <p:sldId id="258" r:id="rId5"/>
    </p:sldIdLst>
...
    <p:extLst>
        <p:ext uri="{521415D9-36F7-43E2-AB2F-B90AF26B5E84}">
            <p14:sectionLst>
                <p14:section name="Introduction" id="{01F07B81-39E6-4BBB-9B89-66EA253FBD29}">
                    <p14:sldIdLst>
                        <p14:sldId id="256"/>
                    </p14:sldIdLst>
                </p14:section>
                <p14:section name="Content" id="{1FEF2C88-0CF2-4176-BA81-0DE6FD9D1274}">
                    <p14:sldIdLst>
                        <p14:sldId id="257"/>
                        <p14:sldId id="259"/>
                    </p14:sldIdLst>
            </p14:sectionLst>
        </p:ext>
    </p:extLst>

```

```

        </p14:section>
        <p14:section name="Conclusion" id="{CA1E145A-94F4-4C2D-9BC0-76C4A01D48ED}">
            <p14:sldIdLst>
                <p14:sldId id="258"/>
            </p14:sldIdLst>
        </p14:section>
    </p14:sectionLst>
</p:ext>
</p:extLst>
</p:presentation>

```

This example shows a presentation with three sections. The first **p14:section** element represents the first section. Its **name** attribute has a value of "Introduction" and indicates the name of the first section; its child element **p14:sldIdLst** has a child **p14:sldId** with the value of 256 that indicates that the first section encompasses the first presentation slide. The second **p14:section** element represents the second section. Its **name** attribute has a value of "Content" and indicates the name of the second section; it has a child element **p14:sldIdLst** that has two **p14:sldId** child elements with the values of 257 and 259 and that indicates that the second section encompasses the second and third presentation slides. The third **p14:section** element represents the third section. Its **name** attribute has a value of "Conclusion" and indicates the name of the third section; its child element **p14:sldIdLst** has only one child element **p14:sldId** with the value of 258 and that indicates that the third section encompasses the fourth presentation slide.

### 3.4 Slide Show

The following shows an example of the **laserTraceLst** (section [2.3.31](#)) and **showEvtLst** (section [2.3.34](#)) extensions:

```

<p:sld xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
xmlns:p="http://schemas.openxmlformats.org/presentationml/2006/main"
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main">
    <p:cSld>
        <p:spTree>
            ...
            <p:pic>
                <p:nvPicPr>
                    <p:cNvPr id="4" name="video1.wmv">
                        <a:hlinkClick r:id="" action="ppaction://media"/>
                    </p:cNvPr>
                    <p:cNvPicP>
                        <a:picLocks noChangeAspect="1"/>
                    </p:cNvPicPr>
                    <p:nvPr>
                        <a:videoFile r:link="rId2"/>
                        <p:extLst>
                            <p:ext uri="{DAA4B4D4-6D71-4841-9C94-3DE7FCFB9230}">
                                <p14:media r:embed="rId1"/>
                                <p14:bmKlst/>
                            </p14:media>
                        </p:ext>
                    </p:extLst>
                </p:nvPr>
            </p:nvPicPr>
        </p:pic>
    </p:cSld>
</p:sld>

```

```

...
    </p:pic>
    <p:sp>
      <p:nvSpPr>
        <p:cNvPr id="6" name="Rectangle 5"/>
        <p:cNvSpPr/>
        <p:nvPr/>
      </p:nvSpPr>
    </p:sp>
  </p:spTree>
</p:cSld>
...
<p:extLst>
  <p:ext uri="{3A86A75C-4F4B-4683-9AE1-C65F6400EC91}">
    <p14:laserTraceLst>
      <p14:tracePtLst>
        <p14:tracePt t="48796" x="6062662" y="3259137"/>
        <p14:tracePt t="49796" x="6438900" y="3179762"/>
        <p14:tracePt t="50296" x="0" y="0"/>
      </p14:tracePtLst>
    </p14:laserTraceLst>
  </p:ext>
  <p:ext uri="{E180D4A7-C9FB-4DFB-919C-405C955672EB}">
    <p14:showEvtLst>
      <p14:triggerEvt type="onClick" time="6950" objId="6"/>
      <p14:playEvt time="12722" objId="4"/>
      <p14:pauseEvt time="38839" objId="4"/>
      <p14:seekEvt time="38839" objId="4" seek="10379"/>
      <p14:resumeEvt time="38859" objId="4"/>
      <p14:stopEvt time="49628" objId="4"/>
    </p14:showEvtLst>
  </p:ext>
</p:extLst>
</p:sld>

```

First, the example shows a **p14:laserTraceLst** (section [2.3.31](#)) element with two laser traces. The first **p14:tracePtLst** element indicates the first laser trace which includes three trace points. The first **p14:tracePt** element's **t** attribute has a value of 48796; its **x** attribute has a value of 6062662; and its **y** attribute has a value of 3259137. Together they indicate that the laser pointer first appears after 48.796 seconds at the location (6062662, 3259137). The second **p14:tracePt** element's **t** attribute has a value of 49796; its **x** attribute has a value of "6438900"; and its **y** attribute has a value of 3179762. Together they indicate that the laser pointer moves to the location (6438900, 3179762) after one additional second. The third **p14:tracePt** element's **t** attribute has a value of 50296; its **x** attribute has a value of zero; and its **y** value has a value of zero. Together, they indicate that the laser pointer moves to location (0, 0) after an additional 500 milliseconds. At this point, the laser trace ends and the laser pointer disappears. The second **p14:tracePtLst**

element indicates the second laser trace, which includes two trace points. The first **p14:tracePt** element's **t** attribute has a value of 52000; its **x** attribute has a value of 1196975; and its **y** attribute has a value of 2982912. Together they indicate that the laser pointer reappears 1.704 seconds later at position (1196975, 2982912). The second **p14:tracePt** element's **t** attribute has a value of 55000; its **x** attribute has a value of zero; and its **y** attribute has a value of zero. Together they indicate that the laser pointer moves to location (0, 0) after an additional 3 seconds. At this point, the laser trace ends and the laser pointer again disappears.

Next, the example shows a **p14:showEvtLst** (section 2.3.34) with six events. The **p14:triggerEvt** element indicates the first event. Its **type** attribute has a value of "onClick"; its **time** attribute has a value of 6950; and its **objId** attribute has a value of 6. Together they indicate that the shape with the name "Rectangle 6" was clicked at 6.95 seconds. The **p14:playEvt** element indicates the second event. Its **time** attribute has a value of 12722 and its **objId** attribute has a value of 4. Together they indicate that the video with name "video1.wmv" began playing at 12.722 seconds. The **p14:pauseEvt** element indicates the third event. Its **time** attribute has a value of 38839 and its **objId** attribute has a value of 4. Together they indicate that the video with name "video1.wmv" was paused at 38.839 seconds. The **p14:seekEvt** element indicates the fourth event. Its **time** attribute has a value of 38839; its **objId** attribute has a value of 4; and its **seek** attribute has a value of 10379. Together they indicate that the video with name "video1.wmv" was sought to 10.379 seconds from the start of the video at 38.839 seconds. The **p14:resumeEvt** element indicates the fifth event. Its **time** attribute has a value of 38859 and its **objId** attribute has a value of 4. Together they indicate that the video with name "video1.wmv" resumed playing at 38.859 seconds. The **p14:stopEvt** element indicates the sixth event. Its **time** attribute has a value of 49628 and its **objId** attribute has a value of 4. Together they indicate that the video with name "video1.wmv" stopped playing at 49.628 seconds.

## **4 Security**

### **4.1 Security Considerations for Implementers**

None.

### **4.2 Index of Security Parameters**

None.

Preliminary

## 5 Appendix A: Full XML Schemas

For ease of implementation, this section provides the full W3C XML schemas for the new elements, attributes, complex types, and simple types specified in this document. Any schema references to namespaces included in [\[ISO/IEC-29500:2008\]](#) refer specifically to the transitional schemas, as specified in [\[ISO/IEC-29500-4\]](#).

### 5.1 <http://schemas.microsoft.com/office/powerpoint/2010/main>

```
<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/powerpoint/2010/main"
xmlns="http://schemas.microsoft.com/office/powerpoint/2010/main"
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main"
xmlns:p="http://schemas.openxmlformats.org/presentationml/2006/main"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:s="http://schemas.openxmlformats.org/officeDocument/2006/sharedTypes"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:a14="http://schemas.microsoft.com/office/drawing/2010/main"
xmlns:r="http://schemas.openxmlformats.org/officeDocument/2006/relationships">
  <xsd:import namespace="http://schemas.openxmlformats.org/presentationml/2006/main"
schemaLocation="pml.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="dml-main.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/sharedTypes"
schemaLocation="shared-commonSimpleTypes.xsd"/>
  <xsd:import namespace="http://schemas.microsoft.com/office/drawing/2010/main"
schemaLocation="dml-mainExt.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/relationships"
schemaLocation="shared-relationshipReference.xsd"/>
  <xsd:simpleType name="ST_UniversalTimeOffset">
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
  <xsd:simpleType name="ST_TransitionPattern">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="diamond"/>
      <xsd:enumeration value="hexagon"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_TransitionCenterDirectionType">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="center"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_TransitionShredPattern">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="strip"/>
      <xsd:enumeration value="rectangle"/>
    </xsd:restriction>
  </xsd:simpleType>
  <xsd:simpleType name="ST_TransitionCornerAndCenterDirectionType">
    <xsd:union memberTypes="p:ST_TransitionCornerDirectionType
ST_TransitionCenterDirectionType"/>
  </xsd:simpleType>
  <xsd:simpleType name="ST_TransitionLeftRightDirectionType">
    <xsd:restriction base="xsd:token">
      <xsd:enumeration value="l"/>
      <xsd:enumeration value="r"/>
    </xsd:restriction>
  </xsd:simpleType>
```

```

<xsd:complexType name="CT_LeftRightDirectionTransition">
  <xsd:attribute name="dir" type="ST_TransitionLeftRightDirectionType"/>
</xsd:complexType>
<xsd:element name="vortex" type="p:CT_SideDirectionTransition"/>
<xsd:element name="switch" type="CT_LeftRightDirectionTransition"/>
<xsd:element name="flip" type="CT_LeftRightDirectionTransition"/>
<xsd:complexType name="CT_RippleTransition">
  <xsd:attribute name="dir" type="ST_TransitionCornerAndCenterDirectionType" use="optional"
default="center"/>
</xsd:complexType>
<xsd:element name="ripple" type="CT_RippleTransition"/>
<xsd:element name="honeycomb" type="p:CT_Empty"/>
<xsd:complexType name="CT_PrismTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionSideDirectionType" use="optional"
default="l"/>
  <xsd:attribute name="isContent" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="isInverted" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
<xsd:element name="prism" type="CT_PrismTransition"/>
<xsd:element name="doors" type="p:CT_OrientationTransition"/>
<xsd:element name="window" type="p:CT_OrientationTransition"/>
<xsd:element name="ferris" type="CT_LeftRightDirectionTransition"/>
<xsd:element name="gallery" type="CT_LeftRightDirectionTransition"/>
<xsd:element name="conveyor" type="CT_LeftRightDirectionTransition"/>
<xsd:element name="pan" type="p:CT_SideDirectionTransition"/>
<xsd:complexType name="CT_GlitterTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionSideDirectionType" use="optional"
default="l"/>
  <xsd:attribute name="pattern" type="ST_TransitionPattern" use="optional"
default="diamond"/>
</xsd:complexType>
<xsd:element name="glitter" type="CT_GlitterTransition"/>
<xsd:complexType name="CT_FlyThroughTransition">
  <xsd:attribute name="dir" type="p:ST_TransitionInOutDirectionType" use="optional"
default="in"/>
  <xsd:attribute name="hasBounce" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
<xsd:element name="warp" type="p:CT_InOutTransition"/>
<xsd:element name="flythrough" type="CT_FlyThroughTransition"/>
<xsd:element name="flash" type="p:CT_Empty"/>
<xsd:complexType name="CT_ShredTransition">
  <xsd:attribute name="pattern" type="ST_TransitionShredPattern" use="optional"
default="strip"/>
  <xsd:attribute name="dir" type="p:ST_TransitionInOutDirectionType" use="optional"
default="in"/>
</xsd:complexType>
<xsd:element name="shred" type="CT_ShredTransition"/>
<xsd:complexType name="CT_RevealTransition">
  <xsd:attribute name="thruBlk" type="xsd:boolean" use="optional" default="false"/>
  <xsd:attribute name="dir" type="ST_TransitionLeftRightDirectionType" use="optional"
default="l"/>
</xsd:complexType>
<xsd:element name="reveal" type="CT_RevealTransition"/>
<xsd:complexType name="CT_MediaBookmarkTarget">
  <xsd:attribute name="spid" type="a:ST_DrawingElementId" use="required"/>
  <xsd:attribute name="bmkName" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:element name="wheelReverse" type="p:CT_WheelTransition"/>
<xsd:attribute name="dur" type="ST_UniversalTimeOffset"/>
<xsd:element name="bmkTgt" type="CT_MediaBookmarkTarget"/>

```

```

<xsd:attribute name="presetBounceEnd" type="s:ST_PositiveFixedPercentage"/>
<xsd:attribute name="bounceEnd" type="s:ST_PositiveFixedPercentage"/>
<xsd:complexType name="CT_ContentPartNonVisual">
  <xsd:sequence>
    <xsd:element name="cNvPr" type="a:CT_NonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
    <xsd:element name="cNvContentPartPr" type="a14:CT_NonVisualInkContentPartProperties"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="nvPr" type="p:CT_ApplicationNonVisualDrawingProps" minOccurs="1"
maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="nvContentPartPr" type="CT_ContentPartNonVisual"/>
<xsd:attribute name="bwMode" type="a:ST_BlackWhiteMode"/>
<xsd:element name="xfrm" type="a:CT_Transform2D"/>
<xsd:element name="extLst" type="p:CT_ExtensionListModify"/>
<xsd:complexType name="CT_MediaTrim">
  <xsd:attribute name="st" type="ST_UniversalTimeOffset" use="optional" default="0"/>
  <xsd:attribute name="end" type="ST_UniversalTimeOffset" use="optional" default="0"/>
</xsd:complexType>
<xsd:complexType name="CT_MediaFade">
  <xsd:attribute name="in" type="ST_UniversalTimeOffset" use="optional" default="0"/>
  <xsd:attribute name="out" type="ST_UniversalTimeOffset" use="optional" default="0"/>
</xsd:complexType>
<xsd:complexType name="CT_MediaBookmark">
  <xsd:attribute name="name" type="xsd:string"/>
  <xsd:attribute name="time" type="ST_UniversalTimeOffset"/>
</xsd:complexType>
<xsd:complexType name="CT_MediaBookmarkList">
  <xsd:sequence>
    <xsd:element name="bmk" type="CT_MediaBookmark" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_Media">
  <xsd:sequence>
    <xsd:element name="trim" type="CT_MediaTrim" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="fade" type="CT_MediaFade" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="bmkLst" type="CT_MediaBookmarkList" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attributeGroup ref="a:AG_Blob"/>
</xsd:complexType>
<xsd:element name="media" type="CT_Media"/>
<xsd:complexType name="CT_SectionSlideIdListEntry">
  <xsd:attribute name="id" type="p:ST_SlideId" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_SectionSlideIdList">
  <xsd:sequence>
    <xsd:element name="sldId" type="CT_SectionSlideIdListEntry" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_Section">
  <xsd:sequence>
    <xsd:element name="sldIdLst" type="CT_SectionSlideIdList" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="name" type="xsd:string"/>
  <xsd:attribute name="id" type="s:ST_Guid"/>

```



```

</xsd:complexType>
<xsd:complexType name="CT_SectionList">
  <xsd:sequence>
    <xsd:element name="section" type="CT_Section" minOccurs="1" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="sectionLst" type="CT_SectionList"/>
<xsd:complexType name="CT_BrowseMode">
  <xsd:attribute name="showStatus" type="xsd:boolean" use="optional" default="true"/>
</xsd:complexType>
<xsd:element name="browseMode" type="CT_BrowseMode"/>
<xsd:element name="laserClr" type="a:CT_Color"/>
<xsd:complexType name="CT_DefaultImageDpi">
  <xsd:attribute name="val" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
<xsd:element name="defaultImageDpi" type="CT_DefaultImageDpi"/>
<xsd:complexType name="CT_DiscardImageEditData">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
<xsd:element name="discardImageEditData" type="CT_DiscardImageEditData"/>
<xsd:complexType name="CT_ShowMediaControls">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
<xsd:element name="showMediaCtrls" type="CT_ShowMediaControls"/>
<xsd:complexType name="CT_LaserTracePoint">
  <xsd:attribute name="t" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="x" type="a:ST_Coordinate" use="required"/>
  <xsd:attribute name="y" type="a:ST_Coordinate" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_LaserTrace">
  <xsd:sequence>
    <xsd:element name="tracePt" type="CT_LaserTracePoint" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_LaserTraceList">
  <xsd:sequence>
    <xsd:element name="tracePtLst" type="CT_LaserTrace" minOccurs="0"
maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="laserTraceLst" type="CT_LaserTraceList"/>
<xsd:complexType name="CT_RandomId">
  <xsd:attribute name="val" type="xsd:unsignedInt" use="required"/>
</xsd:complexType>
<xsd:element name="creationId" type="CT_RandomId"/>
<xsd:element name="modId" type="CT_RandomId"/>
<xsd:complexType name="CT_TriggerEventRecord">
  <xsd:attribute name="type" type="p:ST_TLTriggerEvent" use="required"/>
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_NullEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_MediaPlaybackEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>

```

```

</xsd:complexType>
<xsd:complexType name="CT_MediaSeekEventRecord">
  <xsd:attribute name="time" type="ST_UniversalTimeOffset" use="required"/>
  <xsd:attribute name="objId" type="a:ST_DrawingElementId" use="required"/>
  <xsd:attribute name="seek" type="ST_UniversalTimeOffset" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_ShowEventRecordList">
  <xsd:sequence>
    <xsd:choice minOccurs="0" maxOccurs="unbounded">
      <xsd:element name="triggerEvt" type="CT_TriggerEventRecord"/>
      <xsd:element name="playEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="stopEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="pauseEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="resumeEvt" type="CT_MediaPlaybackEventRecord"/>
      <xsd:element name="seekEvt" type="CT_MediaSeekEventRecord"/>
      <xsd:element name="nullEvt" type="CT_NullEventRecord"/>
    </xsd:choice>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="showEvtLst" type="CT_ShowEventRecordList"/>
</xsd:schema>

```

## 5.2 <http://schemas.microsoft.com/office/powerpoint/2012/main>

```

<xsd:schema elementFormDefault="qualified"
targetNamespace="http://schemas.microsoft.com/office/powerpoint/2012/main"
xmlns="http://schemas.microsoft.com/office/powerpoint/2012/main"
xmlns:p14="http://schemas.microsoft.com/office/powerpoint/2010/main"
xmlns:p="http://schemas.openxmlformats.org/presentationml/2006/main"
xmlns:a="http://schemas.openxmlformats.org/drawingml/2006/main"
xmlns:s="http://schemas.openxmlformats.org/officeDocument/2006/sharedTypes"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:import namespace="http://schemas.openxmlformats.org/presentationml/2006/main"
schemaLocation="pml.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/drawingml/2006/main"
schemaLocation="dml-main.xsd"/>
  <xsd:import namespace="http://schemas.openxmlformats.org/officeDocument/2006/sharedTypes"
schemaLocation="shared-commonSimpleTypes.xsd"/>
  <xsd:complexType name="CT_PresetTransition">
    <xsd:attribute name="prst" type="xsd:string"/>
    <xsd:attribute name="invX" type="xsd:boolean" use="optional" default="false"/>
    <xsd:attribute name="invY" type="xsd:boolean" use="optional" default="false"/>
  </xsd:complexType>
  <xsd:element name="prstTrans" type="CT_PresetTransition"/>
  <xsd:complexType name="CT_PresenceInfo">
    <xsd:attribute name="userId" type="xsd:string" use="required"/>
    <xsd:attribute name="providerId" type="xsd:string" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_ParentCommentIdentifier">
    <xsd:attribute name="authorId" type="xsd:unsignedInt"/>
    <xsd:attribute name="idx" type="xsd:unsignedInt"/>
  </xsd:complexType>
  <xsd:complexType name="CT_CommentThreading">
    <xsd:sequence>
      <xsd:element name="parentCm" type="CT_ParentCommentIdentifier" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="timeZoneBias" type="xsd:int"/>

```

```

</xsd:complexType>
<xsd:element name="presenceInfo" type="CT_PresenceInfo"/>
<xsd:element name="threadingInfo" type="CT_CommentThreading"/>
<xsd:complexType name="CT_ExtendedGuide">
  <xsd:sequence>
    <xsd:element name="clr" type="a:CT_Color" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:unsignedInt" use="required"/>
  <xsd:attribute name="name" type="xsd:string" use="optional" default=""/>
  <xsd:attribute name="orient" type="p:ST_Direction" use="optional" default="vert"/>
  <xsd:attribute name="pos" type="a:ST_Coordinate32" use="optional" default="0"/>
  <xsd:attribute name="userDrawn" type="xsd:boolean" use="optional" default="false"/>
</xsd:complexType>
<xsd:complexType name="CT_ExtendedGuideList">
  <xsd:sequence>
    <xsd:element name="guide" type="CT_ExtendedGuide" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="extLst" type="p:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:element name="sldGuideLst" type="CT_ExtendedGuideList"/>
<xsd:element name="notesGuideLst" type="CT_ExtendedGuideList"/>
<xsd:complexType name="CT_ChartTrackingRefBased">
  <xsd:attribute name="val" type="xsd:boolean" use="required"/>
</xsd:complexType>
<xsd:element name="chartTrackingRefBased" type="CT_ChartTrackingRefBased"/>
</xsd:schema>

```

## 6 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® PowerPoint® 2010
- Microsoft® PowerPoint® 2013 Preview

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

[<1> Section 2.2.10:](#) This extension is available only in PowerPoint 2013 Preview.

[<2> Section 2.2.10:](#) This extension is available only in PowerPoint 2013 Preview.

[<3> Section 2.2.11:](#) This extension is available only in PowerPoint 2013 Preview.

[<4> Section 2.2.11:](#) This extension is available only in PowerPoint 2013 Preview.

[<5> Section 2.2.11:](#) This extension is available only in PowerPoint 2013 Preview.

[<6> Section 2.2.11:](#) This extension is available only in PowerPoint 2013 Preview.

[<7> Section 2.2.11:](#) This extension is available only in PowerPoint 2013 Preview.

[<8> Section 2.2.12:](#) This extension is available only in PowerPoint 2013 Preview.

[<9> Section 2.3.35:](#) This element is available only in PowerPoint 2013 Preview.

[<10> Section 2.3.36:](#) This element is available only in PowerPoint 2013 Preview.

[<11> Section 2.3.37:](#) This element is available only in PowerPoint 2013 Preview.

[<12> Section 2.3.38:](#) This element is available only in PowerPoint 2013 Preview.

[<13> Section 2.3.39:](#) This element is available only in PowerPoint 2013 Preview.

[<14> Section 2.5.32:](#) This type is available only in PowerPoint 2013 Preview.

[<15> Section 2.5.33:](#) This type is available only in PowerPoint 2013 Preview.

[<16> Section 2.5.34:](#) This type is available only in PowerPoint 2013 Preview.

[<17> Section 2.5.35:](#) This type is available only in PowerPoint 2013 Preview.

[<18> Section 2.5.36:](#) This type is available only in PowerPoint 2013 Preview.

[<19> Section 2.5.37:](#) This type is available only in PowerPoint 2013 Preview.

## 7 Change Tracking

This section identifies changes that were made to the [MS-PPTX] protocol document between the April 2012 and July 2012 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1.3 Overview</a>	Changed title from "Protocol Overview Synopsis".	N	Content updated for template compliance.
<a href="#">2.3.40 prstTrans</a>	Added global element.	N	New content added.
<a href="#">2.5.38 CT_PresetTransition</a>	Added new global attribute.	Y	New content added.
<a href="#">5.2 <u>http://schemas.microsoft.com/office/powerpoint/2012/main</u></a>	Changed namespace information, and modified to include new types.	Y	Protocol syntax updated.

## 8 Index

### A

[Animation info extensions](#) 11  
[Applicability](#) 9  
Attributes  
    [bounceEnd](#) 31  
    [bwMode](#) 31  
    [dur](#) 31  
    [presetBounceEnd](#) 31

### B

[bmkTgt element](#) 25  
[bounceEnd attribute](#) 31  
[browseMode element](#) 26  
[bwMode attribute](#) 31

### C

[Change tracking](#) 69  
[Change tracking extensions](#) 14  
[Charting extensions](#) 16  
[chartTrackingRefBased element](#) 30  
[Comment extensions](#) 14  
Complex types  
    [CT\\_BrowseMode](#) 41  
    [CT\\_ChartTrackingRefBased](#) 50  
    [CT\\_CommentThreading](#) 48  
    [CT\\_ContentPartNonVisual](#) 36  
    [CT\\_DefaultImageDpi](#) 41  
    [CT\\_DiscardImageEditData](#) 42  
    [CT\\_ExtendedGuide](#) 49  
    [CT\\_ExtendedGuideList](#) 50  
    [CT\\_FlyThroughTransition](#) 34  
    [CT\\_GlitterTransition](#) 33  
    [CT\\_LaserTrace](#) 43  
    [CT\\_LaserTraceList](#) 44  
    [CT\\_LaserTracePoint](#) 43  
    [CT\\_LeftRightDirectionTransition](#) 32  
    [CT\\_Media](#) 38  
    [CT\\_MediaBookmark](#) 37  
    [CT\\_MediaBookmarkList](#) 38  
    [CT\\_MediaBookmarkTarget](#) 35  
    [CT\\_MediaFade](#) 37  
    [CT\\_MediaPlaybackEventRecord](#) 46  
    [CT\\_MediaSeekEventRecord](#) 46  
    [CT\\_MediaTrim](#) 36  
    [CT\\_NullEventRecord](#) 45  
    [CT\\_ParentCommentIdentifier](#) 47  
    [CT\\_PresenceInfo](#) 51  
    [CT\\_PresetTransition](#) 51  
    [CT\\_PrismTransition](#) 33  
    [CT\\_RandomId](#) 44  
    [CT\\_RevealTransition](#) 35  
    [CT\\_RippleTransition](#) 32  
    [CT\\_Section](#) 40  
    [CT\\_SectionList](#) 41  
    [CT\\_SectionSlideIdList](#) 40

[CT\\_SectionSlideIdListEntry](#) 39  
    [CT\\_ShowEventRecordList](#) 47  
    [CT\\_ShowMediaControls](#) 42  
    [CT\\_ShredTransition](#) 34  
    [CT\\_TriggerEventRecord](#) 45  
Content part extensions 12  
[conveyor element](#) 21  
[creationId](#) 28  
    [CT\\_BrowseMode complex type](#) 41  
    [CT\\_ChartTrackingRefBased complex type](#) 50  
    [CT\\_CommentThreading complex type](#) 48  
    [CT\\_ContentPartNonVisual complex type](#) 36  
    [CT\\_DefaultImageDpi complex type](#) 41  
    [CT\\_DiscardImageEditData complex type](#) 42  
    [CT\\_ExtendedGuide complex type](#) 49  
    [CT\\_ExtendedGuideList complex type](#) 50  
    [CT\\_FlyThroughTransition complex type](#) 34  
    [CT\\_GlitterTransition complex type](#) 33  
    [CT\\_LaserTrace complex type](#) 43  
    [CT\\_LaserTraceList complex type](#) 44  
    [CT\\_LaserTracePoint complex type](#) 43  
    [CT\\_LeftRightDirectionTransition complex type](#) 32  
    [CT\\_Media complex type](#) 38  
    [CT\\_MediaBookmark complex type](#) 37  
    [CT\\_MediaBookmarkList complex type](#) 38  
    [CT\\_MediaBookmarkTarget complex type](#) 35  
    [CT\\_MediaFade complex type](#) 37  
    [CT\\_MediaPlaybackEventRecord complex type](#) 46  
    [CT\\_MediaSeekEventRecord complex type](#) 46  
    [CT\\_MediaTrim complex type](#) 36  
    [CT\\_NullEventRecord complex type](#) 45  
    [CT\\_ParentCommentIdentifier complex type](#) 47  
    [CT\\_PresenceInfo complex type](#) 51  
    [CT\\_PresetTransition complex type](#) 51  
    [CT\\_PrismTransition complex type](#) 33  
    [CT\\_RandomId complex type](#) 44  
    [CT\\_RevealTransition complex type](#) 35  
    [CT\\_RippleTransition complex type](#) 32  
    [CT\\_Section complex type](#) 40  
    [CT\\_SectionList complex type](#) 41  
    [CT\\_SectionSlideIdList complex type](#) 40  
    [CT\\_SectionSlideIdListEntry complex type](#) 39  
    [CT\\_ShowEventRecordList complex type](#) 47  
    [CT\\_ShowMediaControls complex type](#) 42  
    [CT\\_ShredTransition complex type](#) 34  
    [CT\\_TriggerEventRecord complex type](#) 45

### D

[defaultImageDpi element](#) 27  
Details  
    [extensions](#) 10  
    [discardImageEditData element](#) 27  
[doors element](#) 19  
[dur attribute](#) 31

### E

## Elements

- [bmkTgt](#) 25
- [browseMode](#) 26
- [chartTrackingRefBased](#) 30
- [conveyor](#) 21
- [creationId](#) 28
- [defaultImageDpi](#) 27
- [discardImageEditData](#) 27
- [doors](#) 19
- [extLst](#) 25
- [ferris](#) 20
- [flash](#) 23
- [flip](#) 17
- [flythrough](#) 22
- [gallery](#) 20
- [glitter](#) 22
- [honeycomb](#) 18
- [laserClr](#) 27
- [laserTraceLst](#) 28
- [media](#) 26
- [modId](#) 28
- [notesGuideLst](#) 30
- [nvContentPr](#) 25
- [pan](#) 21
- [presenceInfo](#) 29
- [prism](#) 18
- [prstTrans](#) 30
- [reveal](#) 24
- [ripple](#) 17
- [sectionLst](#) 26
- [showEvtLst](#) 29
- [showMediaCtrls](#) 27
- [shred](#) 23
- [sldGuideLst](#) 29
- [switch](#) 16
- [threadingInfo](#) 29
- [vortex](#) 16
- [warp](#) 22
- [wheelReverse](#) 24
- [window](#) 19
- [xfrm](#) 25
- [Examples](#) 56
  - [Media](#) 56
  - [overview](#) 56
  - [Sections](#) 57
  - [Slide Show](#) 58
  - [Slide Transitions](#) 56
- [Extensions](#)
  - [animation info](#) 11
  - [change tracking](#) 14
  - [charting](#) 16
  - [comment](#) 14
  - [content part](#) 12
  - [guide](#) 15
  - [image](#) 14
  - [math](#) 14
  - [media](#) 13
  - [section](#)
  - [slide show](#) 13
  - [slide transition](#) 10
  - [extLst element](#) 25

## F

- [ferris element](#) 20
- [Fields - vendor-extensible](#) 9
- [flash element](#) 23
- [flip element](#) 17
- [flythrough element](#) 22
- [Full XML schema](#) 62

## G

- [gallery element](#) 20
- [glitter element](#) 22
- [Glossary](#) 7
- [Guide extensions](#) 15

## H

- [honeycomb element](#) 18

## I

- [Image extensions](#) 14
- [Implementer - security considerations](#) 61
- [Index of security parameters](#) 61
- [Informative references](#) 8
- [Introduction](#) 7

## L

- [laserClr element](#) 27
- [laserTraceLst](#) 28
- [Localization](#) 9

## M

- [Math extensions](#) 14
- [media element](#) 26
- [Media example](#) 56
- [Media extensions](#) 13
- [Media part enumeration](#) 10
- [modId](#) 28

## N

- [Normative references](#) 7
- [notesGuideLst element](#) 30
- [nvContentPr element](#) 25

## O

- [Overview \(synopsis\)](#) 8

## P

- [pan element](#) 21
- [Parameters - security index](#) 61
- Part enumerations
  - [media part](#) 10
- [presenceInfo element](#) 29
- [presetBounceEnd attribute](#) 31
- [prism element](#) 18



[Product behavior](#) 68  
[prstTrans element](#) 30

[xfrm element](#) 25  
[XML schema](#) 62

## R

[References](#) 7  
    [informative](#) 8  
    [normative](#) 7  
[Relationship to protocols and other structures](#) 9  
[reveal element](#) 24  
[ripple element](#) 17

## S

[Section extensions](#) 13  
[sectionLst element](#) 26  
[Sections example](#) 57  
Security  
    [implementer considerations](#) 61  
    [parameter index](#) 61  
[showEvtLst](#) 29  
[showMediaCtrls element](#) 27  
[shred element](#) 23  
Simple types  
    [ST\\_TransitionCenterDirectionType](#) 54  
    [ST\\_TransitionCornerAndCenterDirectionType](#) 55  
    [ST\\_TransitionLeftRightDirectionType](#) 55  
    [ST\\_TransitionPattern](#) 53  
    [ST\\_TransitionShredPattern](#) 54  
    [ST\\_UniversalTimeOffset](#) 52  
[sldGuideLst element](#) 29  
[Slide Show example](#) 58  
[Slide show extensions](#) 13  
[Slide transition extensions](#) 10  
[Slide Transitions example](#) 56  
[ST\\_TransitionCenterDirectionType simple type](#) 54  
[ST\\_TransitionCornerAndCenterDirectionType simple type](#) 55  
[ST\\_TransitionLeftRightDirectionType simple type](#) 55  
[ST\\_TransitionPattern simple type](#) 53  
[ST\\_TransitionShredPattern simple type](#) 54  
[ST\\_UniversalTimeOffset simple type](#) 52  
[switch element](#) 16

## T

[threadingInfo element](#) 29  
[Tracking changes](#) 69

## V

[Vendor-extensible fields](#) 9  
[Versioning](#) 9  
[vortex element](#) 16

## W

[warp element](#) 22  
[wheelReverse element](#) 24  
[window element](#) 19

## X